An investigation into organizational commitment in the investment decision-making process: escalation, de-escalation and strategic control

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STRATEGIC CONTROL OF INVESTMENTS

An
Investigation Into
Organizational Commitment
In The Investment Decision-Making Process:
Escalation, De-escalation And Strategic Control

By

Zhang Qing

A

Doctoral Thesis

Submitted in partial fulfilment of the requirements

For

The Award

Of

Doctor of Philosophy of Loughborough University

December 1998

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Abstract

This research aims to investigate organizational commitment in the investment decision-making process around the themes of escalation, de-escalation and strategic control. This research involves a synergic chain of various methods such as narrative review, meta-analytical synthesis, archival analysis, case study, field experiment, and survey. The research *per se* follows the COAI design (i.e. conceptualization, operationalization, actualization and idealization) and goes through eight stages (i.e. 8Cs): conceiving, contriving, controlling, co-ordinating, calibrating, conducting, collecting, and centering the research. The results of the review of previous research on escalation of commitment in the investment decision-making context reveal that the literature on the escalation and de-escalation of organizational commitment is discrete and quantitatively focused. The results of the meta-analytical synthesis of the escalating commitment literatures confirm that the escalating commitment literature is inconsistent. The results of the longitudinal case study via participant observation reveal that escalating commitment can originate from, *inter alia*, psychological, strategic, operational, social, political, institutional, ideological and environmental dilemmas and that the processes can be cyclically interweaved by varying conflicting perceived utilities including those of experimenting, persisting, time-biding, and withdrawing. The results of two field experiments reveal that, contrary to earlier research, the higher the sunk costs the less likely investment decision-makers are to authorize funds to continue with the string of investments and the lower their estimates are of the likelihood that the next investment will be productive. The results of the survey by means of semi-structured interview provide a statistical confirmation of the relevance of a conceptualized process model of strategic control and reveal that the Chinese general managers interviewed ascribed a higher level of importance to the idealization phase of strategic control and exposed some discernible weaknesses in the process of strategic control. The research concludes with an explanation of the role of strategic control over investments and with a tentative framework for the practical strategic control of investments. This research recommends that future practice should focus on the effective management of investments in a way which integrates differing rationalities in the full organizational context; it should address the dynamics of organizational commitment in a broader way which covers, *inter alia*, economic, psychological, political, operational, environmental, social, cultural and institutional perspectives; and it should emphasize both external and internal strategic control factors inherent in the decision-making process in a manner which echoes the principle of unity. It is also recommended that future research should include new research inquiry systems, new research frameworks, new research techniques, and new research dimensions in both the laboratory (e.g. virtual reality) and the real world settings (e.g. longitudinal observation and cross-cultural comparative studies).

*Key words*: investment, decision-making, commitment, escalation, de-escalation, and strategic control.
DEDICATION

= = ♥ + ♥ + ♥ + ♥ = =

To
cherish
the memory
of
Zhang Wei Quan

Who
perfectly fathered him
and
had brought him
‘the spirit to excel in life’ with pride
as well as
‘the courage to overcome every adversity’ with confidence
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Executive Summary

The essence of investment management consists of planning, implementation, control, and improvement, all of which contribute significantly to organisations' success or failure, but the strategic control of investments ranks among the most important responsibilities with which top management are tasked.

This research is shadowed by the Chinese wisdom of 'Yi Dian Dai Mian' (i.e. 'making use of the experience of a certain unit to promote work of the whole area'). It aims to investigate organizational commitment in the investment decision-making process round the themes of escalation, de-escalation and strategic control, so as to enhance the awareness and the understanding of the escalating commitment phenomenon among both academics and practitioners, to invoke much future research into this scenario, to provide guidance to the practice of effective control over investments, and ultimately, to contribute to the accumulation of knowledge about the science and art of decision-making.

This research adopts a 'fishbone' design involving a synergistic chain of varying methods (i.e. narrative review, meta-analytical synthesis, archival analysis, mail-based field experiment, and interview-based survey), which is starred by case study method containing, inter alia, participant observation and semi-structured interviews. The research per se goes through eight stages (i.e. 8Cs): conceiving, contriving, controlling, co-ordinating, calibrating, conducting, collecting, and concentering the research. However, the main stream research activities, which is vividly reflected by the structure of the thesis, include methodological conceptionalization, literature operationalization (featuring literature review and meta-analytical synthesis), observational actualization (featuring a case study, two field experiments and a survey), and theoretical idealization (featuring advancing as well as integrating theories on investment decision-making, organizational commitment, and strategic control of investment).

Literature review: This research provides a review of previous research on escalation of commitment in the investment decision-making context, through a thorough search of both published and non-published work as well as extensive reading of recent literature on the subject. The narrative review reveals that literatures on the escalation and de-escalation of organizational commitment is discrete and quantitatively focused.

Meta-analytical synthesis: this research goes beyond the conventional form of literature review by meta-analytically synthesising escalating commitment literatures, through an examination of 29 usable experimental results obtained by previous researchers. It employed Pearson’s r (i.e. product momentum correlation coefficient) as the effect size estimate. The results confirm that
the escalating commitment literature is inconsistent, and reveal that, though not with large
effects, self-justification and prospect theory, along with others, remain the most powerful
mechanisms explaining escalating commitment.

Case study via participant observation: a longitudinal case study via participant observation,
supplemented by some follow-up fully structured (face to face or telephone) as well as semi-
structured interviews, was conducted at six points in time in a Sino-Korean joint venture to
identify triggers as well as the processes of escalating commitment. The results reveal that
triggers of escalating commitment can originate from, inter alia, psychological, strategic,
operational, social, political, institutional, ideological and environmental dilemmas, and the
processes are cyclically interweaved by varying conflicting perceived utilities including those of
experimenting, persisting, time-biding, and withdrawing.

Field experiments: two field experiments were carried out to expand the Chinese dimension of
the study of escalating commitment with 235 subjects (line, middle, and top managers) in an
elite Chinese firm being asked to do a real but disguised case study. It aimed to examine the
combined effects of sunk costs and negative feedback on decisions to de-escalate organizational
commitment to a diversifying programme with a string of investments. The research results
revealed that, contrary to earlier research, the higher the sunk costs (i.e. the greater the number
of investments), the less likely investment decision-makers are to authorize funds to continue
with the string of investments and the lower their estimates are of the likelihood that the next
investment will be productive.

Survey: a survey by means of semi-structured interview was conducted to probe successful
factors or practices that give rise to effective strategic control over investments. Some 64
informants (Chinese general managers who had participated in the research in one way or
another) had been targeted, contacted, and interviewed to rate the role of strategic control upon
investment management. The research results provide a statistical confirmation of the
relationship among the 16 factors and of the relevance of the four phases and eight components
of the conceptualized process model of strategic control. It reveals that the Chinese general
managers interviewed ascribed a higher level of importance to the idealization phase of strategic
control and exposed some discernible weaknesses in the process of strategic control (e.g. lack of
emphasis on the conceptualization phase, neglecting the operationalization phase, and messing
about the actualization phase). It also reveals that, in order to achieve optimal results, all of the
strategic control factors in the process need to be given appropriate emphasis at different times.
It finally proposes a strategic control process framework, which, if practiced effectively, can
lead to cyclical generation of success including identification of potential investments, definition
of the workable investments, search for options, selection of the optimum investments, authorization of the chosen strategy coupled with accountability, responsibility and authority, implementation of the financed investment, monitoring of the on-going investment, and improvement of the investment.

Vivid evidence was found in this synergistic research that excess organizational commitment can be very harmful. Escalating commitment can seriously take place in all investment scenarios (be it foreign direct investments, joint ventures, or domestic investments; product or service investments; profit or non-profit investments; capital intensive or labour intensive investments; visionary or operational investments; mainline or sideline investments). Evidence was found of the strategies articulated for commitment de-escalation. Much evidence was found that investment commitment should be, and can be, strategically controlled, and that approaches to strategic control over investments can be fruitful in practice.

The thesis concludes with an explanation of the role of strategic control over investments and with a tentative framework for the practical strategic control of investments. Investment decision making is viewed as both a science and an art. Strategic control of investments is seen as both a driving force, not specifically to test investment decision-makers' competencies, but to generate pertinent and updated information about the capability of an organization, and to articulate a feasible process that monitors the performance of its management, so as to wholly fulfil its strategic intent.

This research draws the curtains by proposing that an investment remains a de facto function of escalation of commitment which can equally lead to prosperity and degeneration, de-escalating strategies should consider varying contexts of commitment (e.g. ideological, psychological, technological or cultural), future practice should focus on the effective management of investments in a way which integrates differing rationalities in the full organizational context, address the dynamics of organizational commitment in a broader way which covers, inter alia, economic, psychological, political, operational, environmental, social, cultural and institutional perspectives, and emphasize both external and internal strategic control factors inherent in the decision-making process in a manner which echoes the principle of unity, and future research should include new research inquiry systems or new research frameworks (e.g. general systems methodological framework), new research techniques in both the laboratory (e.g. virtual reality) and the real world settings (e.g. longitudinal observation), and new research dimensions (e.g. cross-cultural comparative studies).
Preface

This researcher's interest in this research stemmed originally from his practical experience in industry dating back to the early 1980's, and emerged again in the earlier 1990's when the researcher did a research project at Keele University, U.K.

For almost sixteen years the researcher had various responsibilities for managing investments as a matter of routine at the bottom, middle, and top level of corporate management and got to know, by means of participation, consultation, or research, many an organization which had waxed and waned in competitive markets seemingly in parallel to the very fate of one or two investment projects. For top management whether or not to further commit the organization to its previously chosen investments becomes increasingly tormenting. Having looked around these organisations repeatedly, the researcher had asked:

- Does perseverance necessarily mean victory and what else contributes to success?

Or more enthusiastically, if not just sympathetically,

- How can a British direct investment in Eastern China break through the Chinese market after years' muddling through?
- How could a receding Sino-Korean joint venture have kept receiving increasing amounts of funds for 12 years before it eventually went bust?
- How does a Sino-Japan joint venture, which was on the brink of financial disaster even before it was completely set-up, make itself one of the most successful manufacturing companies in the Eastern world in terms of market growth?
- How can people ensure that the Three Gorges Dam (the world’s biggest dam project ever) can be successfully built across Yanze River in China?
- How can giant businesses thrive on crises?
- What will be the destiny of a black-hole such as the Anglo-French Tunnel?
- What mechanisms helped pull a Sino-American Joint Stock out of the brink of ruin twice within 10 years?
- Why do small businesses so often fall after success?
- Why does a conglomerate keep spending huge amounts of funds year after year in saving a failing hospital in an industrial area of sparse population?
- Why does not a Xi’an-Taiwan joint business tease out the truth after a horrible honeymoon?
- Why does a Northern China based American direct investment which has suffered huge losses for 5 years hesitate to pull the plug?

'Because,' came the simple and stupid reply, 'not many organisations exercise control, and, if they do, it’s the wrong approach.'

It seems bizarre that investment decision-making, which is generally thought to be the raison d’être of corporate management, often turns out to be unsatisfactory. Perhaps it is because, like teaching or coaching a student, supervising or doing research, implementing or controlling an investment, competent academics and/or practitioners easily commit themselves to it all the time and so forget that, like most things such as sports, socialization, and family life, it can be done better in other ways.

At Keele University, this researcher, inspired and supervised by Professor Richard M. S. Wilson, then Head of the Department of Management, had rigorously researched on the theme of
investment decision-making. The Keele research project, which partly led to his MBA with
distinction, had focused on entrapment in the investment decision-making context and had
included the Chinese dimension of investment decision-making. It had tentatively examined
various behavioural aspects which might trigger investment entrapment, discussed plausible
approaches to disentrapment, and envisaged ways of securing effective control over investments.
However, it had been quantitatively focused with only marginal extension to qualitative aspects.

It is unwise to declare that quantitative aspects do not deserve leverage in management training
or research. Quantitative aspects are important, but they can detract from the fact that
investment decisions are ultimately made by varying kinds of people within culturally
differentiated organizations competing in the ever-changing economic environments. Therefore,
what remains essential is an understanding of investment decision-making in a full
organizational context embracing accounting, economics, finance, history, operations,
philosophy, politics, psychology, sociology, strategy, and technology, etc.

This thesis seeks to meet the need for multiple perspectives on investment decision-making, the
latter of which is operationalized by an organization's persistence of an explicit (or implicit)
strategy over time (i.e. organizational commitment in the investment decision-making process
featuring escalation, de-escalation, and strategic control).

A particular feature of this research is its assiduous focus on the generation of insights instead of
the conventional wisdom of generalization. The aim of the research, therefore, is not to create
fail safe operations as others would ideally wish but, by virtue of studying both successful and
unsuccessful investments, to invoke much empirical research among academics and
practitioners in this promising but somewhat neglected area of organizational phenomena, with
an expansion of both the methodological and contextual dimensions of the research of interest. It
is hoped that the provision of a better understanding of escalating commitment phenomenon and
a practical framework for strategic control over investments will facilitate organizational
learning and so help organisations to: (a) sustain excellence in investment management, (b)
transform certain failure into success, (c) avoid falling victim to individual, group, or
organizational ineptitude, or (d) refresh corporate memory of their glories as well as their
shames so as to make solid progresses.

This researcher began working full time on this thesis, originally entitled 'exploring entrapment
/ escalating commitment in the investment decision-making process', 'managing strategic
control over investments in a full organizational context' and 'strategic control of investments'
in 1995, 1996 and 1997 respectively. The completed research took far longer than the researcher
anticipated. This was due in part to the extensive reading required by the span and scope this
research covers as well as the extensive and continual effort required by field work and fund-
seeking; his initial work was both far too detailed and far too broad for the level of study the
researcher could pursue. Moreover, the researcher had originally anticipated directly following
the positivist wisdom 'off the shelf', but evolutionarily determined that it was more rightful to
navigate by first principles; the researcher had initially expected simply using single research
design, but subsequently decided that it was more fruitful and interesting as well as cost-effective to adopt a synergistic research design.

The extra time has been used, in part, to invoke debates about the work among academics by means of conference presentations, journal publications and part time lectures and among practitioners by means of consultation and speeches, to reconceptualize the problem again and again, and to deepen his knowledge of research methodology, management accounting, marketing, organizational behaviour, business operations, business psychology, microeconomics, history, philosophy, strategic management, organizational decision-making, corporate finance, politics, international businesses, change and innovation, sociology, and strategic control, etc. While the researcher started with a focus on organizational commitment, the notion has been all but downsized from the thesis. His focus shifted to entrapment, escalating commitment, and finally to strategic control. Moreover, as this research remains original in many ways, the researcher had to develop his own conceptual framework as well as optimizing research activities cost-effectively from time to time.

To put it short, the researcher takes learning seriously; the researcher takes the research seriously; and as a result, the researcher conducts the research and constructs the thesis equally seriously. The research differs from conventional research in many ways. The research is systematically and strategically thought out, methodologically and practically controlled, and reflectively but philosophically interpreted. This is, perhaps, why the structure of the thesis also deserves some comment.

The research task was functionally decomposed and localized into eight subtasks, and the composition of this thesis follows a similar logic in order that the rhythm of the research can be better savoured and the rigor of the research vividly relished. As can be seen in the thesis, the research remains strategically controlled instead of mechanistically programmed, in that change and innovation have become the second nature of the research activities.

To highlight the research activities, it can be found in the thesis that, as reflected in Figure 0-1,

1. the prologue serves as a threshold of the research and the Chinese boxes game is employed to act as a paradigmatic framework for the research;
2. the theme of investigation is thoroughly discussed to act as a methodological base for the research, and an explanatory framework is employed to expand the researcher's vision;
3. the prospect of the research is projected to act as the operational scaffold for the research;
4. philosophical understanding of research is explored to act as a wisdom depository for the research, and the first principles are emphasized to guide the research in many areas such as designing the research, conducting the research and interpreting the research results;
5. management research methods are contextually justified and realistically debated, and the enhanced awareness of the strengths and weaknesses of the commonly approached management research methods has actually contributed to the "fishbone" design of the research;
6. the research theme is briefly introduced covering various scenarios including common
research pitfalls so that the research can be positioned to thrive beyond myopia and the synopsis of the research covering a specially devised COAI design of the research (i.e. the conceptualization, operationalization, actualization and idealization of the research);

(7) a narrative review is aimed to focus on the existing literatures of escalation and de-escalation of organizational commitment, and the review serves as the source on which further quantitative analysis can be based and further theory-advancing can rely;

(8) a meta-analytical analysis is approached to synthesize the existing literature, and the meta-analytical findings are employed to project research directions and research propositions for the escalation, de-escalation and strategic control study that immediately follows;

(9) a longitudinal case study is adopted to speculate from varying perspectives possible triggers of escalating commitment, and the research results are aimed to advance research in the area of commitment escalation;

(10) discussions are directed at "how to pull the plug" strategies, and two field experiments are designed to double-check the existing mechanisms and testify to practitioners' suspicions on the relevance of existing mechanisms (i.e. sunk cost and negative feedback);

(11) efforts are made to explore plausible approaches to strategic control in an empirical setting as envisioned to articulate successful practices of strategic control of investments and advance theories of strategic control;

(12) the centering of the research is presented to incorporate various mechanisms explaining and guiding investment decision-making in an organizational context, and the newly conceived concepts and methods are aimed to help practitioners to better understand the real trick of investment decision-making;

(13) the centering of the research in the line of organizational commitment involves extracting insights from sense-data to form a paradigmatic framework of organizational commitment in investment decision-making, and the conceptual exploration in this vein is to provide practitioners with both awareness and methods of commitment management;

(14) the centering of the research under the theme of strategic control of investment reflects the hub of the research: effort is directed to explore the nature of strategy-making and of control in relation to investment, while specific attention is paid to successful controllerships vis-à-vis varying processes of strategic control of investment in the full organizational contexts;

(15) In the epilogue the research project is reflected dialectically before the thesis draws its curtain constructively and the research itself goes into the next round of the 8 Cs, and the researcher treads beyond the theme of strategic control of investments and explores the management of investments philosophically by paradigmatically linking decision-making with the Chinese Boxes Game outlined in the prologue.

When the sun finally did set on the year of 1998, the researcher had much to feel proud of in the research project, the insights generated from which have successfully guided many individuals and organizations the researcher cared about, via consultation or participation, to exercise strategic control over their investments of various kinds, although the investments this
researcher moulded round his own professions still remains far from triumphant.

Figure 0-1: The overall structure of the thesis

Chapter 1 Prologue: the Chinese boxes game
  - Chapter 2 On investigations: a panoramic view
  - Chapter 3 Towards the investigation of this researcher: the prospect
  - Chapter 4 Philosophy and research: the first principles
  - Chapter 5 Discounting management research
  - Chapter 6 Introducing the research: the COAI design
  - Chapter 7 Escalating commitment in investment decision-making: a review
  - Chapter 8 Escalating commitment in decision-making: a synthesis
  - Chapter 9 Escalation: a study of a strategic alliance
  - Chapter 10 De-escalation: a study of diversifying investments
  - Chapter 11 Strategic control: an empirical test
  - Chapter 12 On investment and investment decision-making
  - Chapter 13 On organizational commitment
  - Chapter 14 On strategic control of investment
  - Chapter 15 Epilogue: the philosophic controllership

Q. Z.
Loughborough, U.K.
STRATEGIC CONTROL OF INVESTMENTS
An investigation into organizational commitment in the investment decision-making process: escalation, de-escalation and strategic control

1. The Prologue: The Chinese Boxes Game

One of the most interesting games this researcher played in his childhood was the Chinese Boxes game, in which participants open one box only to find another box inside. This perpetual process (Figure 1-1) can be viewed as a repetitious triangulation of boxes, except that, over time, the size, composite, shape, or content of the box varies and knowledge itself accumulates.

![Figure 1-1: The Chinese Boxes Game](image)

Whereas, \( i \) \((i=1, 2, 3, 4, \ldots)\) stands for time, \( a \) stands for predictions, \( \beta \) stands for variance, and \( b \) stands for boxes.

Such a game with varying styles remains quite popular among traditional Chinese families, and the one being played among this researcher’s family maintains a knock-out event with a set of rules which include that, (a) an oral prediction on what is inside the box to be opened has to be made before an action, (b) boxes cannot be opened by direct force, (c) all participants provide consistent physical assistance to each other throughout the game, (d) winners in each round equally share the prizes available in that round but are obliged to make reasonable benefaction, (e) winners in each round may quit the game, providing they had donated half the prizes found in that round to the benefaction, (f) losers in each round can step down to become a reserve or a consultant in later rounds, but the former becomes ineligible to share the benefaction, (g) half-way quitters without good reasons will be banned for a number of sequential games (normally equal to the number of the current participants), and (h) the final winners take the pride and the benefactions are shared among eligible participants.

This researcher’s late father used to spread gifts, pocket money, candies, or a combination of those, or even occasionally nothing but bunches of flowers, into a number of boxes (normally up to eight) with one containing another. The boxes ranged from a jewelry box, a toy box, a book box, \( \ldots \), to the family’s game box - a wooden pavilion in the family’s courtyard engraved by a fish pond and groves of bamboos (Figure 1-2).
A game of this kind, according to genealogical evidence, was handed down from ancestral generations in pursuit of training their offspring to grow better crops as well as preparing for a better life, although this researcher seldom fully comprehended it at the time, in that he, having repeatedly demonstrated no ambition to be a farmer, was always overwhelmingly enticed by the gifts and pocket money rather than the game itself, ignoring that the game can be quite relevant to humans' professional lives.

Humans are fated to live by loving boxes. For most people, life starts in one box and finishes in another; besides, people move from boxes to boxes day in and day out in such a fashion that the man-built world is full of boxes or box-shaped things ranging from those as small as jewelry boxes to those as big as the rooms inside a mansion. In fact, this researcher had lived in each of the eight boxes of the family house (Figure 1-2). Among the most unforgettable boxes are: rooms two, four, six, and eight (please see Figure 1-2). Before the age of eight, he had lived in the black-painted room one where he learned and practiced, *inter alia*, how to make and realize a dream of swimming in the lake which is just dozens of metres away given that he had never been allowed to swim in it; up to the age of 12, he had lived in the red-painted room three where
he learned and practiced most of his socialization skills by, among other things, inviting friends and school mates and organizing inter-village kids' warfare; at the age of 16 he had lived in the golden-painted room five where he learned and practiced achievement-oriented concentration and progress-oriented discipline by, for example, focusing on school work and developing wide interests ranging from machine-building, sports, colour-painting, speech-delivery,... to entertainment such as fishing; by the age of 20, he had lived for four years in the sky-blue-painted room eight, based on which he learned and practiced how to expand as well as contracting his short-term, intermediate-term, and long-term dreams by, say, creating anew through imaginations and abandoning the unfit through rationales. Before he said farewell to the boxes in which he had lived for a substantially long time his “Shijieguan” (i.e. worldviews) about the nature of the world had already been formed. However, each time when this researcher recalls the old days his memory is always being refreshed with new reflections.

From Figure 1-1 one can tell the Chinese boxes game remains a purposeful, principled, and organized investigation with an intent to find an ultimate end, and this is at least in parallel to, if not exactly coincident with, the definition of research - i.e. a careful investigation in order to discover new facts or information (Homby, 1995). Furthermore, the analogy between the Chinese boxes game and research reveals their similarity in that both contain systematic and organized attempts to achieve an end, the means for which involves a series of steps as well as a variety of reasoning skills.

As the old saying goes, there is nothing worse than a thankless child, this researcher will cherish for ever his late father’s style of cultivation and control which has greatly helped mould this researcher’s worldview about life, nature, career and their interplay (e.g. in management research). It is to him that this researcher wants to dedicate this thesis, for his perfect fatherhood including, inter alia, his impeccable and dignified patience to play with this researcher for years the Chinese boxes game, the framework of which has served as a paradigm for the research task on which this researcher was embarked.

Putting it bluntly, it is the Chinese boxes game that reminds this researcher of what counts as good research, as being viewed from at least eight perspectives (Figure 1-3):

Q1-1. the researcher needs to be aware of the previously accumulated experience and knowledge which can possibly underlie the current “opening” act;
Q1-2. the research itself must serve the purpose of experience and knowledge accumulation for the researcher himself or herself as well as for the society in which he or she lives as a whole;
Q1-3. the researcher needs to clearly identify three categories of research “boxes” (i.e. boxes opened, boxes to be opened soon, and boxes to be opened in future);

Q1-4. the researcher needs to generate some sound predictions which shadow the act of “opening”;

Q1-5. the researcher must be aware of the variances between the “opened” and the “to-be-opened”;

Q1-6. the research itself needs to be a medium which bridges the “newly opened boxes”, the “old boxes opened” and the “the boxes to open”;

Q1-7. the researcher needs to have a set of clearly articulated criteria for performance; and,

Q1-8. the research itself needs to involve purposeful procedures, available resources, useful methods and clearly defined disciplines which guide the research throughout the whole research process.

The possible linkage among the above eight perspectives of good research demands that this research should cover 14 other major issues (each reflective of one chapter of the thesis), although the absolute number of them is not a big issue for it can be enlarged or reduced dependent upon how the research is framed and structured by different researchers (see Figure 0-1). For instance, Q1-1, Q1-4, and Q1-8 jointly demand that it remains necessary to explore the nature of investigation and management research before one actually contrives his or her own research project.

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1 This means participants may have to turn to tools such as keys or screwdrivers if some boxes are locked.

2 The reason why his father was always in favour of eight boxes was probably that this researcher lived in the eighth room and was nicknamed ‘Golden Eight’.
2. On Investigation: A Panoramic View

2.1 Introduction

This part of the thesis aims to explore the nature of an investigation in the field of management studies, and it is hoped by this research that good understanding of the nature of an investigation, its processes, its connection to problem-solving, its operating strategies and techniques, its potential traps, and its commonly used rationalities will broaden the researcher’s knowledge about research and contribute to the design of the study of this researcher. The exploration in this line will be initially focused on the nature and the process of an investigation, and extended to cover the link between investigation and problem-solving, before it finally discusses the practical concerns of an investigation.

2.2 The nature of investigation

2.2.1 Investigation at a glance

Hornby (1995) defines investigation as the act of discovering and examining all the facts about something in order to obtain the truth. An investigation can be based upon hunches, experience and intuition, but most investigations in the domain of management studies remain the ones which possess a focused goal of problem solving and pursue a step by step logical, organized, and rigorous method to identify problems, gather data, analyze that data, and draw valid conclusions therefrom (Sekaran 1992).

Thus an investigation in the domain of management studies is not only purposive in that it is always aiming at the accumulation of knowledge (e.g. Reaves, 1992), but also systematic insofar as findings are more accurately generated with confidence (e.g. Bechtal and Richardson, 1993), and also rigorous to the extent that comparable findings can be found when independent research is undertaken on similar issues in similar situations (e.g. Robson, 1993). Meanwhile, an investigation in the domain of management studies is more objective than subjective (e.g. Singleton et al, 1992) in that, among other things, findings can become more useful in the light of problem solving in the real world. This suggests (e.g. Sanders and Pinhey, 1983) that the probability of drawing wrong conclusions from an investigation which is scientifically conducted can be much lower than that which is non-scientifically conducted.¹

This suggests that an investigation in the domain of management studies refers to a scientific investigation, the essence of which lies in an organized and systematic process where problems are carefully identified, data scientifically gathered and logically analyzed, and conclusions objectively drawn (Easterby-Smith et al, 1991).

2.2.2 Investigation as a scientific approximation

In real world research, however, not every investigation can be 100% scientific. Occasions do exist when a rigorous step-by-step process becomes disadvantageous (Hammersley, 1989). For example, an elaborate research design may prove too much of a luxury for a simple problem
which can be solved by past experiences; hunches may take over due to, say, exigencies of time or limited resources.

It has been argued (Sekaran, 1992) that a scientific investigation enjoys eight hallmarks, namely, purposiveness, rigor, testability, replicability, precision and confidence, objectivity, generalizability, and parsimony, and that an investigation has become scientifically approximated when the purposiveness and the rigor of an investigation are ensured while the others are optimized.

In practice, however, it is not always possible to meet all those hallmarks of a scientific investigation, in that comparability, consistency, and wide generalizability can be especially difficult to obtain in a research study that deals with subjective things such as feeling, perceptions, and commitment. (Sekaran, 1992).

### 2.2.3 Investigation as a cyclical process

The word “process” refers to a series of actions or tasks performed in order to achieve an end result (Hornby, 1995). This researcher’s industrial experience tells that an industrial process signifies the sequence of steps through which raw materials such as crude oil are transformed into a finished product such as gasoline, and most processes such as the oil refinery process can be repeated over and over again along the same lines from beginning to end.

In the domain of management studies, by contrast, change is built into the process of investigation; the sequence of steps followed in one investigation is seldom repeated precisely in another; and the end of one investigation normally signals the start of another (Singleton, 1993).

Figure 2-1 portrays the process of an investigation in which the space of ends (i.e. theories and observations) and the space of means (i.e. generalizations and hypotheses / propositions) are each of cyclical nature, and remain interwoven by virtue of scientific methods. In fact, human history exhibits that knowledge derives from a constant interplay between theories and observations, and the process of knowledge accumulation remains cyclical with theories abstracted from practice leading to predictions, predictions to investigations, and investigations to generalizations which have implications for new theory that serves for new practice (Denzin, 1978).
2.2.4 Investigation as logic reasoning

Seemly, an investigation becomes a bridge between predictions which are deduced from existing theories and new theories which can be derived from previous predictions. An investigation may take place in the shape of description, explanation, prediction, or understanding, but the action which bridges predictions and new theories is in most cases scientifically carried out in a step-by-step fashion via the use of reasoning methods (e.g., logic) aiming to find out the truth (Morris et al., 1987).

As depicted in Figure 2-2, the space of means dictates two major kinds of logical reasoning, both of which attempt to draw conclusions about the order of the empirical world on the basis of observational evidence. They are deductive and inductive reasoning with the former moving from general principles to particular instances (i.e., theories → propositions / hypotheses → observations) and the latter from the particular to the general (i.e., observations → propositions / hypotheses → theories).

It has been suggested (Singleton et al., 1993) that, in deduction (see Table 2-1), a valid argument is such that the conclusion (one proposition) necessarily follows if the premises (other propositions) are true, or otherwise invalid, and that, in induction (see Table 2-2), arguments are judged by their strength, as the conclusion (one proposition) probably but does not necessarily follow if the premises (other propositions) are true.

<table>
<thead>
<tr>
<th>Table 2-1: Deductive patterns of scientific explanation</th>
</tr>
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<tbody>
<tr>
<td><strong>No.</strong></td>
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<td>4</td>
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<td>5</td>
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However, logical analysis is not concerned with actuality, and, therefore, logic itself does not dictate how an investigator should think (Teichman and Evans, 1991). Logic analysis provides the tools for analysis once an act of reasoning has taken place and this requires that both the validity of the arguments and the truth of the propositions must be justifiably established beforehand.

<table>
<thead>
<tr>
<th>Item</th>
<th>Inductive generalization</th>
<th>Hypothesis testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>The logic</td>
<td>x% of the observed members of p are q; therefore x% of p are q.</td>
<td>Confirming hypothesis: If the hypothesis is true, then the predicted fact is true; the predicted fact is true; therefore, the hypothesis is true. Disconfirming hypothesis: If the hypothesis is true, then the predicted fact is true; the predicted fact is false; therefore, the hypothesis is false.</td>
</tr>
<tr>
<td>Practical example</td>
<td>95% of the observed joint ventures escalate commitment in the face of financial setback; therefore 95% of joint ventures escalate commitment in the face of financial setback</td>
<td>If the hypothesis that capital intensive investments are more prone to escalating commitment than the labour intensive, then subjects in the field experiment under the former category will put significantly more funds in £ terms than those of the latter; the 'capital intensive' subjects have (or have not) put statistically significantly more funds in £ terms than the 'labour intensive' subjects; therefore, the hypothesis that capital intensive investments are more prone to escalating commitment than labour intensive investments is true (or false).</td>
</tr>
<tr>
<td>Further information</td>
<td>Inductive generalization states something about the population of events on the basis of evidence on only part of the population, and such generalizations are strengthened by increasing the number and heterogeneity of one's observations and by limiting the scope and precision of the generalization.</td>
<td>It involves the formulation of a hypothesis, deduction of testable consequences from the hypothesis, observing if the consequences are true, and drawing conclusions about the hypothesis on the basis of one's observations. The hypothesis is considered as more credible instead of being proven if it is supported by new evidence, and the credibility of a hypothesis can be increased by repeated and varied testing, especially when such testing eliminates other hypotheses which may account for the same evidence due to the inductive nature of the argument underlain by the original hypothesis.</td>
</tr>
</tbody>
</table>

### 2.2.5 Investigation as a process of justification

It remains clear that both deductive and inductive reasoning can be employed to study organizational phenomena (e.g. Reaves, 1992; Singleton et al, 1993; Sekaran, 1992). However, there is not a definitive, orderly procedure by which an investigation can follow nor is there a single agreed-on 'method' in science at all (Popper, 1959). What does exist, especially in the domain of behavioural sciences, is a process of justification (Figure 2-3) as well as a set of principles, both of which are jointly used to generate and assess the evidence on which theories are based. Such a process is underlain by three key principles of scientific investigation (i.e. empiricism, objectivity, and control), and can be used to justify the conclusions derived from logical analyses (e.g. Reichenbach, 1951).

Empiricism dictates that data are acceptable only insofar as they are observed or 'sensed' in some way under specifiable conditions by investigators who possess intelligence and skills (Selltiz et al, 1976), and requires that the phenomena to be studied are observable and the issues to be discussed are empirically resolvable (Katzer et al, 1991). Objectivity purports that empirical evidence exists outside of the investigators themselves (Doherty and Shemberg, 1978).
and demands that an investigation is described in detail with the logic and methods clearly outlined in such a manner that other investigators can evaluate or repeat the investigation (Singleton et al, 1993). Control posits that a set of procedures eliminating - as far as possible - sources of bias and error which may distort the results of an investigation have to be used in an investigation (Simon, 1978), and this bids for procedures which can effectively rule out as many explanations other than the one in which the investigator is interested as possible. Among forms of control are: employing several independent observers, withholding information from subjects, and employing instruments like systematic observational methods (Jankowicz, 1991).

Positivistic accounts see the process of justification in exclusively empirical terms (Bechtal and Richardson, 1993): the empirical evaluation of theories could be submitted to logical analysis, with the objective of specifying the circumstance under which a theory would be confirmed or disconfirmed.

Nonetheless, no matter how convincing the process of justification is, the supporting evidence resulting from the process of justification, never proves or disproves a hypothesis, but merely increases or decreases the credibility of the hypothesis (Reichenbach, 1951). Moreover, the practice of justification largely ignores, by means of pure abstraction, psychological processes, social contexts, and historical settings by which an investigation is actually enriched (Simon, 1978).

2.2.6 Investigation as a process of discovery

So far, investigation has been arguably considered as a process of theory-using (Hanson, 1958), but it can also serve as theory-finding (e.g. Hanson, 1958; Simon, 1977). In fact, scientific investigation has been viewed as a vehicle for discovery in the form of problem solving and the process of discovery (Figure 2-4) can be explained in the terms which are used to explain the processes of problem solving (Simon, 1966).

The notion that an investigation can lead to discovery acquires further support from the tendency for the process of discovery to be increasingly regarded as mystical or psychological rather than logical (Hanson, 1958; Popper, 1959; Newell and Simon, 1972; Bechtel and Richardson, 1993). For example, it is argued (Popper, 1959:31) that 'the initial stage, the act of conceiving or inventing a theory, seems ... neither to call for logical analysis nor to be
susceptible of it. The question how it happens that a new idea occurs to a man ... may be of interest to empirical psychology; but it is irrelevant to the logical analysis of scientific knowledge'.

This implies that positivistic justification is simply not enough, nor is it sufficient to explain theoretical relevance in that theory confirmation or disconfirmation involves more than simple considerations of empirical adequacy (Hughes, 1990). For example, empirical data can be reconciled with a favoured theory by a variety of ad hoc devices; empirical data can have ambiguous relevance prior to the discovery of an appropriate theory; and empirical data may be conceived as irrelevant even when it cannot be reconciled with a favoured theory (Mills and Huberman, 1984).

Figure 2-4: The process of discovery

Therefore, to comprehend the process of the discovery (of facts, theories or insights) as it occurs in scientific practice demands a careful look into how humans solve problems (Simon, 1972). It means that what may remain important throughout the process of discovery is not only the context of justification, but also the context of others (Simon, 1966). Broadly speaking, the potentially relevant contexts can include psychological, empirical, practical, social, theoretical, historical, and technological (Bechtel and Richardson, 1993).

The above discussion illustrates that the process of justification and the process of discovery are not the same thing (Nickles, 1987). However, the distinction between the process of discovery and the process of justification remains rather artificial (Thagard 1992) and, in practice, the combination of both consists of the so-called scientific practice – practical problem-solving (Bechtel and Richardson, 1993).

2.3 Investigation as practical problem solving

Problem-solving refers to constructing a desired solution for a problem in a given domain (Kahnley, 1993). The desired solution can be, inter alia, explanatory, descriptive, analytical, or applied; the given domain can be pure, applied, or behavioural sciences; in the domain of management studies, the act of constructing can involve varying aspects ranging from context, techniques, to procedures. Theoretically speaking, problem solving has been generally regarded (Newell and Simon, 1972)
Chapter 2

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as a constrained search for a solution in a well-defined problem space, which itself is equipped with all possible states. The problem representation consists of four basic components: a goal state to be achieved, an initial state at which one begins, a set of operators which define allowable moves within the problem space, and path constraints which impose additional limits on what counts as a winning solution, the latter of which remains a sequence of operations which leads to the goal state and conforms to the path constraints (Figure 2-5).

Practically speaking, for example, to explain an organizational phenomenon is to incorporate a sufficient number of variables in the full organizational context, to evaluate the constraints on the value of those variables, and to find the dynamic laws which are functions of those variables, insofar as it becomes possible to predict future states of affairs from descriptions of the universe at an earlier time (Easterby-Smith et al., 1991). However, such an attempt at explaining what does and what does not happen in organizations remains a rough approximation at best in the absence of detailed, domain-specific restrictions. Thus problem solving evolves into structuring a process of the finding of variables and laws sufficient to explain the phenomenon (Philips and Pugh, 1987).

![Figure 2-5: Basic components of problem representation](image)

### 2.3.1 Investigation as practical problem solving: the structure

An important part of real world problem-solving is, often enough, imposing an appropriate structure on the problem (Newell and Simon, 1972). Whether well or ill-defined, there must be some means for restricting the relevant search space. One plausible way to do this is by imposing some restrictions concerning possible solutions (Kahney, 1993). That is, an investigator may limit the number of variables, assuming only some will make a significant difference.

Limiting the relevant variables and imposing assumptions about the form of relevant laws are procedures for attacking problems (Bechtel and Richardson, 1993), and the procedure (which is regarded as incorporating a set of assumptions about the task domain) will fail when the simplifying assumptions about the task domain are not met.

Limiting the relevant variables and imposing assumptions about the form of relevant laws also describe partial solutions (Newell and Simon, 1972). This suggests that heuristic assumptions used in constructing explanatory models would be critical in developing research programmes. But, on the other hand, heuristic assumptions also raise the prospect that an investigation is
misguided and its results are simply artefacts of the simplifying assumptions which define the problem (Kahey, 1993).

In general, a more domain-specific model incorporates assumptions about the domain which are restrictive and consequently more powerful (Newell and Simon, 1972). For the range of cases which are defined by such assumptions, the model will be more efficient. On the other hand, a more general model which incorporates less restrictive assumptions about the domain, will be less powerful. The rationale for this lies in the argument that problem-solving can be understood as requiring applications of specialized cognitive skills and information (Mayer, 1992). Stronger assumptions will limit the search space more, and the more restrictive these assumptions, the more efficient they will be in attaining solutions, if they reach solutions at all; the weaker the assumptions, the more search will be necessary to reach a solution (Figure 2-6).

![Figure 2-6: The structural power of explanatory model in relation to the domain and assumptions](image)

### 2.3.2 Investigation as practical problem solving: the process

Human history exhibits that practical problems can be solved by both human effort and natural forces, and it remains axiomatic that human problem solving is most likely to take place in a step by step fashion as can be seen from various theories or models describing the organization of activities. Current models of problem solving are mostly derived from the same source, the pioneering work of Newell and Simon on human problem solving (Newell and Simon, 1972). They are all presented with a basically functional form, that is, in the form of a mechanism with several interconnected parts, each part serving a particular function.

Figure 2-7 provides one of the models which is commonly used in the face of the fact that the theories of Newell and Simon are so comprehensive that their application becomes difficult, and that is the so-called IDEAL model (Bransford and Stein 1984) for finding a solution for the class of problems at hand. The procedure consists of five steps (Bransford and Stein 1984): namely, (a) identifying the problem, (b) defining and representing the problem, (c) exploring possible strategies for the solution, (d) acting on the strategies including the modification and the implementation of the strategies, and (e) looking back and evaluating the effects of the past activities in relation to the problem and the solution.

It seems that the IDEAL approach to problem solving is simple but powerful. It helps an investigator to identify varying parts or components of problem solving. However, it remains undoubtedly not really ideal in that, for example, the boundaries between steps can be very fuzzy due to the model's severe lack of detailed specific restrictions.
2.3.3 Investigation as practical problem solving: a paradigm

It has been acknowledged (Simon, 1966) that in the absence of detailed, domain-specific restrictions, the solutions arrived at via a model remain rough approximations at best. This implies that a model is a model and it does not guarantee successful application, until carefully consulted (Newell and Simon, 1972) are other important aspects of problem-solving including the nature of the ‘programs’ which an investigator follows in order to achieve goals (e.g., the context and the pattern), the ways by which an investigator performs tasks (e.g., the strategy and the technique), and the representation of knowledge about tasks and goals (e.g. the cognitive trap and the rationality).

The Chinese Boxes game (see Figure 1-1) serves as a useful paradigm for understanding problem solving in real world settings: there are a finite number of possible gift boxes (e.g. from one to eight, or more), each consisting of a permissible gift location in each box (e.g. from one to two or three); the boxes define the problem space, and the finite permissible locations become the path constraints. A definite number of actions (e.g., one to two or three) at each round forms the operators. A goal state is arriving at the box which contains the gift. An initial state is starting the first box. A solution at any stage maintains a series of correct decisions from a given box terminating in finding the gifts.

If a solution dictates at least a search through \( y \) boxes (\( y = \Sigma b_i \)), and if there are \( x \) allowable predictions in front of each box (\( x = \Sigma a_{ij} \)), then the number of paths will be \( x^y \). (In the Chinese Boxes game this author used to play (\( x=3 \) and \( y=8 \), there were \( 3^8 = 6561 \) paths). It will remain impossible for humans to carry on a search for alternatives given the fact that humans are limited in memory, attention and patience. This suggests that a model itself may be subject to a variety of constraints including that of humans and that of techniques.

For example, the model can be reflective of the competitive context (e.g. only the winner of the game has access to pride), but it can fail to reflect the co-operative circumstances of the game (e.g. consistent mutual assistance throughout the game); the model can signify useful patterns for the solution (e.g. organized), but certain ‘gifts’ such as flowers may be found in an empirical way; the model may dictate some promising strategies (e.g. adaptive persistence means victory), but it can fail to deliver its practicality (e.g. an unconscious physical absence from a specific
round may prove to be vital in the whole game); the model may assume that logic analysis dominates the game (e.g. deductive reasoning), but it can fail to reveal that mental enthusiasm can play a vital part in the game; the model can imply the rationality of the finding of the gifts (e.g. pre-set rules), but it can fail to realistically evaluate the actual performance (e.g. that which attributes to collective effort)

2.3.4 Investigation as practical problem solving: the contexts

Theories of problem solving (Newell and Simon, 1972) suggest that problem-solving can occur in varying contexts (Table 2-3), and what appears more promising for an investigation in the domain of management studies can be psychological, historical, empirical, practical, and social (Mayer, 1992).

<table>
<thead>
<tr>
<th>Table 2-1: Promising contexts in the domain of management studies</th>
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<tbody>
<tr>
<td>Contexts</td>
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</table>

For example, the psychological context may embody careful studies on human cognitive styles; the historical context may involve studies on the evolution of certain ideological or euphoric issues; an empirical context may cover hypothesis-testing involving both first hand and second hand data; a practical context may include actual events of individual or social practice; and a social context may concern studies on cultures or culture-specific knowledge.

To consider the process of problem-solving in the psychological context specifically, one can argue (e.g. Johnson-Laird, 1983) that an investigation remains, at least in part, an expression of human cognitive style, a consequence of the typical strategies with which human beings tackle problems, and the cognitive limitations which necessitate these strategies. In this sense, therefore, a solution to a problem is determined at least in part by investigators' cognitive capacities and limitations, and an investigation may eventually become a special case of human problem-solving, subject to all the contingencies of human problem-solving (Mayer, 1992).

To make it more complex, practical problem solving can involve more than just one context (Mayer, 1992), and an example can be found in Scribner's (1984) ethnographic study of problem solving in a dairy where social, psychological and practical contexts are incorporated into an observation on a single managerial problem. Like a hindsight, for example, Scribner (1984) summarized that in the case of the arithmetic problem solving of dairy workers, cognition in the context of work appears to differ from cognition in less practical contexts (such as in supermarkets or on streets).

2.3.5 Investigation as practical problem solving: the patterns

In an investigation, different contexts of problem-solving can interact and may not be easily isolated (Newell and Simon, 1972), and this sophistication implies that a solution to a problem may take different patterns (Figure 2-8): organized, unorganized, empirical, or practical, etc. For
example, problem-solving can take place empirically, in that an investigation, for the most part, works within the framework of theories, from which hypotheses are derived, empirical data are gathered, empirical tests are conducted, and theories are modified or advanced.

![Figure 2-8: The patterns of solution to problems](image)

Problem-solving can also take place by chance (e.g. serendipity) as occurred to this author most recently (i.e. the notion of China Mentality, Zhang & Wilson, 1995). The serendipity pattern (Merton, 1957) posits that unanticipated findings, which cannot be meaningfully interpreted in the light of prevailing theories, can give rise to new theories.

A well-known example is found in the 'Hawthorne effect' which posits that a worker’s awareness of being under study has an effect on his / her performance (Roethlisberger and Dickson, 1939). It was an unanticipated finding of a series of studies which had been designed, planned, and carried out between 1927 and 1932 at the Western Electric Hawthorne plant in Chicago to determine the effects of various changes in working conditions such as method of payment and length of working day.

All this suggests (Simon, 1966) not only that investigators should actually arouse their objective alertness to consider that the very conditions of an investigation can be both favourably and unfavourably affected, but also that in practice an investigator needs to nurture all the contingencies of problem solving so as to maximise opportunities for the accomplishment of the end results, and meanwhile to minimize inherent bias or errors in the design and implementation of the investigation, and interpretation of the investigation's findings.

### 2.3.6 Investigation as practical problem solving: the techniques

To find a way from the initial state to the goal state demands problem solving methods, and it can be taken as axiomatic that the use of different techniques can have different impacts on an investigator’s performance (Kahey, 1993). In some cases, problem-solving methods can be regarded as fairly general in application; in others they are more specialized. Among the commonly tried (Figure 2-9) are (a) random trial and error, (b) hill climbing, and (c) means-ends analysis (Mayer, 1993).

The random trial and error method requires that an investigator randomly choose among possible operators until the goal state is generated (Newell and Simon, 1972). However, this method does not seem to work well with complex problems in that it brings forth much wasted effort although it may become favourable when the investigator encounters unfamiliar problems or is under great stress (Mayer, 1993).
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Figure 2-9: The commonly tried techniques of problem solving

<table>
<thead>
<tr>
<th>High Means-ends analysis</th>
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<tbody>
<tr>
<td>Random trial and error</td>
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<tr>
<td>Low Hill-climbing</td>
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</table>

The hill climbing method requires that an investigator continually tries to get from a present state to a state that is closer to the goal (Mayer, 1993). This method demands some state evaluation procedure by which evaluations can be carried out for how far any state in the problem space is from the goal state (Mayer, 1993); it is believed (Newell and Simon, 1972) to be more systematic than random trial and error although it can take an investigator to a 'local high', a state in the problem which is closer to the goal than any adjacent state in the problem space. This implies that the hill climbing method would not suit problems which occasionally demand the investigator to move away from the goal in order to ultimately reach the goal.

Means-ends analysis requires that an investigator always works on one goal at a time by setting a goal of creating the goal state or setting a subgoal of removing any barrier so as to directly achieve the goal (Kahney, 1993). This method requires a lot of goal setting. Among common questions an investigator can bear in mind are (Kahney, 1993): what is the goal, what is the barrier, and what operators are available for overcoming it? Means-ends analysis corresponds to human problem-solving characteristics; it is not as costly as the random trial and error method, nor as short-sighted as the hill climbing method; it still enjoys the simplicity of random search as well as the order of hill climbing.

It is believed (Kahney, 1993) that means-ends analysis is one of the most powerful problem solving methods and becomes especially useful in complex problems involving considerable amount of knowledge. However, means-ends analysis may not always be the best way of solving particular problems such as those in which the seemingly most plausible or direct way is actually a dead lane (Mayer, 1993). In this sense, different methods can be complementarily employed, and the selection of specific methods can be situation dependent (i.e. dependent upon the task itself, the resources available, and especially the strategy to adopt in the course of the investigation (Bransford and Stein, 1984)).

2.3.7 Investigation as human problem solving: the general strategy

Strategy remains the science and art of effectively combining all the resources available for the pursuit of an ultimate end (Richardson, 1944), and a strategic way to deal with sophisticated situations is to analyze the complicated problem in a systematic fashion (Mayer, 1993). Three general strategies (Figure 2-10) have been suggested to deal with complex or ill-defined problems in an investigation, and they are (a) breaking a problem into parts (Newell and Simon,
1972), (b) working backward (Kahey, 1993), and (c) using a specific case (Bransford and Stein, 1984). The three general strategies all remain simple and constructive, although they are also relatively weak in that they provide little guarantee that problems will actually be solved.

For example, a complex or ill-defined problem can be broken into simpler ones so that each can be clearly defined and represented; working backward can be a good strategy to use when the end state of a problem is clear but the beginning state is not clear; performing experiments or establish scaled models which simulate certain characteristics of a real world environment can promote the work of the complex whole.

To relate investigations to insight-seeking, an investigator can correlate strategies for the investigation with its explanatory, exploratory, descriptive, applied, analytical or predictive purposes (Sanders and Pinhey, 1983). For example, to search for insights is likely to serve for future investigation such as in the case of exploratory studies or more likely to explain, as in explanatory studies, why certain behaviours occur within organisations.

To consider explanatory problem-solving (i.e. the purpose) in a psychological frame (i.e. the context), for example, one may seek an approximation of human cognition by robustly looking at (a) how an explanatory task could be conceived, (b) how the problem could be represented, (c) how conceptual and technical tools could be contrived, (d) how the influence of the framing of the problem on the resulting theories or insights could be controlled, (e) what preparation could be done, (f) what explanatory methods could be employed, (g) why certain tactics are used, (h) how explanatory strategies could be fine-tuned in the face of revised representation of the problem, (h) how the execution of the task can be affected by the explanatory methods and tactics, and (i) what analytical tools can be used to construct explanations (Mayer, 1993).

### 2.3.8 Investigation as human problem solving: the specific strategy

Von Clausewitz (1962b) once commented on strategy that 'the best strategy is always to be very strong; first in general, and then at the decisive point.' The general strategy for problem-solving tends to work well with well-defined problems in that an investigator can rely on the relevant, previously established work of others or even of his / her own.

However, human history has never been short of cases in which the problem space is ill-defined. For example, the criteria for identifying a correct solution to a problem of interest may seem ambiguous; and the means for attaining a specific purpose may appear to be vague. In the face of such ambiguity, the general strategy which incorporates different contexts and different purposes may prove inappropriate, and thus specific strategies should be consulted, especially when the problem space is unambiguously defined.
One way of coping with ill-defined problems is to conduct a hierarchical analysis into functional components with specific sub-functions (Simon, 1969; Bechtel and Richardson, 1993). This, as can be seen from Figure 2-11, has been termed *decomposition* which allows the subdivision of the explanatory task so that the task becomes manageable and the system intelligible, and *localization* which identifies different activities proposed in task decomposition with the behaviour or capacities of specific components (Simon, 1969).

![Figure 2-11: The specific strategies of human problem solving](image)

Decomposition is usually carried out by assuming that there are but a small number of subordinate functions which together result in the behaviour one is studying and that they are minimally interactive (Simon, 1969). Since the extent to which the assumption of decomposability is realistic cannot be known at the outset, decomposition may lead to erroneous explanations, or result in the understanding of the complex systems. However, the failure of decomposition is often more enlightening than its success in that the failure actually gives rise to the discovery of additional important influences on the phenomenon of interest (Bechtel and Richardson, 1993).

Localization is normally carried out by either directly identifying the physical parts of the system in which one can localize different component functions, or by first confirming that there are such parts with the help of functional tools and then localizing the component function (Bechtel and Richardson, 1993). However, one need not assume that a single part is a spatially contiguous unit, but localization does demand a realistic use of appropriate techniques to show that something is performing each of those component functions (Simon, 1969).

In essence, to decompose a problem is to impose an assumption about the nature of the system the activities of which an investigator aims to explain: the system is assumed to be decomposable and each component operates primarily according to its own intrinsically determined principles (Bechtel and Richardson, 1993). To localize a problem is to presuppose that the components of the decomposable system can be subjected to separate investigation and that the components have discrete intrinsic functions intelligible in isolation (Bechtel and Richardson, 1993).

Forms of decomposable systems include (a) the aggregative system which indicates a simply decomposable system in which system behaviour is a linear or aggregative function of component behaviour (Levins, 1970) and (b) the composite system which itself is composed of component systems in which the behaviour of parts is intrinsically determined and integrated.
systems in which systematic organization is significantly involved in determining constituent functions (Bechtel and Richardson, 1993).

Forms of localization include (a) direct localization which indicates that a single component within the system remains responsible for some range of phenomena exhibited by the system, and (b) indirect localization which indicates that an investigator has to localize a set of component functions and assume that linear interaction explains the behaviour of the system (Bechtel and Richardson, 1993).

One of the strengths of decomposition and localization as a problem-solving strategy lies in the fact that it facilitates an increasingly realistic representation of the explanatory domain even when the initial representation is seriously distorted: failures of localization can be as revealing as successes (Simon, 1969). One of the weaknesses of decomposition and localization as a problem-solving strategy lies in the fact that the separation of systems into isolated components, with the attendant minimization of interactive importance, may blind an investigator to the importance of systematic interaction (Simon, 1969).

2.4 Towards the reality of an investigation

2.4.1 Investigation as human problem solving: the cognitive traps

An investigation has been regarded as a cyclical process involving human cognition, and the animated dynamic is well reflected in the Chinese Boxes game (please see Figure 1-1) in that the consequence reflects at least in part the cognitive realization of the strategy with which an investigator attacks problems (e.g. tit-for-tat). This indicates nothing but that an investigation is subject to the investigator’s cognitive capacities and limitations. Thus, it becomes unsurprising that problem-solving in practice evolves into cognitive problem solving which is surrounded by internal, external, social and psychological contingencies (Mayer, 1993). In other words, an investigation can be haphazardly ruined by cognitive limitations.

Among possible cognitive traps (Table 2-4) are that (a) an investigator may tend not to conduct exhaustive searches even when it is feasible and simple to do so (Kahneman and Tversky, 1982), (b) that an investigator may tend not to operate with axiomatized structures but just to search the consequence set for confirmation or disconfirmation of hypotheses (Wason, 1966), (c) that an investigator may tend to favour pattern matching rather than analysis and deduction (Cartwright, 1983), (d) that even a statistically sophisticated investigator may tend to violate fundamental rules of probability (Kahneman and Tversky, 1982), and (e) that an investigator may tend to guide an investigation by heuristics with local applications (Tversky and Kahneman, 1974).

<table>
<thead>
<tr>
<th>Table 2-2: Cognitive traps in relation to problem solving</th>
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<tbody>
<tr>
<td>1. An investigator may tend to guide an investigation by heuristics with local applications</td>
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<td>2. An investigator may tend to favour pattern matching rather than analysis and deduction</td>
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<tr>
<td>3. Even a statistically sophisticated investigator may tend to violate fundamental rules of probability</td>
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<td>4. An investigator may tend not to conduct exhaustive searches even when it is feasible and simple to do so</td>
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<tr>
<td>5. An investigator may tend not to operate with axiomatized structures but just to search the consequence set for confirmation or disconfirmation of hypotheses</td>
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2.4.2 Investigation as human problem solving: towards rationality

Philosophers of sciences, like most epistemologists, normally present their endeavours normatively (such as the eight hallmarks of a scientific investigation), but positivist analysis as discussed previously maintains necessary but insufficient to rationalize explanations in the face of human reasoning (Teichman and Evans, 1991). Thus what constitutes an adequate scientific explanation and what remains necessary for scientific justification, independent of limitations on decision-making or decision-makers, becomes important in assessing the validity of the resulting explanations (Hughes, 1990).

It becomes acceptable that one simply cannot decide what it is right to do by what is actually done (Patton, 1987). To avoid this, one can either settle for a description of actual practice, or adopt utopian norms. The former heads for historical relativism by regarding normative standards as themselves constituted by particular theories and research traditions; the latter comes closer to historical idealism by ignoring the theorists and research traditions. The two extremes both enjoy some advantages but neither appears practical.

Seemingly, a practical approach to take account of the reality of rationality for insight-seeking is the one which not only insists on standards which are contextually realistic but also admits a distinction between these standards and actual performance (Morris et al, 1987). Such an approach can be found in the unbounded systems rationality (Mitroff, 1993) which postulates that the rationality for modelling, representing, or solving a problem should contain both considerations of conventional logic and rationality, and considerations (with regard to both standards and actual performance) of justice and fairness as perceived by various social groups and those of personal ethics or morality as perceived by distinct persons.

Practically speaking, one can actually describe the strategy he or she uses while being clearly aware of its limitations; one can evaluate actual performance and the strategy by simultaneously and ethnographically identifying the context (e.g. technical, organizational, or personal) where it succeeds and where it fails; and one can reveal which context constraints (e.g. technical lead, objectivity, culture, charisma, intuition, leadership, or operating assumptions) are sufficient and which are not.

Historically, it remains a natural consequence of a shift away from abstract models of rationality to ones which are sensitive to a demand for realism (Selltiz et al, 1976; Mitroff, 1993). If rationality is to be understood in terms of problem-solving capacities and skills, then insofar as human problem-solving capacities and skills are specialized to particular task domains, rationality should be understood as a matter of the application of specialized abilities. This application, in turn, is a matter of incorporating assumptions about the structure of the domain under investigation (Hughes, 1990).

2.4.3 Investigation as a compromise between ideal and reality

Given the fact that scientific models of investigations unify and guide the activities of an
investigation, an investigation in practice can still easily fall short of the ideal in that the ideal simply does not always match the reality (Zhang, 1988). Thus, it is worth mentioning some of the more important realities of an investigation, especially those which appear more relevant in an organizational context.

The first reality lies in the fact that theoretical knowledge may not be well developed in the very area in which an investigation is carried on (Jankowitz, 1991). For example, instead of being a set of interrelated propositions from which testable hypotheses can be deduced, theories may refer to varying sorts of speculative ideas which are offered as explanations for phenomena. Moreover, there are occasions existing from time to time when theories and hypotheses are even interchangeable.

The second reality lies in that scientific predictions are seldom exactly confirmed in that there is always some degree of ambiguity (Robson, 1993). This suggests that it could be wasteful for theories to make precisely accurate predictions so as to be judged as scientifically useful. In practice, compelling theories can be evaluated and compared not only in terms of the accuracy of their predictions but also with respect to their explanatory scope and logical coherence.

The third reality lies in the fact that it is unavoidable that theoretical models can foster distorted impression about the practice of investigation (Singleton et al, 1993). This implies that investigations seldom proceed along a smooth and steady path from theory to hypothesis to observation to generalization, and so on. For example, an investigator may begin with a theoretic deduction and carry on to test it, or begin with a problem from everyday life and carry on to make an educated guess about a suspected relationship and then to investigate the relationship, but end up with revising the original theory or idea, testing a new theoretical deduction or formulating a new hypothesis, and so forth.

The fourth reality lies in the ever-changing nature of the process of an investigation (Wallace, 1971). For example, the process itself may occur quickly or slowly, formally or informally, self-consciously or unselciously, rigorously or intuitively; it can involve the effort from one to many investigators (e.g. principal investigator, research director, interviewer, methodologist, statistician, etc.); and it can derive from investigator's imagination or actual facts. This suggests that to carry out an investigation demands not only commitment but also imagination and insights (especially around themes such as the development of theory, the formulation of hypotheses / propositions, and the application of methods). An investigation could be tremendously delectable, or extremely miserable, or even both of them over time.

The fifth reality lies in the fact that human perversity and subjectivity are inherent in investigations (Kuhn, 1962). This is because it is not possible for an investigator to remain detached and impartial in observing the world, thus the investigator's intensive commitment may naturally facilitate the overlooking or the rejection of evidence which is contrary to his/her own ideas. According to Kuhn (1962), humans have so far witnessed numerous cases in which the major theories tyrannize over much contradictory evidence until a prolonged scientific
revolution occurs. For example, the deviations in the orbit of Mercury were observed and recognized, but largely ignored before the advent of the theory of relativity.

The sixth reality lies in the fact that the appropriateness of the positivist approach upon which most western investigations are based is under severe attack (Hughes, 1990). The main argument is that it is simply impossible to exterminate completely the influence of individual values and biases, despite scrutiny or scepticism from the scientific community fostering objectivity.

The major rival which challenges positivism goes to the phenomenological school of thought (e.g. Gurwitsch, 1974) which posits that investigations dealing with human beings should aim to understand human behaviour from the subject's frame of reference only in that the objects of the investigations interpret and act on their own interpretations of the world. This implies that if an investigator seeks to identify the external causes of phenomena under a positivist framework, his or her interpretations of the phenomenal world would be bound to be erroneous.

Other contenders include critical theory (e.g. Agger, 1991) which declares that investigations well reflect an investment in the status quo and fail to promote change, historicism (e.g. Gergen, 1973) which disavows the possibility of general laws to the extent that observed regularities are always tied to time and space, and the discourse school (e.g. Rabinow and Sullivan, 1987) which emphasizes that language actually structures and limits knowledge.

2.5 Conclusion and recommendation

In conclusion, an investigation is, by and large, a scientific approximation; a cyclical logic reasoning process; a process of justification; a process of discovery; a process of practical problem solving with structures, contexts, patterns, techniques, and general and specific strategies; a process of human problem-solving featuring cognitive traps and rationalities; and a compromise between ideal and reality.

The generic linkage between Chinese boxes games and practical problem solving highlights that what contribute to the success of an investigation can include more than the physical activities of an investigator and can involve more than one method. Thus, it remains necessary for any investigators who are engaging themselves in doing research to broaden their methodological considerations before they plan, implement, and control their research projects.

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1 This is because non-scientific investigations ask questions which are not subjected to verifiable observations (e.g. philosophical ones such as essence, existence, or morality).

2 If the argument by which a testable conclusion is deduced from a theory is invalid, it is, then, pointless to investigate the truth of the conclusion.

3 Technically speaking, both confirmation and disconfirmation of hypothesis ultimately entail probabilistic conclusions and it can be mistaken to infer that these two types of evidence enjoy an equal bearing on hypotheses (Salmon, 1973). In practice, given equally compelling evidence, disconfirming evidence tends to be more convincing than confirming evidence, in that the underlying logic argument of confirming a hypothesis is based upon an inductive argument (which is similar to the deductive fallacy of affirming the consequent, while that of disconfirming a hypothesis is based upon a valid deductive argument if the hypothesis is true then the prediction is true).
3. Towards The Investigation Of This Researcher: The Prospect

3.1 Introduction

Having been greatly influenced by numerous leading researchers or theorists in such fields as science, psychology, politics, sociology, philosophy and economics, this researcher, while trying to remain innovative, intends to integrate existing concepts and ideas of others relating to investigation. The purpose of this part of the thesis is to build anew a few frameworks which can be used to facilitate the research of this researcher. It seems that there are four levels of methodological considerations which are worthy of attention in undertaking an investigation: namely, preliminary, intermediate, advanced and operational.

3.2 Preliminary methodological considerations

The investigation (i.e. strategic control of investments – an investigation into organizational commitment in the investment decision-making process: escalation, de-escalation, and strategic control) aims to be “purposive” (Reaves, 1992), “systematic” (Bechtel and Richardson, 1993), “rigorous” (Robson, 1993) and “objective” (Singleton et al, 1992), or in another (summarizing) word, “scientific” (Sanders and Pinhey, 1983). The investigation is to be disseminated in the form of a PhD thesis.

Based on this, the investigation corresponds with the belief that boosting methodological understanding of an investigation in a critical way can prepare an investigator for the “haphazard”, “exhilarating”, “frustrating”, and/or “exciting” moments in the investigation (Singleton et al, 1993). Thus, the investigation is treated as a developmental stage of a “cyclical process” of the research of interest (Singleton et al, 1993). “Theory-finding” (Hanson, 1958) is as equally valued as is “theory-using” (Simon, 1977) by the researcher (Figure 3-1). The scientific approximation is consolidated by means of a “purposive focus” and a “scientific rigor” (Sekaran, 1992) as well as a good theoretic base and an interdependent methodological design influenced by the vision (Collin, 1989) that it is always best to use a variety of methodological approaches.

![Figure 3-1: The purposive framework of the investigation](image)

3.3 Intermediate methodological considerations

On the one hand, supported by Reichenbach-style (1951) process of justification, Salmon-style
(1973) logical analysis is employed to draw conclusions from empirical evidence. The research is underlain by Selltiz et al-style (1976) empiricism, Doherty and Shemberg-style (1978) objectivity and Simon-style (1978) control so that empirical evidences on which findings are based can be justifiably generated and assessed. Related actions include “research training” (Selltiz et al, 1976) and “debates among professionals” (Katzer et al, 1991), detailed “research protocols” (Jankowicz, 1991) and detailed “methodological descriptions” (Sanders and Pinhey, 1983), together with “withholding information from subjects” (Sekaran, 1992) and using “systematic observational methods” (Jankowicz, 1991).

On the other hand, “heuristic rather than logical techniques” are used to seek insights (Popper, 1959; Hanson, 1958; Newell and Simon, 1972; Bechtel and Richardson, 1993); empirical confirmation or disconfirmation is viewed not as a means for proving or disproving hypotheses but as an “indicator of the credibility of the hypotheses” (Reichenbach, 1951, Simon, 1978); it is accepted in this investigation that the process of insight-seeking covers not only the context of justification (Hughes, 1990) but also that of other contexts which broadly include psychological, empirical, practical, social, theoretical, historical and technological (Bechtel and Richardson, 1993); the challenge (Kahey, 1993) is also accepted that an investigation can be incorporated into the frame of problem-solving, and the common terms and conditions with respect to practical problem solving (Newell and Simon, 1972) are used to structure the process of finding relevant variables, the constraints on the value of those variables, and the dynamic laws which are sufficient to explain the phenomenon of interest (Easterby-Smith et al, 1991; Philips and Pugh, 1987).

In terms of implementing the investigating activities, much effort is to be made to continuously improve the quality of the investigation (Pike and Barnes, 1994). For example, effort is made to avoid or minimize cognitive traps, and its related actions include: to do a more extensive search for relevant literature (Kahneman and Tversky, 1982), to operate with axiomatized structures (Wason, 1966), to use different analytic tools (Cartwright, 1983), to explain findings statistically thoughtfully (Kahneman and Tversky, 1982), and, to use heuristics critically (Tversky and Kahneman, 1974). Particular attention is paid to the constructing of possible causal explanation models (Figure 3-2) which may simultaneously satisfy a complex array of changing constraints.
Chapter 3 Towards The Investigation Of This Researcher: The Prospect

(Mitroff and Linstone, 1993; Bechtel and Richardson, 1993): an explanatory framework for the investigation is hoped to serve as (though at best) a rough indication of the general categories to be included or exemplified in any causal / explanatory models, dependent upon the kinematics which constitute the phenomenon of interest.

3.4 Advanced methodological considerations

Limiting the relevant variables and imposing assumptions about the form of relevant laws are regarded in this investigation as applicable procedures for attacking problems (e.g. from Bechtel and Richardson, 1993; Newell and Simon, 1972); existing models of problem solving are constructively used as the preliminary framework which describes the organization of different activities (e.g. Newell and Simon, 1972; Brandford and Stein, 1984); the Chinese boxes game is employed as a useful paradigm for understanding and solving complex problems such as that of this researcher; it is accepted that problem solving can involve different contexts (Newell and Simon, 1972), and effort has been made to incorporate different contexts (e.g., psychological, historical, empirical, practical and social (Mayer, 1993) in an integrated way (Scribner, 1984); different patterns (e.g. the serenity) of practical problem-solving (Newell and Simon, 1972) are to be taken account of, although particular attention is to be paid to the organized, empirical, and practical ones (Merton, 1957); and the reality of rationality is to be taken account of by not only insisting on standards which are contextually realistic but also admitting a distinction between these standards and actual performance (Morris et al, 1987).

Two major general strategies of human problem solving are to be adopted to analyze the complicated research problem in a systematic fashion (Mayer, 1993); through the correlation between strategies and specific research purposes (Sanders and Pinhey, 1983), the problem is to be broken into parts (Newell and Simon, 1972), and a specific case (e.g. field experiments) is to be used to deepen and specialize an inquiry (Bransford and Stein, 1984), in the face of a complex or ill-defined problem (Newell and Simon, 1972).

Different tactics in relation to problem-solving are regarded as complementary (Kahey, 1993); the means-ends analysis (Newell and Simon, 1972) is considered as the main method to cope with the mainstream research; random trial and error method (Newell and Simon, 1972) is used to deal with the acquisition of resources; the hill climbing (Mayer, 1993) method is used to cope with the composition of the thesis.

It is assumed, in the light of systems thinking (Mitroff and Linstone, 1993; Simon, 1969), that there are but a relatively small number of subordinate and minimally interactive functions which together result in the behaviour of the system - i.e. the theme this researcher is studying (Simon, 1969); the system is accordingly decomposed into subsystems which are more manageable and intelligible; component functions are localized after identifying or confirming the functional parts with the help of functional tools (Betchtel and Richardson, 1993); it is presupposed that the systems may take the form of an integrated rather than aggregate or composite system with indirect rather than direct localization (Bechtel and Richardson, 1993; Levins, 1970).
In terms of structuring the investigating activities, the project is broken into eight parts each with subordinate functions (Newell and Simon, 1972; Ackoff, 1995; Mitroff and Linstone, 1993), and they are (a) conceiving the research, (b) contriving the research, (c) controlling the research, (d) co-ordinating the research, (e) calibrating the research, (f) conducting the research, (g) collecting the research and (h) centering the research (see Figure 3-3).

**Figure 3-3: A structural framework for the proposed investigation**

![Diagram showing the structural framework for the proposed investigation]

### 3.5 Operational considerations

This researcher, influenced by Simon's (1969) work on problem-solving, goes beyond, while falling in, the positivism orthodoxy, by establishing mechanisms of control over the whole process of the investigation insofar as 'unavoidable' bias and errors (due to empiricists' 'admissible evidence only' mindset) can be minimized (Popper, 1959) and the 'avoidable' ones can be as far as possibly controlled (Hanson, 1958).

In terms of controlling the investigating activities, a simple control framework (Figure 3-4) is established to assure control over the proposed investigation by focusing on four aspects of each investigating activity: (a) the goal (or sub-goal) of the activity, (b) the plan for the activity, (c) the execution of the activity, and (d) the measure of the activity. This control model assumes that control can be carried out throughout the whole process of an investigation (Pike and Barnes, 1994), and that an investigating activity (both mental and physical) can be controlled by identifying the goal or determining the sub-goals of the activity, establishing the plans for the activity which are based upon assessment of the future and the availability of resources, executing the plans after mature preparations, and measuring the performance in comparison with the goal in the light of experience.
3.6 Conclusion and recommendation

A brief account of the purpose, nature, procedure and control of this researcher's investigation has yielded four frameworks which are hoped to serve as a rough indication of the general research activities to be undertaken. As can be seen from the texts, Figures 3-1, 3-2 and 3-4 are relatively straightforward and do not require much explanation.

The explanatory framework, Figure 3-3, however, can be problematic in that it can be deadly easy for an investigator to claim a cause for an effect without knowing that, by doing so, he or she has already relied on certain notions or beliefs which may be facts but may not be knowledge. In fact, for any model being aimed to serve as causal framework for a phenomenon, it has to satisfy both the kinematics which constitute the phenomenon of interest and a complete set of criteria which justify the causal-effect relationship. Therefore, it remains fruitful to explore, in a philosophical fashion, causation in reference to necessity, power, universality, uniformity and actuality, all of which have long been heated discussions among philosophers throughout the centuries during which civilisations have been incrementally cultivated and developed. In addition, a broader philosophical exploration in this line could also help disambiguate some research concerns such as Q1-1,4,6,7&8 (please see Figure 1-3) and generate some valuable insights about the principled ways of doing quality research.
4. Philosophy And Research: The First Principles

4.1 Introduction

In this part of the thesis, this researcher sets off to explore the philosophy of research in order not only to facilitate methodological disambiguation about this researcher's research project but also to raise some issues worthy of consideration as well as to highlight some meaningful and workable methodological considerations (relating to escalation, de-escalation and strategic control) derived from philosophic meditation. This research quickly treads over the nature of philosophy, intellectual authority, and various disciplines of philosophy so as to yield a clear understanding of the first principles of research, then it philosophically de-mystifies research processes, research methods, and cause-effect relationships, and finally, it highlights the value that philosophy can add to this researcher's research project in terms of proposition-like philosophic meditation.

4.2 The nature of philosophy

Since Socrates there have been many definitions of philosophy varying from style to style, and there are special difficulties about defining philosophy before one examines philosophical problems about definition in general (Honderich and Burnyeat, 1979). This is because philosophical questions hang on quality and typically start to assume an interminably circular quality by relying on so many other matters even before one can begin to see what an answer could be like. This indirectness usually disables one from knowing what kind of answer is required for a simple, inoffensive, and straightforward question such as 'what is reality?' (Wittgenstein, 1958). Thus, there is no unambiguous answer to what makes a question a philosophical question, nor can one be sure, with philosophical questions, what kinds of answers will suffice which, in turn, makes one doubtful about the character of the questions themselves.

4.2.1 Philosophic thoughts: a review

A careful study of great philosophers and their philosophical thoughts (Table 4-1) tells that philosophy remains the expression of debate - which has a very long history and can be traced back as far as Aristotle and Plato and as recent as Popper and Kuhn - about the most fundamental and general kind of things (such as reality, other minds, the nature of knowledge, matter, truth, morality and more) in such a special way that philosophic questions, though they can look simple enough, are not the kind of questions many professions such as physicians, psychologists, and economists can comfortably answer. For example, William James, as both a psychological behaviourist and philosophical pragmatist, could not have answered questions about 'other minds' had he devised experiments to explore them.

<table>
<thead>
<tr>
<th>Philosopher</th>
<th>Year</th>
<th>Major interests, or contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socrates</td>
<td>469-399 BC</td>
<td>Who philosophized about the nature and possibility of knowledge, especially knowledge about virtue. However, his thought came to us from the writings of his pupil Plato, who made Socrates the major protagonist of most of his works.</td>
</tr>
</tbody>
</table>
Aristotle 384-347 BC
Who philosophized on matters - which later became mechanics, metaphysics, ethics, and psychology, more or less invented logic, and invented the idea of a research programme by encouraging his students to collect material for him.

Euclid 300 BC
Who philosophized about methods, especially through the influence of his geometry.

Peter Abelard 1079-1142
Who philosophized about theology, logic, ethics and meta-physics, and was regarded as one of the most prominent thinkers of the age.

St. Thomas Aquinas 1225-1274
Who philosophized about theology, and his work Summa Theologiae was intended to be a complete system of theology.

William of Ockham 1300-1349
Who philosophized about logic, commented on Aristotle, and his famous dictum, ‘Ockham’s Razor’ states ‘do not multiply entities beyond necessity.’

Thomas Hobbes 1588-1679
Who philosophized about politics and Hobbes’ theory of government posits that the king or other head of state must be allowed absolute power because divided power can lead to civil war.

René Descartes 1596-1650
Who, also the inventor of Cartesian geometry, philosophized about methodology and his ‘methodological scepticism’ has a great influence on modern thought.

John Locke 1632-1704
Who philosophized about other minds and politics and founded British Empiricism which bases theories on experience.

Gottfried Wilhelm Leibniz 1646-1716
Who philosophized about polygons, invented a calculating machine, was famous for his dictum ‘this is the best of all possible worlds’, and held that matter exists but what appears as matter is really a collection of more or less rudimentary minds.

George Berkeley 1685-1753
Who was a British Empiricist and held that human ideas are fleeting and impermanent. A well-known slogan of his is that to exist is to be perceived.

David Hume 1711-1776
Who philosophized about causation as can be seen in his Treatise on Human Nature, and was one of the three prominent British Empiricists.

Immanuel Kant 1724-1804
Who philosophized about causation, and tried to prove that causal necessity rules the empirical world and that freedom and morality rule the world of the human will.

Georg Wilhelm Friedrich Hegel 1770-1831
Who philosophized about history and dialectics. He invented the conception of ‘dialectical’ and claimed that history remains a progression inaugurated by a dialectical clash of ‘thesis’ and ‘antithesis’ followed by ‘synthesis’. He is also the most prominent system builder in the history of philosophy. He argued that all knowledge can be systematically organized under the headings of Logic, Philosophy of Nature and Philosophy of Mind.

Arthur Schopenhauer 1788-1860
Who philosophized about mind and reality, and claimed that the mind and the will are real but the reality is bad rather than good, because desires and the will cause only misery and pessimism remains the only rational philosophy of life.

John Stuart Mill 1806-1873
Who philosophized about education and suffrage and was best known for his works entitled Utilitarianism, System of Logic, and the Subjection of Women.

Karl Marx 1818-1883
Who philosophized about economic history and radical politics, and claims that states and rulers are instruments of oppression and the dialectical forces of history are material rather than a clash of ideas (Hegelianism).

Williams James 1842-1910
Who philosophized about psychology and remained both a psychological behaviourist, claiming that emotions are the perception of physiological changes and a philosophical pragmatist, arguing that beliefs do not work because they are true but remain true because they work.

Friedrich Nietzsche 1844-1900
Who set out to substitute traditional moral value with aristocratic egoism and to undermine metaphysics, logic, rationality as well as morality, claiming that all systems of thought including religion, philosophy and science are nothing but fraudulent attempts by various professions to seize power.

Gottlob Frege 1848-1925
Who philosophized about meaning and introduced a complete system of symbolic logic as well as drawing a distinction between sense and references.

Edmund Husserl 1859-1938
Who philosophized about phenomenology (which seemingly has little to do with empirical phenomena), initially presumed that the laws of logic remain merely psychological, but eventually embarked on the belief that phenomenology as actually means just a defence of ‘the purity of logic’.

Bertrand Russell 1872-1970
Who philosophized about logic and his Principia Mathematica remains a milestone in modern logic.

Vienna Circle 1920-1936
The logical positivists consisted of a group of scientists, mathematicians, and philosophers including Morris Schlick, Kurt Godel, Rudolf Carnap, Otto Neurath, Herbert Feigl, Friedrich Waismann and Philip Frank, who believed that they were doing philosophy in a ‘scientific’ way and seemingly thought the point of philosophy in such a scientific way is to provide science with sound foundations.

Simone de Beauvoir 1908-1986
Who philosophized about feminism and her book The Second Sex became a fundamental work of modern philosophical feminism.

Singer Edward 197
Who philosophized about experimentalism and his book Experience and Reflection became the foundation of nonrelativistic pragmatism, which indicates that all knowledge of law implies knowledge of fact and all knowledge of fact implies knowledge of law.

Alfred Jules Ayer 1910-1989
Who popularized logical positivism through his book Language Truth and Logic and is best known with the concept of scientific verification pinnacled by the ‘verification principle’, which posits that
no proposition has meaning unless it either (a) pertains to mathematics or logic, or (b) can be verified by the scientific method on the basis of direct sense experience.

| Karl Popper | 1902-1994 | Who philosophized about science, and, with the invention of the falsification theory, he remains the most famous thinker in science in the 20th century. His account of scientific reasoning holds that scientists formulate and then test ‘highly falsifiable’ theories in that every theory is ultimately merely a hypothesis and therefore permanently open to the possibility of refutation. |
| Thomas Kuhn | 1922-1996 | Who, philosophizing about science, became famous for his distinction between normal science and revolutionary science, and claimed that what Popper and the like have described is not the real methodology of science but a fictional states of affairs existing only in the pages of textbooks. |

Roughly speaking, philosophy can be crystallized into a debate on two things: ontology and epistemology. Ontological questions are concerned with the kinds of things which exist in the world and epistemological questions are related to the character of humans’ knowledge of the world. For researchers in the domain of management studies, however, it seems that epistemological issues remain more relevant, although ontological and epistemological issues are not unconnected in that ontological issues inevitably give rise to epistemological issues.

Epistemological issues are about what are to count as facts, and closely relate to philosophical claims about the way in which the world is known or can be known to human beings, and clearly involves discussions about the nature of knowledge. That is, epistemology deals with how one knows certain things, how one knows things to be true or false, what constitutes evidence, what inferences one applies to evidence, and so forth.

To illustrate, for example, one can turn to the Chinese boxes game; a person who sees the first (outer) box might assume that it is a container of material things such as books and toys, that it is a magic brand which brings about gifts or joy, that it is a box which contains other boxes, that it is a weapon to sharpen one’s worldview, or so on. Now the questions lie in the person’s knowledge accumulation in relation to the box: what kind of claim his or hers is, how can he or she be sure about the claim, what contributes to the claim (i.e. believing or seeing), and more.

Seemingly, it can be argued that no amount of individual beliefs or reasoning are sufficient until one opens the last of a series of boxes, but there are so many things which become simply impossible for humans to ‘open’, to see visually, or to experience physically. Thus raising philosophical discussion in relation to the game of Chinese boxes may not have much bearing upon one’s social, professional, or personal life, but it does not mean that philosophical questions are not important at all.

4.2.2 Intellectual authority

Philosophical questions, for example, may appear far from clearly relevant to the life of varying professions such as management researchers in that, at the root of the matter, philosophical questions are to be resolved by reasons instead of empirical enquiry, simply because the question of whether or not there are empirical facts cannot be empirically inquired.

However, philosophical questions can be important as far as questions of intellectual authority are concerned in that varying professions do resolve problems on varying premises which are explicitly or implicitly derived from philosophical arguments. For instance, to make a
knowledge claim such like that the Chinese boxes are a magic brand which brings about gifts or joy, indicates a preparedness of whoever claims it to justify that claim by referring to ways of knowing such as methods, analytical procedures, authoritative sources, spiritual inspiration, experience, and so forth.

This stresses that the reasoned nature of human knowledge has an authoritative status even if it may be subjected to its feasibility in that reasons may simply turn out to be wrong (Toulmin, 1972); and this intellectual status is most likely to be represented by a framework which allows factual evidence and such like to be dealt with practically, although there is much evidence (e.g. the above-mentioned nine PhD theses this researcher had examined) showing that many professionals simply construct or borrow, and then, accordingly use a framework without further exploring why a specific framework is preferred to others and what is the nature of the framework.

Philosophically, humans learn frameworks as humans learn about the world for they could be temporally correct but historically wrong, or contextually systematic but universally discrete; and thus, it becomes necessary for researchers to involve a critical account of the logical order of justification for the objectivity of certain forms of belief which might masquerade as knowledge (Quinton, 1973). That is, epistemologically, a researcher needs to find arguments against persistent scepticism, or to search for those beliefs upon which other sets of beliefs rest and can be justified (i.e. the first principles which themselves evolve historically).

For example, in the seventeenth century, Descartes and Locke (see Table 4-1) posited that the principles of human knowledge consisted of three commonplaces (Tulmin, 1972): that nature was fixed and stable, that a dualism existed between mind and matter, and that (Cartesian) geometry remained the criterion of knowledge for judging all other claims to knowledge; this authoritative framework had guided how the world should be investigated until the invention of new non-Euclidian geometries which themselves were progressively challenged by new conceptions.

This poses not only the issue of the relativity of the criterion of knowledge or, in another word, the sources of human intellectual authority, but also the issue that it is the first principles which have intellectual authority in that they set the context of debate within which varying theoretical schools, even within a single discipline (e.g. functionalism, teleologism, radicalism, rationalism, empiricism, positivism logical empiricism, logical positivism, criticism, symbolism, pragmatism, experimentalism, and corpuscularism), fight their disagreements and their selected versions of the world. In short, philosophical exploration remains of great importance in helping a researcher to understand what he or she is doing, why he or she is doing it, and what alternative ways can be equally applicable if not equally beneficial.

4.2.3 Philosophy as disciplinarily classified

Philosophy has been studied in at least two broad ways: analytic and continental. The analytic approach came down from Socrates (who normally began his discourse by asking for definitions
of the ideas of interest) and Aristotle (who usually proceeded by listing and discussing possible alternative theories and interpretations). The continental approach has been associated with Hegel (who often grounded his theses on the belief that history remains a spiritual progression brought about by a dialectical clash of thesis and antithesis followed by synthesis) and Marx (who consistently reasoned on the premise that the dialectical forces of history which consist of a clash of ideas are material).

From the perspective of how people know, how people learn facts and laws, and the relationships between these, major philosophies can be divided into four classes (Singer, 1959): rationalism, empiricism, criticism, and experimentalism.

Empiricism posits that all knowledge of laws implies knowledge of facts and some knowledge of fact does not imply knowledge of laws. The empiricists - who are best represented by the British philosophers, Locke, Berkeley, and Hume - maintained that all our knowledge is derived from experience and that some facts depend on laws of inference but some do not.

Rationalism posits that no knowledge of laws implies knowledge of facts and all knowledge of facts implies knowledge of laws. The rationalists - who are best represented by the continental philosophers of the 17th century such as Descartes and Leibniz - maintained that, in addition to what humans know by experience, there are certain ‘innate ideas’ and ‘innate principles’ which humans know independently of experience. The rationalists assume that mental laws are given and that the use of simple ideas and the laws can result in a complete deductive scheme. Therefore, facts depend on laws but laws do not depend on facts.

Criticism posits that some knowledge of laws implies knowledge of facts and some knowledge of facts does not imply knowledge of laws. The criticists - who are best represented by Kant - assume that there are some laws (e.g. a priori sciences such as geometry, logic, and kinematics) which are given prior to any experience, and that there are also some laws (e.g. a posterior laws) which are generated as a result of experience.

Experimentalism posits that all knowledge of law implies knowledge of fact and all knowledge of fact implies knowledge of law. Experimentalists - who are best represented by Singer, Churchman and Ackoff - maintain that there is no fundamental truth, that some laws have to be assumed in order to learn the facts, and that some facts have to be known in order to generate knowledge of laws. Experimentalism assumes a teleological worldview and holds that facts and laws are inextricably intertwined and remain inseparable. In essence, experimentalism remains a nonrelativistic synthesis of modern rationalism and logical positivism (Churchman and Ackoff, 1950).

To compare and contrast these classes of philosophies, one finds that the commonality among empiricism, criticism, and rationalism is that they all claim that there are some fundamental truths which are given to form the starting point of scientific inquiry; while experimentalism claims that there is no fundamental truths which is given and that truth is not the starting point, but the end point, of an inquiry. Experimentalism seems to be a modern synthesis of rationalism,
criticism, and empiricism (Churchman and Ackoff, 1950): for example, experimentalism echoes a modern rationalist notion that some knowledge cannot be proven but must be accepted on faith, incorporates criticist notions of ‘ideal pursuit’ and of the interplay of observation and concepts, and accepts the modern empiricism notion that all scientific statements can be reduced to a basic thing-language, the predicates of which are taken to be directly observable.

4.3 Philosophy and research: the first principles

Broadly speaking, research is carried out to discover something about the world by means of a method or a corpus of procedures vested with the power to produce knowledge about the world. Philosophy, on the other hand, remains a study which aims to solve ultimate, abstract and very general problems concerned with the nature of existence, knowledge, morality, reason, and human purposes (Russell, 1912).

4.3.1 The first principles of philosophy

It seems true that behind the veil of varying philosophies there lie the first principles which set the context of debate within which varying theoretical schools fight their disagreements and their selected versions of the world, but even those first principles have been challenged from time to time. Some of them have been outdated and some of them have evolved. However, among those most influential and still powerful are:

The fundamental principle in the analysis of propositions containing descriptions (Russell, 1912): Every proposition which one can understand must be composed wholly of constituents with which one is acquainted.

The principle of induction (Salmon, 1973): (a) when a thing of a certain kind A has been found to be associated with a thing of a certain kind B, and has never been found dissociated from a thing of the kind B, the larger the number of cases in which A and B have been associated, the greater is the probability which they will be associated in a fresh case in which one of them is known to be present; and (b) under the same circumstances, a sufficient number of cases of association will make the probability of a fresh association nearly a certainty, and will make it approach certainty without limit.

The logic principles (Salmon, 1973): (a) suppose it is known that if this is true, then that is true. Suppose it also known that this is true, then it follows that that is true; (b) suppose it is known that if this is true, then that is not true, then it follows that this is not true; and (c) suppose it known that if A is true, then B is true. Suppose it known that if B is true, then C is true. Suppose it also known that A is true, then C is true.

The principles of inference:¹ (a) causation involves necessity (Mill, 1884), (b) causation involves power (Gasking, 1955), (c) causation is universal so that every event has a cause (Aristotle, 1962), and (d) causation is uniform so that like causes yield like events (Hume, 1951).

The laws of thought (Russell, 1912): (a) the law of identity: ‘what is, is’; (b) the law of
contradiction: 'nothing can both be and not be'; and (c) the law of excluded middle: everything must either be or not be.'

The general principles of science (Ackoff, 1962):² (a) the belief in the reign of law, and (b) the belief that change is in perpetuity.

The commonly used laws in economic, fatalistic, facetious, and scientific disciplines which might or might not be relevant to conducting research (Pass, 1991):³ (a) Gresham's law (i.e. 'bad money drives out good') which dictates that when money of a high intrinsic value is in circulation with that of less intrinsic value, it is the inferior currency which tends to remain in circulation, while the other becomes either hoarded or exported; (b) Heisenberg's uncertainty principle which dictates that energy and time or position and momentum cannot both be accurately measured simultaneously with the product of their uncertainty being Planck's constant h; (c) Hooke's law which dictates that the stress imposed on a solid is directly proportional to the strain produced within the elastic unit; (d) Murphy's law which dictates that anything that can go wrong will go wrong; (e) Parkinson's law which posits that work expands so as to fill the time available for its completion;⁴ (f) the Peter principle which dictates that all members of a hierarchy rise to their own level of incompetence; (g) Say's law of markets which dictates that the supply of goods generates a demand for the goods; (h) Utz's laws of computer programming which include that any given programme when running is obsolete, that a programme will, if it is useful, have to be changed, and that any given programme will expand to fill all available memory.

4.3.2 Philosophy and the research process

It can be argued that human discoveries, though many of which have been achieved in an unintended or accidental ways, have been accredited as if they arose through a research process involving the application of one or more methods, as well as a set of procedures vested with the power to produce knowledge which remains, in effect, collective agreements as to how specific versions of the world can be generated.

To relate philosophy to a specific research project, one can simply invite answers on what the superiority is of the procedures and methods which are to be employed or, more fundamentally, on where the basis of their claim to intellectual authority lies. Apparently, researching a problem remains a matter of using the skills and techniques appropriate to accomplish a task up to the limits of resources, or a matter of finely judging the ability of a particular research instrument to generate the data required (Hughes, 1990), but this judgement which treats research methods as a technology can be open to mistakes which are derived from epistemological incompetence (Kuhn, 1962).

Specifically speaking, the relevance of the epistemological issues lies in the fact that every research tool or procedure is an implied expression of particular versions of the world as well as an inextricable commitment to knowing that world (Hughes, 1990). That is, for example, to use a questionnaire, to take the role of participant observer, to conduct interviews, to employ
experiments, to measure the degree of escalation of commitment in terms of funds added to an ongoing project, or so forth, an investigator needs to get himself or herself immersed in conceptions of the world which permit these instruments to be effectively (but not necessarily efficiently) used for what is purposively conceived. This suggests that there is no technique or method which is self-valid in facilitating an investigation, and that the effectiveness of any method or technique is ultimately dependent upon its epistemological justifications: as a research tool, it operates only within a given set of assumptions about the nature of society, the nature of human beings, the relationship between the two and ways by which these can be known (Hughes, 1990; Hospers, 1967)

4.3.3 Research methods as philosophically demystified

It can be argued that science has been responsible for vast and far-reaching changes in human history. Although it still remains arguable whether the success of science is largely due to its method or methods, most modern scientists or philosophers would probably agree that among the most vital methods are the use of observations and experiments. For example, it is usually held that intellectual progress occurs at times when scientists of any discipline conduct experiments rigorously and examine the results critically. Examples of this can include the Greek physician Galen’s (130-201 AD) discovery of the structure of muscles by dissecting bodies.

Historically speaking, methods which have facilitated the advance of science include more than experiments and observations. Theories have been formulated to explain experimental results and predicted future observations (Hempel, 1965; Popper, 1959; Kuhn, 1970; Feyerabend, 1975). Hempel (1965) proposes that science is based upon the hypothetico-deductive method, which means that a researcher is supposed to begin by making and recording observations in whatever fields he or she is investigating, then to formulate a hypothetical covering law and, at last, to employ the hypothetical law as a premise in a deductive argument. However, Hempel’s covering law model does not offer a complete account of scientific thinking at all (Singleton et al, 1993). It leaves out or minimizes the roles played by unobservable (theoretical) entities and does not seem suited to explaining particular phenomena which involve so many aspects that no covering law can be successfully formulated.

Popper’s (1959) falsification theory posits that scientists formulate ‘highly falsifiable’ theories which they then test, which means that researchers are said to spend much of their time trying to show that their own theories are false, that when all attempted theories have shown to be false except one then the researcher can conclude - at least for the time being - that the remaining theory is the correct one, and that every theory is ultimately only a hypothesis and therefore permanently open to the possibility of refutation. However, there have been a few objections to Popper’s (1959) account of scientific reasoning. It is argued that it is simply impossible to test each and every theory (e.g. Teichman and Evans, 1991), that the falsification theory cannot really explain why exactly it is that some theories are rejected as obviously false and not worth
testing at all, and that the falsification theory appears to rule out from science too much that scientists themselves want to keep in. For example, the doctrine that every event has a cause cannot be allowed to be falsified; even when causal descriptions seem to be inapplicable such as in the case of quantum physics, scientists say only that the ideas of cause and effect lack explanatory power.

Kuhn (1970) suggests that there are two different varieties of scientific enterprises: normal science and revolutionary science. Normal science, according to Kuhn, does not construct new theories, nor does it test the adequacy of older ones; existing theories are simply assumed to be true and science proceeds by determining known facts or true facts with more precision, by researching unexplained happenings with the purpose of fitting them into existing theory and by solving small theoretical ambiguities. Thus, the methodology of normal science remains a matter of forcing nature into currently accepted frameworks. Scientific revolutions, though extremely rare, occur when existing theories turn out to be unsatisfactory. The triumph of a theory can be attributable to various factors which include its capacity for explaining unruly facts, its usefulness in solving problems and making accurate predictions, and the prestige and support of the inventor (Kuhn, 1970).

Feyerabend (1975), concentrating on what Kuhn (1970) called revolutionary science, the enterprise which leads to the birth of new theories and the death of old ones, claims that scientists have no special methodology in that science has anarchistic features and has no rules of procedure which are used in all cases. It implies that the human mind is tremendously creative and it responds to intellectual challenges in ever new and unpredictable ways; even methods like observation and experiments can be inapplicable because what counts as relevant observation partly depends upon what theory an investigator is working with; new theories can force scientists to reinterpret their observations; and sometimes a new theory can be used in the absence of any supporting facts at all. Feyerabend (1975) also suggests that empirical observation can take precedence over theory, and vice versa.

To conclude, one might agree that the best way to look at investigating methods is to see through Kuhn’s perspective that there are at least two varieties of scientific activities (i.e. normal and revolutionary) and to act either revolutionarilly (Feyerabend, 1975) by being creative, open-minded, and not especially rational, or normally by being a Hempelian, a Popperian, or neither.

4.3.4 Causation

A cause has been variously defined as that which produces an effect, or as the origin or trigger of something which happens, or that which explains why a certain thing comes into existence (e.g. Honby, 1995; Procter, 1978). Although the word cause may not crop up frequently in daily conversations, people do ask or get asked about why something has occurred? and then they are asking about causes. For example, when an investigator asks why escalating commitment happens in an organization, he is inquiring into the causes of the phenomenon.
In general, it has been held among most philosophers that effects are events, that events instead of persons or things are causes, and that the ordinary idea of cause always refers to the idea of change in existing things, viz., causal explanations always indicate changes in, rather than the creation of, things. However, there is some ambiguity in the meaning of cause: things and persons as well as events and changes can be perceived as causes, in spite of philosophy, and this ambiguity remains at the root of some of the philosophic problems in relation to causation (Russell, 1912).

For example, Aristotle (1962) held that there are four kinds of causes which jointly effect an action, and they are: (a) efficient causes which brings about changes, (b) material causes which are the stuffs in which changes occur, (c) formal causes which are the distinctive shapes or forms or properties pertaining to the final results, and (d) final causes which are purposes or ends or aims. Common sense tells us that (a) refers to what the word cause stands for nowadays, that (b) and (c) are archaic nowadays, and that (d) can be problematic, though may still be of some use in explaining behaviours.

Specifically speaking, discussions about causation have focused on a few notions or beliefs with respect to necessity, power, universality and uniformity (Hume, 1978; Honderich and Burnyeat, 1979). For example, it has been argued that the very idea of cause involves necessity (Mill, 1884), that humans may feel that they have certain powers to bring things about (Gasking, 1955). It has also been argued that causation is universal so that every event has a cause (e.g. Aristotle, 1962; Lloyd, 1968), and that causation is uniform so that like causes yield like events (e.g. Hume, 1951).

4.3.4.1 Causation in reference to necessity

Hume's (1951, 1978) theory of causation, which explains away the element of power and necessity, posits that cause and effect remains: (a) a matter of an observed constant conjunction of events of one kind with events of another kind, (b) a matter of contiguity in space and time, and (c) a matter of that which cause must precede effect. For instance, Hume (1951) holds the constant conjunctions of similar events induce humans to expect that the same things can happen over and over again, viz., some particular event A causes some particular event B only if every similar A is followed by a similar B. In this sense, therefore, the idea of necessity (which humans cannot see or feel) refers to humans' induced expectation (which humans can feel), viz., similar effects are expected to follow similar causes; it also implies that the effects must necessarily follow the cause and that the cause has forced the effect to come about. Furthermore, Hume (1951) also holds that there cannot be causation at a distance, viz., causation demands that either the cause and effect (e.g. event A and event B) be adjacent in space and time, or that the space and time between A and B be filled with a causal chain of events in which one link adjoins another.

However, Hume's (1951) theory has received severe criticisms. For one thing, strict contiguity (in terms of space and time) can be too exorbitant for the operation of cause and effect in that
causal actions can take place at a distance (Russell, 1917). For another, constant conjunction of events does not sufficiently leads to causation (Russell, 1917). For example, the fact that day is constantly followed by night does not show that day causes night, or vice versa; it is the rotation of the earth that functions as the external cause to both night and day. Moreover, there are cases in which a constant conjunction of events does not lead to causation (e.g. some conjunctions can be coincident rather than causal); there are also cases in which causation takes place without a constant conjunction of events (e.g. the arrival of the Manchu people caused the fall of the Han empire in China).\(^5\)

Mill (1884) expands Hume’s (1951) account of causation by first accepting the three conditions of constant conjunction, contiguity and the temporal precedence of cause before effect and then adding a fourth dimension, viz., that the cause and the effect must be constantly conjoined not only in actual circumstances but also in all possible circumstances. The justification for the fourth dimension lies in the objectivity that laws of cause and effect have to be discovered by means of experimentation or observation, and that the necessity of cause and effect must be different from logic or mathematics necessity, given that the conclusions of logic or mathematics are deduced from axioms and other premises from which the conclusions themselves follow necessarily.

Mill’s (1884) approach becomes useful in that it insists on a more solidly-based constant conjunction and hence emphasizes necessity indirectly. For example, Mill’s rules for experimental testing of causal hypotheses can help distinguish genuine cause and effect from coincidences and other sequences not representing causal regularities. Among the rules are (a) that experimenter should try to prevent the supposed effect from following the supposed cause insofar as to reduce the possibility of the occurrence of the supposed cause without the supposed effect following, and (b) that the experimenter should try to yield the supposed effect by means of other than the supposed cause insofar as to determine whether or not the supposed effect can possibly occur without the supposed cause having preceded the supposed effect.

In short, the concept of cause consists of the concept of necessity. Necessity goes with events. Events as causes are connected with necessity which, in the light of Mill’s refinement of the concept of constant conjunction, is itself reflective of the idea of uniformity as constant conjunction in all physical possible circumstances.

4.3.4.2 Causation in reference to power

It seems to be undeniable that ideas of cause correlate with the idea of power; observers feel themselves certain powers to bring things about. One can sometimes induce others to change their minds or their ways with regard to decision-making; one can turn things around by insisting on principles. All this suggests that the concept of causation may well involve power which enables human manipulations of events.

Gasking’s (1955) theory of causation proposes that causation is essentially connected with
human manipulative techniques: the concept of the cause and effect has to do with the general rules which humans employ for doing things (i.e. recipes), and the cause and effect enjoys the ‘producing by means of …’ relation. This suggests that, based upon the understanding that events (instead of things or persons) are causes, event A causes event B when event A itself either is, or could have been, a human manipulation.

Critically put, Gasking’s theory of causation may appear to be inefficient when it is used to cope with the complexities of historical events (such as the USA’s escalating commitment in Vietnam) in that it can be extremely difficult to provide a recipe for manipulating human affairs, which, as they exist, remain hit and miss. On the other side of the coin, however, the inefficiency of the theory implies that humans observing complex events can be wrong in the first place to speak of the causes of the events or that alternative explanations may be needed. That is to say, for example, to effect de-escalation of commitment with respect to such complex problems as the USA’s military involvement in Vietnam, as Gasking’s theory hints, one should not focus questions about causes on how the USA could make de-escalation happen, but on how and why this de-escalation happens, because to make de-escalation happen largely depends on chance.

In short, the concept of cause consists of the concept of power. Power goes with persons. Persons and things, along with events and changes, are all regarded as causes although persons and things are fundamentally different from events and changes. Moreover, modern thinking on causes still remains a hangover from Aristotelian thoughts so that purposes, aims and functions still count as types of causal explanation in many contexts; human control and manipulation of the environment also generates causes which can take the form of human ideas as well as of experience of the exercise of power. However, there is no room for the notion of power face to face with events and changes as causes: events and changes do not manipulate environments nor do they exercise power.

4.3.4.3 Causation in reference to universality and uniformity

Universality and uniformity, as principles of causation, have been taken for granted although they still remain simply unprovable. In fact they play a vital role in humans’ actual reasoning which incorporates both induction and deduction (see Tables 2-1& 2-2). Induction involves collecting particular facts and then generalizing from those facts and appears not to be truth preserving in that the resulting generalizations pretend to be universal (see Table 2-1). Deduction involves drawing conclusions which follow with certainty from their premises and appears to be truth preserving in that the conclusion of a sound deductive inference is guaranteed to be true providing that its premises are true (see Table 2-2).

This universality means that the generalizations which resulted from observed facts are applied to the past, the present and the future. On the one hand, generalizations based upon observations of facts often are true, as far as one knows; on the other hand, the truth of a finite number of statements about particulars (e.g. joint venture A got entrapped, joint venture B gets entrapped, and joint venture C is also getting entrapped, etc.), remains compatible with the possible
falsehood of a universal generalization based on those particulars (e.g. all past, present, and future Joint ventures get entrapped). Because, no matter how representatively superior the facts are in terms of the number and the heterogeneity of the observations, collecting facts does not guarantee the truth of the resulting generalizations, once the latter of which become open-ended or universal; and this gives rise to the criticism held by many philosophers that inductive reasoning leading to universal generalizations can be unsound (Hume, 1951; Russell, 1912).

This problem of induction lies in its attempt at predicting future events in the light of a belief that the future will resemble the present because the present has resembled the past and past pasts had resembled past futures. Apparently, inductive reasoning can be very risky in circumstances under which the future may differ from the past.

Russell (1912) pinpoints this problem as a dilemma, in which either inductive reasoning is circular (which is regarded as unsound) or it can be reduced to deduction (which is no longer regarded as induction), and outlines as well as criticising a number of approaches which appeared to solve the problem. Among them are: the 'laws of nature', the 'uniformity of nature', the 'probability', and 'reliabilism'.

The 'laws of nature' approach indicates that generalizations formulated by the 'laws of nature' cannot be easily overturned and do not seem to be shaky. For example, the expectation that the sun will rise tomorrow is generated from the fact that it always has risen every day; and people, when challenged, may appeal to the laws of planetary motion (viz., the orbit of each planet is an ellipse with the sun at one of the foci of the ellipse; the radius vector of each planet sweeps out equal areas in equal times; and the squares of the periods of the planets are proportional to the cubes of their mean distances from the sun). However, Russell (1912) maintains that the fact that 'laws of nature' have always held so far remains compatible with them not holding tomorrow.

The 'uniformity of nature' approach (Russell, 1912) insists that the reason why inductive inference is unsound is that it is incomplete, and that inductive inference could be turned into something similar to deductive inference which is truth preserving, by adding the uniformity of nature premise. However, to add another premise is to abolish induction altogether; the uniformity of nature premise is extraordinarily ambiguous in that it fails to state how uniform the nature is and what is to account as uniformity; and the uniformity of nature premise is more complicated in that the premise is not self-evidently true even if it is true and that there is an element of circularity remaining in the reasoning even when inductive inference has been reduced to deductive inference.

The 'probability' approach introduces a general premise about probability into the reasoning (viz., when something has occurred a certain number of times - e.g. N times - in certain circumstances, then there is a probability that that thing will occur again in the same circumstances). The probability approach imitates that of the uniformity of nature in that both supply the inductive inference with an extra premise. Therefore, it has flaws similar to those of
the uniformity of nature. Besides, the idea of probability is not clearly defined; and even if mathematical or statistical probabilities (expressed as percentages or fractions) are employed as the precise concept of the probability one still needs to know the size of the population so as to know whether the sample is typical and whether it is large enough to rely on.

The ‘reliabilism’ approach proposes that there is need to justify the belief that it is really possible to generate accurate predictions from experience, that the future is bound to resemble the past in many ways, and that induction, therefore, becomes a reliable way of acquiring knowledge. However, the reliabilists could not suggest which are the unreliable methods of acquiring knowledge if induction becomes the reliable one. This is because there is a compendium of all the methods, rather than just a method, which exists as well as appearing to be successful for the time being. Therefore, the reason why induction could not be given up lies in the fact that it is inconceivable to give it up for it is a compendium of everything. Furthermore, induction is not always reliable and historically it becomes so noticeable that many generalizations turn out to be false in the long run. Given that induction is a vague word, which can refer to any method of enquiry which is not deductive in nature, the reliabilities of an investigation have to be put in a comparative context: particular methods can be comparatively reliable or unreliable relative to one another, and particular investigators can be more or less reliable (successful) vis-à-vis one another.

4.3.4.4 Causation in reference to actuality

Experience tells that life is full of surprises, and it no longer surprises experienced investigators that things which were thought to be connected are not connected. In actuality research can discover that certain generalizations are false: for example, there is a lack of connection or a certain generalization seems just impossible. This shows not that induction is a not reliable method but that investigators need to completely rethink their methods; this shows not that the universe is truly in chaos due to the perpetual nature of change, but that humans fail to discover uniformity.

This can be further illustrated by linking causation with varying images of nature (i.e. mechanic, probabilistic, and teleological). In actuality, it has been argued (e.g. Singer, 1924, 1959; Sommerhoff, 1950) that there are several kinds of relationships with regard to causation (Table 4-2).

<table>
<thead>
<tr>
<th>Image of nature</th>
<th>The basis of the systems</th>
<th>Is the preceding event necessary?</th>
<th>Is the preceding event sufficient?</th>
<th>Functionality between events is defined by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>One natural mechanical system</td>
<td>☑</td>
<td>☑</td>
<td>Cause-effect relationship</td>
</tr>
<tr>
<td>Probabilistic</td>
<td>One natural mechanical system</td>
<td>☑</td>
<td>☑</td>
<td>Producer-product relationship</td>
</tr>
<tr>
<td>Teleological</td>
<td>Extrinsic function</td>
<td>☑</td>
<td>☑</td>
<td>A set of producer-product relationships</td>
</tr>
<tr>
<td></td>
<td>Intrinsic function</td>
<td>☑</td>
<td>☑</td>
<td>Two or more producer-product relationships in sequence</td>
</tr>
</tbody>
</table>

The first is a cause-effect relationship in which a preceding event is necessary and sufficient for
a following event (Singer, 1924), and it is more appropriate within a mechanical image of nature. The second is a producer-product relationship in which a preceding event is necessary but insufficient for a following event (Singer, 1959), and it is more appropriate within a probabilistic image of nature. The third is a set of extrinsic producer-product relationships in which a preceding object or event in an extrinsic functional class is neither necessary nor sufficient for the following object or event (Sommerhoff, 1950), and it is more appropriate within a teleological image of nature featuring extrinsic functions. The fourth is a set of intrinsic producer-product relationships in which a preceding object or event in an intrinsic function remains sufficient but not necessary for the following object or event (Ackoff, 1971), and it is more appropriate with the teleological image of nature having an intrinsic function.

4.4 The link between philosophy and management research

In search of linkage between philosophy and management research, one can easily find that research is inextricably embedded in commitments to particular versions (or views) of the world and to knowing that world, because there is no method or procedure which maintains self-validation, viz., the effectiveness of any research method or procedure, at least from an epistemological vantage-point, ultimately relies on philosophical justifications. Therefore management research inevitably relates to a certain set of philosophical assumptions or theories about the nature of the world, the nature of human beings, the relationship between the two and how they can be known.

4.4.1 The relationship between philosophy and research

The relationship between philosophy and research has a long history, dating back to 300 BC when Aristotle invented the idea of a research programme shortly after his invention of logic, by encouraging his students at the Lyceum, a school he founded in Athens, to collect material for him. The development of the relationship bears some resemblance to the parable of the prodigal son: with research as the son, having been born and nurtured, rejecting its parentage, squandering its inheritance, only to return for refuge and succour when surrounded by crises.

Indeed, there is much evidence showing that many management researchers (e.g. Storey, 1992) have been forced to look passively at fundamentals and especially the philosophic bases of varying disciplines of interest when tried and hitherto trusted methods no longer seem to justify the faith which has involved investments, when researchers have lost confidence in the significance of their findings, or when taken-for-granted principles no longer seem quite so obvious (Hughes, 1990).

However, this does not mean that philosophical issues are only useful in periods of intellectual crisis. Indeed, philosophy (as the search for knowledge and understanding of the nature and meaning of the universe and of human life (Honby, 1995)) can tremendously affect one's research in terms of thinking, reasoning and discovery: failure to think through philosophical issues such as the relationship between data and theory can seriously (while not necessarily
fatally) affect the quality of the research (Silverman, 1985); and philosophically sound researchers can simply emulate themselves or others by proactively examining, seeking support from, or even invoking ideas from the basic principles insofar as their inquiries can be significantly improved (Wittgenstein, 1958). For example, Marx's research into Ricardo's economics was deeply influenced by Hegel's philosophy (e.g. Phenomenology of Spirit), innovatively armed with which Marx had generated some penetrating insights into English nineteen-century capitalism.

Seemingly, philosophy is concerned with problems which are 'ultimate, abstract, and very general' (Teichman and Evans, 1991) and management research remains a study of specific problems which need a solution (Sanders and Pinhey, 1983), but the relationship between philosophy and management research heavily involves, inter alia, the dimension of application of philosophy in research. Specifically speaking, for example, philosophical understanding can prove very useful for undertaking management research in that it can help clarify research designs, recognize workable designs, and create new designs (Smith et al, 1991).

In short, research mirrors an investigator's philosophical view about the world (Britton and McCallion, 1994), in that all mental or physical activities to be incurred in research (e.g. the goal, the plan, the execution, and the measure of research) are reflective of the investigator's worldview about, say, which methods are more or less workable, which data to collect, how evidence is interpreted, and which out-of-past-experience designs are employable, etc.

4.4.2 The value of philosophy to research

To examine whether philosophy is relevant to management research is to ask whether philosophy is valuable in resolving real life problems in that research itself is a real life problem looking for a solution (Newell and Simon, 1972). The answer is positive in several ways. First, philosophy helps disambiguate research questions and disambiguation is practically useful in solving problems; second, philosophy helps analyze complex ideas and the clarification of complex ideas gives rise to rational decisions; third, philosophy helps explain possible abstract things such as value, rationality, and commitment, which in turn can facilitate improved understanding of the problem; and fourth, philosophy helps raise questions new and old alike, which may bring about more rigor to problem-solving.

However, philosophy may also have long term effects on the research field of interest as a whole as well as some short term effects on the process of a specific research project. Therefore, the relevance, or irrelevance, of philosophy to a specific management research study cannot be clearly decided in advance of a careful look at the nature of the specific research.

4.5 Conclusion and recommendation

To conclude, the above discussions about the philosophy of research not only facilitates methodological disambiguation about research but also raises some issues worthy of practical consideration and highlights some workable methodological considerations.
Among those most plausible methodological considerations are:

Q4-1. A logical positivist view of the world can be employed to analyze the escalating commitment phenomenon, and an experimentalism viewpoint (perhaps from a systems perspective) can be added to reconsider the phenomenon as well as optimizing problem solving (e.g. planning and controlling).

Q4-2. The experimentalist viewpoint (or more precisely, an adapted version of the Hegelianist notion) that process is critical to any inquiry can be employed to assume that investigation into the investment decision-making process is of great importance vis-à-vis decision inputs and outcomes. This partly justifies Figure 3-1 which epitomizes the very process of the research.

Q4-3. The experimentalist viewpoint (or more precisely, an adapted version of the criticist notion) that some laws - can be assumed to imply knowledge of fact, can be taken to assume that geometric quadrants can be employed to imply the escalating commitment phenomenon. This justifies Figure 4-2 which remains the fundamental means for the research and partly justifies Figure 3-1 which also serves as the structural framework for the research.

Q4-4. The experimentalist viewpoint (or more precisely, an adapted version of the British empiricism notion) that activities should be goal (aim, desire, or objective) orientated is taken to assume the great importance of goals and subgoals of the research. This justifies Figure 4-3 which serves as a simple control framework for both mental and physical activities as occurs in the investment decision-making process as well as in the research process.

Q4-5. The experimentalist viewpoint (or more precisely, an adapted version of the Kantian notion) that ‘ideal pursuit’ remains a measure of progress is taken to assume that total quality management can be effectively applied to the research programme and that this research itself remains a cyclical stage of ‘ideal pursuit’ route from a long term perspective. This justifies Figure 2-9 which serves as a theoretical framework for the research and Figure 3-3 which serves as a whole process interactive management framework.

Q4-6. The principle of analyzing descriptive propositions is assumed to consolidate research propositions so that working propositions are really and definitely descriptive. This helps to eradicate ambiguously described propositions and to promote only ‘so-and-so’ descriptive propositions (Russell, 1912). This greatly facilitates the use of ‘memory’ as acquaintance (as in the case of oral history and interviews) in the light of sensation consisting of data of both the inner and the outer senses such as what one has heard or seen, the use of ‘introspection’ as acquaintance (as in the case of participant observations) in the light of sensation consisting of data of the inner senses such as thoughts, feelings and desires, and the use of ‘self-consciousness’ as acquaintance (as in the case of practice study) in the light of sensation in respect of self such as self-awareness of things or self desires towards things.

Q4-7. The three step method (CSA method) (Table 4-3) can be ‘normally’ employed by ‘normal’ researchers to produce insights which may serve again as new philosophical insights by virtue of testing consolidated propositions (Kuhn, 1970; Feyerabend, 1975; Popper, 1959; Hempel, 1965).

<table>
<thead>
<tr>
<th>Table 4-3: The CSA methods for ‘normal’ researchers (up to necessary entity multiplication)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducting observations, perhaps as well as experiments, and recording the data and the results.</td>
</tr>
<tr>
<td>Scrutinizing the data and the results carefully.</td>
</tr>
<tr>
<td>Acknowledging that if a large body of facts turns out to be inconsistent with the current theory, then</td>
</tr>
</tbody>
</table>
everything including the theory itself has to be checked.

Q4-8. An action plan with respect to the useful application of philosophically conceiving the research can be employed to supplement the CSA method so as to avoid or minimize the 'unavoidable' bias and errors due to empiricists' 'admissible evidence only' worldview. The action plan includes: (a) that first attention goes to explain why the topic is important, (b) that effort is directed to list and classify various ways in which the research can be conducted, (c) that attention is paid to analyze a lot of relevant subsidiary ideas so as to improve understanding, and (d) that final effort goes to consider the means needed to put into effect what is conceived as necessary.

Q4-9. The action plan and CSA method jointly form the skeleton of the proposed research, and this also partly justify Figure 3-1 which serves as the operational procedure (i.e. 8C's) for the research.

Q4-10. The principle of induction is employed to facilitate the application of the 8C's approach.

Q4-11. The principles of inference (especially the doctrine that every event has a cause) are also employed to facilitate the application of the 8C's approach.

Q4-12. The logic principles are employed to facilitate the application of the 8C's approach.

Q4-13. The laws of thought are employed to facilitate the application of the 8C's approach.

Q4-14. The laws of fatalistic, economic, facetious and scientific use are employed to facilitate the application of the 8C's approach.

Q4-15. The general principles of science (especially that change is in perpetuity) is employed to supplement certain principles of inference (e.g. uniformity and universality) when the latter lose accountability.

Among those sceptic but meaningful issues relating to escalating commitment and strategic control as derived from philosophic meditation are:

Q4-16. Should effort be made to rigorously conduct and examine experiments - along with observations - in order to gain insights?

Q4-17. If so, what is the applicability of Mill's (1884) two rules (vis-à-vis experimental testing of causal hypotheses) which aim to distinguish genuine cause and effect from coincidences and other sequences not representing causal regularities?

Q4-18. Should attention be paid to employ existing scientific theories to explain experimental results and predict future observations (Popper, 1959; Hempel, 1965; Kuhn, 1970; Feyerabend, 1975)?

Q4-19. Is it possible to construct or borrow (from other disciplines) a framework which allows factual evidence and such like to be practically dealt with?

Q4-20. Are existing mechanisms, which were devised to explain escalating commitment phenomenon, permanently open to the possibility of refutation (according to Popper, 1959)?

Q4-21. Is it possible that previous accounts of the escalating commitment phenomenon misdescribe what managers actually do (according to Kuhn, 1970)?

Q4-22. Is it feasible to employ existing mechanisms explaining the escalating commitment phenomenon as hypotheses or propositions in the proposed research (according to Popper, 1959)?

Q4-23. Is it feasible to conduct a falsificationist approach to falsify instead of confirming existing theories by conducting some logically possible, imaginable set of observations which would prove the statement false (Popper, 1959; Reaves, 1992)?
Q4-24. Should previous observations be reinterpreted in the light of new mechanisms or via the use of new methods or procedures?

Q4-25. Is it profitable to construct a covering law model which is based upon first principles to bridge observation and theory (according to Hempel, 1965)?

Q4-26. Should this research (a) be coloured with open-mindedness and creativity in resolving problems (e.g. structuring the research and constructing the explanations) (according to Feyerabend, 1975), or (b) proceed by determining ‘known’ fact with more precision, by investigating unexplained happenings with the aim of fitting them into current theories, and resolving tiny theoretical ambiguities (according to Kuhn, 1970)?

Q4-27. Can triggers (or causes) of escalating commitment be events, as well as persons, things, and changes (according to Russell, 1912)?

Q4-28. Can triggers of escalating commitment be evolutionarily different over stages - according to Darwin’s theory of evolution which remains unfalsifiable (Kuhn, 1970)?

Q4-29. Is it possible that previous accounts of the escalating commitment phenomenon remain merely elements or parts of human manipulation (according to Gasking, 1955)?

Q4-30. Is it possible that certain accounts of causation claimed by previous researchers remain only a coincidence (according to Russell, 1912 and Hume, 1951)?

Q4-31. Is it possible that some escalating commitment studies have been just by design fitting into existing prevailing theories?

Q4-32. Should both old and new questions in relation to escalating commitment phenomenon be addressed through the help of philosophy?

Q4-33. Should varying approaches (i.e. the ‘laws of nature’, the ‘uniformity of nature’, the ‘probability’, and the ‘reliabilism’) which aim to resolve the problems associated with induction be selectively employed (Russell, 1912) to better facilitate the use of the 8C’s approach?

To recommend, the above thirty three considerations (i.e. from Q4-1 to Q4-33), along with the previously mentioned eight paradigmatic considerations (i.e. from Q1-1 to Q1-8), necessitate a critical review of management research before one could actually “borrow from the shelf” a research design as is done by most inexperienced researchers and go to implement it. Besides, to maximise the utilities of the available resources, discounting concurrent ways of doing management research covering methods, processes and the philosophic assumptions underlying them, this researcher thinks, will be much more fruitful in that it not only facilitates the work which immediately follows but also facilitates self-learning and accumulates knowledge.

1 These principles remain ones which cannot be proved or disproved by experience but are frequently employed in arguments which start from what is experienced

2 Such general principles are believed in that mankind has witnessed innumerable instances of their truth and no instances of their falsehood, even if they afford no evidence for their truth in the future, unless the inductive principle is assumed to make it a deductive principle.

3 Other useful laws include: (a) Boyle’s law which dictates that the pressure of a gas varies inversely with its volume at constant temperature; (b) Grimm’s law (originally concerning mutations of the consonants in the various Germanic languages) which dictates that Proto-Indo-European voiced aspirated stops, voiced unaspirated stops and voiceless stops become respectively voiced unaspirated stops, voiceless stops and voiceless fricatives; and (c) Wolfe’s law of journalism which dictates that one cannot hope to bribe or twist the western journalist, but seeing what the man will do unbribed, there is no occasion to.

4 Parkinson predicts that the staff increase in any public administrative department not actually at war may be expected to follow the following formula: $X = \frac{(2K^* + p)}{n}$, whereas, $K$ is the number of staff seeking promotion through the appointment of subordinates, $p$ stands for the difference between the ages of appointment and retirement, $m$ is the number of hours devoted to answering minutes within the department, $n$ is the number of
effective units being administrated, and X is the number of new staff required each year. The percentage increase has been expected to be invariably between 5.17 to 6.56.

5 However, one can always argue that a constant conjunction of events can be discovered whenever causation takes place by widening one's viewpoints.

6 If the universe were truly chaotic there could be no language in which humans could say so and language per se depends upon things and qualities which have enough persistence in time to be written down and this persistence is itself a kind of uniformity.

7 By image of nature, it is meant to be different views of reality rather than different realities.

8 Natural mechanical system refers to what is formed by the time-slice and mechanical laws (Ackoff, 1971), the latter of which stand for the deterministic relationships which can be used to predict the changes in the values of the properties over time.

9 For example, computers, people, and tigers are examples of systems enjoying intrinsic functions.
5. Discounting Management Research

5.1 Introduction

A careful look at Q1-8 and Q4-1,2,3,4,5,6,10,11,12,13&15 suggests that it remains necessary to discount management research. "Borrowing from the shelf" does not necessarily lead to research success in that no research methods are wholly effective nor are they safe for all operations. Following this logic in this part of the thesis, this researcher aims to compare and contrast various management research methods and procedures so that a clear picture of which method(s), procedure(s) and process(es) can serve the purpose of the research of this researcher can emerge before this researcher actually selects the research method(s), procedure(s) and process(es) for the study. It is hoped that by the end of this part of the thesis a mental map of the study of this researcher will be set out for the benefits of the next step of the research. Functionally speaking, this part of the research will focus on four main themes of management research: namely, methods, procedures, processes and practices.

5.2 The nature of management research

Management research incorporates studies ranging from employee attitudes, organizational behaviour, operations management, strategy formulation, information systems, human resource management, to management control practices and the like (Sekaran, 1993). Needless to say, not only is management research into these areas related to many factors, but it has also to be conducted in the context of the external environment facing the organizations of interest. For example, economic, political, demographic, technological, competitive, operational, and other relevant factors may impinge on some of the dynamics which operate in the organization (Smith, 1975; Singleton et al, 1993). Thus, it seems obvious that the pursuit of management research inevitably demands that any investigation has to be carefully thought out, viz., that, at least, the process of the research (e.g. methods and procedures) has to be carefully scrutinised before one embarks on it.

5.2.1 What is management research?

It has been argued (e.g. Serakan, 1992) that management research remains distinctive from other business research such as that in marketing, finance, and accounting in that management research is more likely to pose unusual problems and thus invites rethinking of general research approaches as derived from disciplines such as sociology, psychology and education (Robson, 1993). There are four things which make management research distinctive from others (Easterby-Smith et al, 1991).

Firstly, the practice of management research involves many disciplines, thus an investigation needs to go across varying boundaries (e.g. technological, cultural, and functional) and to make use of knowledge developed by other disciplines such as anthropology, economics, statistics, psychology, and politics. Secondly, the practice of management research is more likely to
involve people who can be powerful- and/or busy-enough to easily jeopardise research access to organisations, especially when commercial or even personal advantage remains invisible, and this poses operational difficulties such that access for fieldwork can be turned down (e.g. for preternatural reasons). Thirdly, the practice of management research involves both thought and action and thus an investigation needs to incorporate the potential for taking action and to take account of the ensuing consequences. Finally, the practice of management research involves a continuous modification or improvement process which dictates, among other things, that theoretically desirable research questions may not be feasible in actuality, that plausible research designs may be subject to modification from time to time, and that research dissemination may be confined to confidentiality, publication rights, and more.

5.2.2 Management research as a triangulation

Although none of these remains absolutely unique to management research, the possible combination of all implies that traditional assumptions and practices in relation to research as accepted in other disciplines may well need rethinking, viz., management research not only needs to consider the inputs as well as the outputs of an investigation, but also needs to pay great attention to the process of the investigation.

If one draws an analogy between management research and the Chinese boxes, one can see that research relates to three things: (a) the inputs (i.e. men, knowledge, an opened box, and a box to open), (b) the outputs (i.e. prizes within the boxes that have been opened, new knowledge, and a new box to open), and (c) physical and mental interfaces between inputs and outputs (i.e. the transformation between men with knowledge, an opened box, a box to open and a new box).

With respect to management research, the most influential inputs can include: (a1) all people involved in the research such as directors or supervisors of the research, investigators, interviewees, and subjects in experiments, (a2) supervisors' and investigators' knowledge about methodology and about the problems to be studied such as existing theories, research methods, and research propositions / hypotheses, (a3) abstract concepts such as time, quality, objectivity, empiricism and control requirements, and / or (a4) substantial matters such as the firms being studied, word processors, funds, and stationery.

The most symbolic outputs can include: (b1) research data base, (b2) research report, (b3) modified theories, and / or (b4) practical implications. However, the research outputs can also be further classified. For instance, the research report can closely relate to the forms of research: pure research (e.g. the mathematical computation in relation to the Chinese boxes game) is likely to be disseminated through books, journal articles, conference papers or theses for degrees; applied research (e.g. the work undertaken by the participant-turned consultants in the Chinese boxes game) is more likely to serve the clients for the solution to specific problems and to be aimed at practitioners; and action research (e.g. the Chinese boxes game itself as an educational programme set by the organiser) which incorporates change into the research process itself is more likely to be a narrative recording about how the understanding of these involved changes
and develops over time.

The most meaningful interfaces can include: (c1) the interface between initial inputs such as investigators defining the research propositions through the interaction between investigators, the problems to be studied, supervisors' guidelines, the first principles of research, textbook formulas for research, and relevant theories in relation to the problems, (c2) the interface between initial inputs and intermediate outputs (the latter of which serve in turn as sequential inputs) such as investigators' collecting evidence, analysing resulting data, and composing the reports after cross-case analyses, and / or (c3) the interface between certain initial inputs and certain advanced outputs which serve as a new or higher level of inputs such as investigators' new definition of problems, modified principles of research, revised guidelines, and new assumptions in relation to resolving the problems.

In short (Figure 5-1), to do management research is to open the Chinese boxes, with management researchers opening a box only to find another box inside. In this sense management research becomes a problem looking for a solution (be it theoretical, practical, or educational), and it remains a repetitious triangulation among investigators (i.e. men with knowledge), problems (i.e. inputs) and solutions (i.e. outputs), in spite of the fact that over time the magnitudes of problems and solutions (i.e. the size of the inputs and outputs, and the sophistication of interfaces) vary and knowledge itself accumulates.

5.3 Management research methods

Evidence (e.g. Easterby-Smith et al, 1991) shows that some management researchers tend to favour certain research method(s) and hold bias against other methods. This is perhaps because they are trying to probe similar level of understanding which they regard as being possible in the management environment, suffering from community groupthink so as to (unintentionally or even deliberately) avoid other methods, naively believing that some techniques (e.g. the structured) are always 'better' than others (e.g. the unstructured), not willing to learn or try new things, or simply behaving like Houyi multiplying their entities beyond limits.¹

Nonetheless, over decades the conduct of management research has seen a dramatic change (e.g. Stein, 1952; Campbell, 1966; Lucas, 1974; Yin, 1981; Hamel, 1992; Potter, 1996) in that many new methods have emerged to challenge conventional ones such as surveys (in Western Europe), observations (in Far East), and experiments (in North America). It becomes quite clear if one browses through what has been written up in today's journals and books that not as much
management research as before follows the conventional practices. In other words, the so-called qualitative methods have gained considerable acceptance among current management researchers, nearly catching up their quantitative counterparts (Jankowicz, 1991; Potter, 1996).

Proven methods of management research as a whole include (Gummesson, 1991): (a) experiments, (b) surveys, (c) case studies, (d) archival analyses, and (e) histories. It has been well argued (e.g. Pattern, 1980; Yin, 1994; Potter, 1996; Jankowicz, 1991) that various methods are not mutually exclusive, and the most important task for investigators is to identify some research method(s) the distinctive advantages of which best fit the research requirement (Jankowicz, 1991).

Table 5-1 serves as a brief summary of management research methods, which considers three crucial aspects of an investigation, namely ways of inquiry, control over behaviour, and investigating focus (in which 0 stands for capability while 0 stands for incapability). Apparently, each of the above-mentioned methods enjoys certain peculiar advantages while suffering from some disadvantages (Easterby-smith, et al, 1991).

<table>
<thead>
<tr>
<th>Major research methods in social sciences</th>
<th>Ways of inquiry (4W3H) operationalized by research questions</th>
<th>Control over behaviour events?</th>
<th>Focus on contemporary events?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archival analysis</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Case study</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Experiment</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>History</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Survey</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

5.4 Management research procedures

Literature on research methodology has exhibited that there is a variety of research procedures available to management researchers ranging from the three step CSA method (see Table 5-2), the four step conservatism approach (see Figure 4-1), the 5 step IDEAL approach (see Figure 2-5), the 7 step social research approach (Singleton et al, 1993), the 8 step 8C's model (see Figure 3-1), to the 10 step building block approach (Sekaran, 1992).

In practice, the selection of research procedures is often reflective of a management researcher's preference which can be framed in terms of, say, usefulness, objectivity, and manoeuvrability. But, in essence, the adoption of a certain set of research procedures reflects the management researcher's worldview of inquiry and in fact the divergence between sets of procedures derives from the interplay of the first principles, namely, the principles of inference, the principle of induction, the logical principles, and the laws of thought. For example, the positivism logic will persuade some management researchers to consider a research process operating within the positivist paradigm as depicted in Figure 5-2 - which happened to be this researcher's previous choice. It remains a process which parallels that of Singleton et al (1993), and a process which fails to acknowledge openly the difficulties leading to epistemological stance which include, say,
in this researcher’s work prior to the modification of research designs, a lack of a clear conceptual framework and a lack of measurement for certain concepts such as desires which emerged during the research.

![Figure 5-2: A sample of positivist research procedures](image)

Typically, in comparison, the approach of Singleton et al (1993) well reflects the logic principles, the approach of Sekaran (1992) mirrors both the logic principles and the principle of induction, the conservatism approach remains a simpler version of what is illustrated in Figure 5-2, the IDEAL approach emphasizes general practicability, the CSA method remains the simplest and the most flexible, and the 8C’s method paradigmatically incorporates all others and remains most systematic. Seemingly, there is perhaps a simplest set of procedures of management research (e.g. the CSA method) but there is not a best-for-all set of procedures which is flawless - definitely not the one as depicted in Figure 5-2. Besides, the simpler the procedures are, the more powerful they are, but the fuzzier the relationship can be between procedures.

Moreover, the selection or establishment of the research procedures can also, at least in part, reply to the nature of the investigation of interest, namely, inter alia, the purposes of the research, the information to obtain, and the analytic techniques to employ, viz., the orientation of the research.

### 5.5 Management research processes

#### 5.5.1 The debate between quantitative and qualitative research

Research has been catalogued into two types of orientation (e.g. Sandy, 1979; Sekaran, 1992): quantitative and qualitative, although it has been broadly argued (e.g. Jankowicz, 1991; Shipman, 1973; Hughes, 1990) that there is no research which is entirely quantitative or qualitative. In a narrow sense, however, it is widely acknowledged (e.g. Reaves, 1992) that research is quantitatively-oriented if it involves measuring (usually numerical) quantities of things, or qualitatively-oriented if it involves assessing the quality of things. This distinction dictates differing features of quantitative or qualitative research. For example, while quantitative
research (Reaves, 1992) may report numerical data and focus on generalizations, qualitative research (Sandy, 1979) can feature narrative descriptions and concentrate on insight-seeking.

On the one hand, advocates of quantitative research adopt a definition of which closely follows the defined ‘scientific method’ of the natural sciences, normally being a Hempelian or Popperian. They are normally statistically-sophisticated and frequently use methods which can be rather mechanical. Advocates of quantitative research often argue for positivism and will usually assume (e.g. Reaves, 1992) that research, as can be seen in Figure 5-2, should start with the specification of hypotheses, proceed with the design and execution of an experiment or a survey, the measurement of the results, the testing of the hypotheses and, though rarely, the identification of any natural law.

Furthermore, quantitative research is further enticed by an ever increasing abundance of social statistical data as well as fast computerised statistical analysis, and in such cases the hypothesis specification may even be omitted so that data from public or private sources can be electronically sorted and tested in a more or less random fashion so as to identify correlations and regressions of various kinds.

On the other hand, promoters of qualitative research remain neither Popperian nor Hempelian, and normally uphold (e.g. Potter, 1996) that a hypothesis (as is prioritised in Figure 5-2 by positivists) is not a prerequisite of research, though indeed it may arise or be developed during the research process itself. It has become common for qualitative researchers to employ unstructured forms of data collection such as interviewing or observation and rely heavily on verbal descriptions and explanations (Hammersley, 1989). For example, Geertz’s (1973) research entitled The Interpretation of Cultures which features thick description and involves no hypothesis at all, remains probably one of the most qualitative of qualitative research studies.

In addition, different views exist as to the criteria for assessing effective research. Quantitative research can be assessed in terms of its validity and reliability, while qualitative research may be best judged by whether the research communicates the rules for proper and predictable conduct as judged by the people being studied (Sandy, 1979). Moreover, there also exists sound justification for researchers’ commitment towards qualitative or quantitative orientation (e.g. Reaves, 1992; and Potter, 1996). The key question here lies in whether the quality of experience or the frequency of opinions and events remains more important in an investigation, viz., which features of the researchers’ view about the world remain more significant and more relevant to the research enterprise?

Between the two extremes comes a compromised orientation (e.g. Bailey, 1978; Sanders and Pinhey, 1983) which defines research as involving four or five stages as similarly depicted in Figure 2-7. Bailey’s (1978) approach, for example, supports the view that a researcher, firstly, chooses the research problem and states the hypotheses, secondly, formulates the research design, thirdly, gathers, codes, and analyzes the data, and finally, interprets the results so as to test the hypotheses. Nonetheless, it has been well argued by qualitative researchers that effective
research does not necessitate hypotheses, and it has been soundly reasoned by quantitative researchers (e.g. Shipman, 1973) that a compromise is achieved at the very expense of precision.

In practice, however, researchers often simultaneously exploit both the soft, subjective and speculative nature of qualitative research, and the hard and rigorous nature of quantitative research (Glaser and Strauss, 1967) in that both approaches are not mutually exclusive (Van Maanen, 1979), although the distinction between quantitative data and qualitative data tends to be too polarised (Burgess, 1984). In fact, as can be seen in Figure 5-3, qualitative and quantitative research can be highly complementary, especially in circumstances under which either the measurement of qualitative variables has been prioritised (Yin, 1994) or the quantification of quantitative variables has been hampered (Reaves, 1992).

This leads to a commonly practised approach, the emergent orientation, which holds that the strength of almost every measure is more or less flawed in some way or other, and therefore recommends that best research designs emerge when strengths of varying plausible methods are counterbalanced to produce the most desirable effects. There have been four mechanisms (Abrahamson, 1983; Todd, 1979; Smith, 1975) that have emerged to promote the use of multiple, but independent measures, namely known as (a) theoretical triangulation which involves borrowing models from one discipline and using them to explain situations in another discipline, (b) data triangulation which involves collecting data over different time frames or from different sources, (c) investigator triangulation which involves different people collecting data on the same situation, and (d) methodological triangulation which involve both quantitative and qualitative methods of data collection.

For example, speaking from Kuhn's (1970) perspective, qualitative orientation can serve for insight seeking - in the light of Feyerabend's (1975) notion of no rules of research procedures,
and quantitative orientation can serve as theory verification or falsification – in the light of Hempel's (1965) hypothetic-deductive method or Popper's (1959) notion of permanent theory refutation; and this becomes especially useful on occasions where theories or insights can only be generated in a qualitative manner (Gummesson, 1991). In this sense, combining methods per se is not an end in itself, but a means by which the amount of data to be collected can be maximised, or otherwise insufficient to represent the richness of the debates or controversies about the problems to be studied.

The debate between qualitative and quantitative research can be endless, and much of the debate can be seen as following the logic of what is summarised in Table 5-2. This table provides a brief comparison and contrast of the polarising views about research and is constructed in the hope of facilitating the research design of this researcher, who agrees on the concept (e.g. Jankowicz, 1991; Yin, 1994; Jones, 1995; Potter, 1996) that the best approach to research is that which best relates to not only the kinds of questions the researcher wishes to ask in the sort of environment, but also the sorts of thesis which the researcher is advocating. That is to say, successful management research involves careful consideration not only in relation to what to do and how to do it, but also in relation to what to believe.

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<table>
<thead>
<tr>
<th>Vantage-point</th>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigators' stance in relation to research problem</td>
<td>Outsider</td>
<td>Insider</td>
</tr>
<tr>
<td>Measurement</td>
<td>Quantity of things</td>
<td>Quality of things</td>
</tr>
<tr>
<td>Nature of data</td>
<td>Hard, numerical, reliable</td>
<td>Deep, descriptive, rich</td>
</tr>
<tr>
<td>Relationship between investigators and the subject</td>
<td>Distant</td>
<td>Close</td>
</tr>
<tr>
<td>Relationship between theory and research</td>
<td>Confirmation</td>
<td>Emergent</td>
</tr>
<tr>
<td>Research purpose</td>
<td>Analytical</td>
<td>Exploratory</td>
</tr>
<tr>
<td>Research strategy</td>
<td>Structured</td>
<td>Unstructured</td>
</tr>
<tr>
<td>Validity of the research</td>
<td>Lack of internal validity</td>
<td>Lack of external validity</td>
</tr>
<tr>
<td>View of change</td>
<td>Different behaviours are achieved by altering patterns of structure.</td>
<td>Different behaviours are achieved by altering the systems of knowledge which comprise the basis for organised actions.</td>
</tr>
<tr>
<td>View of control</td>
<td>An organized action which is realised through specified procedures for getting thing done.</td>
<td>An organized action which is realised through the achievement of shared meanings.</td>
</tr>
<tr>
<td>View of managers' role</td>
<td>Decision makers, analysers, and controllers of contingencies of reinforcement.</td>
<td>Framers of contexts, makers and shapers of interpretative schemes, who deal with multiple realities.</td>
</tr>
<tr>
<td>View of organisations</td>
<td>An open system instrumentally related to its environment</td>
<td>A social construction expressively related to its context</td>
</tr>
<tr>
<td>View of social reality</td>
<td>External and static</td>
<td>Processual and socially constructed</td>
</tr>
<tr>
<td>View of strategic management</td>
<td>Strategic task is to maintain congruence between environmental constraints and organizational needs.</td>
<td>Strategic task is to create and maintain a system of meaning which invokes specific values and objectives.</td>
</tr>
</tbody>
</table>

5.5.2 Challenges to management research

In the field of management, it seems impossible to conduct research which is 100% scientific, and evidence shows management researchers can well get investigations down to fine art. This is because management research is frequently encountered not only with theoretical issues such
as research philosophy, but also with subjective issues such as feelings, perceptions, and emotions all of which tend to be difficult to measure and evaluate, with technical issues such as methods and operating procedures, and with contextual issues such as politics and ethics.

This suggests that management research encounters at least six major challenges: philosophical, political, technical, operational, ethical and psychological (Table 5-3). The philosophical challenge involves the possible clash between differing worldviews held by researchers in that the reality of management research remains more or less a compromise between positivist, rationalist, criticist and experimentalist worldviews on the accumulation of knowledge. The political challenge involves a possible clash in power relationships between individual researchers and the institutions they are working for in that, say, senior people can exert pressure on junior people to employ designs or methods they don’t believe in or are not familiar with, that stakeholders can exert pressure on researchers to ensure that the aims, forms, and other requirements meet with their interests. The technical challenge involves a possible clash in criteria for choice of management research methods in that the design of an investigation can be a matter of the personal preference of the researchers themselves, a matter of the aims or context of the investigation to be carried out, or a matter of the avoidance of the fear that the investigation has to stand up to outside scrutiny. The operational challenge involves possible clash in research interests between researchers and subjects of study in that organisations to be studied may pursue their own commercial interests, that research access can be denied, or that individuals may avoid cooperation. The ethical challenge involves a dilemma vis-à-vis how much deception in a situation is acceptable and how far the researcher should go in not betraying the trust of the subjects in that certain research methods such as participant observation are essentially deceitful (Ditton, 1977). The psychological challenge involves a possible clash in perception about the purposes of an investigation in that researchers and subjects of study can perceive and react differently if they frame the research questions differently.

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Major concerns</th>
<th>Typical factors</th>
<th>Practical examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political</td>
<td>A clash in power relationships</td>
<td>Researchers, and stakeholders</td>
<td>Research panel or institutions itself may exert pressure on degree candidates to adopt unconventional research approach or methods.</td>
</tr>
<tr>
<td>Philosophical</td>
<td>A clash in worldviews</td>
<td>Research framework, and inquiry systems</td>
<td>Researchers can be faced with a dilemma of whether to confirm or falsify an existing theory, or of whether to seek for generalization or insights.</td>
</tr>
<tr>
<td>Technical</td>
<td>A clash in criteria for choice of methods</td>
<td>Methods, statistics, and procedures</td>
<td>Researchers can employ survey instead of archival analysis despite the fact that both can be used to deal with what, where, who, how many and how much questions in relation to contemporary events.</td>
</tr>
<tr>
<td>Operational</td>
<td>A clash in practicability</td>
<td>Researchers, resources, and organisations</td>
<td>The conduct of an investigation can be limited or entangled by the availability of resources, support and competence in research.</td>
</tr>
<tr>
<td>Ethical</td>
<td>A clash in codes</td>
<td>Researchers, and subjects of study</td>
<td>Researchers may not release what is the real research purpose to subjects of an experiment or to informants of a participant observation study.</td>
</tr>
<tr>
<td>Psychological</td>
<td>A clash in interests</td>
<td>Researchers, and subjects of study</td>
<td>Subjects of study can try to shorten an investigation or avoid answering some questions while the researchers may try to smoke more out of it.</td>
</tr>
</tbody>
</table>
5.5.3 The prerequisites for succeeding in management research

Apparently there is no simple way of ensuring that an investigation in the field of management will be successful. However, there are a number of factors which contribute to the success of management research. As Suntzi (1992) argues, knowing the researchers themselves (e.g. strengths and weaknesses) and knowing the problems well before the search for solutions (e.g. challenges vis-à-vis research inputs, outputs, and processes) can render little peril to management research. Table 5-4 provides a brief summary of major prerequisites for succeeding in management research, which are catalogued into two levels with the intermediate level factors making a substantial contribution and the advanced level factors making warranting contribution towards the success of a management research project.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Intermediate level</th>
<th>Advanced level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>Research for the research's sake (e.g. a PhD degree, an assignment, and a solution to a problem).</td>
<td>Research as a vehicle for learning; Research as a basis for personal growth; Research as a means of dealing with real problems at work.</td>
</tr>
<tr>
<td>Support</td>
<td>Physical (e.g. technical training and individual endurance); Visible (e.g. funds and equipment).</td>
<td>Mental (e.g. from supervisor, institution, employers, and family); Invisible (e.g. encouragement, operational toleration, and spiritual aspiration).</td>
</tr>
<tr>
<td>Personal qualities</td>
<td>Exterior (e.g. managerial style, leadership, assertiveness, and interpersonal skills).</td>
<td>Interior (e.g. creativity at work, aptitude, will to win, commitment, and ability to cope with stress).</td>
</tr>
<tr>
<td>Continuity</td>
<td>Research in motion (e.g. earlier start and continuous improvement).</td>
<td>Focus (e.g. in thinking, ideas, and writing up).</td>
</tr>
<tr>
<td>Understanding of the problems</td>
<td>Knowledge of immediate subject of study, of research procedures, and of key contacts in the specific research area.</td>
<td>Knowledge of varying worldviews, of varying methods of data collection and analysis, and of related disciplines.</td>
</tr>
<tr>
<td>Operational approaches</td>
<td>Research in action (e.g. growing interests in people, organisations, and other disciplines); Research in motion (e.g. increasing curiosity, resilience, and persistence).</td>
<td>Awareness of chances (e.g. blind luck, and meticulousness); Prepared mind (e.g. alert mental processes of causal relationships, and open but critical system of thought and data).</td>
</tr>
</tbody>
</table>

5.6 Management research practices: towards a mental map

In the field of management, research questions are by no means as straightforward as in other fields such as natural sciences and psychology. This is because management research in practice remains a process (seriously) involving politics in that management per se is essentially a political process of co-ordinating, structuring, controlling, or influencing the awareness of others (Mintzberg, 1973). This is also because management research in practice is most likely to be carried out on people who are most powerful within a community circle or society.

5.6.1 Management research in practice: questions and answers

In fact, management research into corporate decision-making demands a lot of skills as well as experience of dealing with a management hierarchy because the subjects of research are often found within organisations which are fairly structured and controlled; gaining access to the
highest of the hierarchy can be exceedingly difficult for investigators; the subjects of research are adept enough at handling face-to-face interaction with investigators; and that many a subject of research can become too aware of the significance of information as well as the importance of determining what use it might be put to and by whom.

On the one hand, this implies that for management researchers to succeed in research they can be easily entangled in political and ethical dilemmas when they have to adopt methods of deceit, concealment, lure, or subterfuge. On the other hand, this also implies that it remains more an art than a science to determine what should be researched, what can be researched, what is worth researching, and what can be achieved by the research, viz., the research questions have to be theoretically scrutinised, realistically chosen, diplomatically addressed, and systematically utilised.

Broadly speaking, factors which can influence the research question include (a) contexts, (b) problems to be studied, (c) researchers, (d) resources, and (e) stakeholders. Table 5-5 produces a summary of major factors influencing the research question. Practically speaking, however, research questions have to be narrow, specific, answerable, and practically meaningful, viz., that research questions have to be conceptually clarificable and operationally observable (Robson, 1993).

<table>
<thead>
<tr>
<th>Factors</th>
<th>Practical considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contexts</td>
<td>Constraints on what is possible and what is desirable such as cultural differences (e.g., local problems and cultures); opportunities for varying research models which remain specifically plausible in certain contexts such as the military model, the private agent model, the investigative journalism model, and the appropriate technology model.</td>
</tr>
<tr>
<td>Problems to be studied</td>
<td>Debates in relation to the nature and direction of the research enterprise such as the significance of the problems to be studied in terms of how close they are to what is currently seen to be important (i.e., fads and fashions); influence from influential practitioners and academics on the appropriateness of certain research questions (as in the case of pilot studies).</td>
</tr>
<tr>
<td>Researchers</td>
<td>Motivations such as career aims, ideological reasons, political agenda; ability to identify questions which are being significant; the worldview; past experience; personal background; leadership and decision-making styles; flexibility and synergy in terms of team work; conflicting expectations between the principal and agents.</td>
</tr>
<tr>
<td>Resources</td>
<td>Availability of funds, time and effort; the nature of resources such as secured or insecure, sufficient or insufficient grant, full time or part time contract, and whole-time or half-time research; the coordination and control of resources such as operational tactics, budgetary control, and time management so that the use of varying resources can be optimised.</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Encouragement or pressure from academic community in that he who pays the pipes not only calls the tune but also defines the tune; influence from supervisors, from panel members, and from 'gatekeepers'; the one-sided perception of subjects of study on the commercializability of research; material support from academic institutions; control gained by organizational community such as access to organisations; support or limit from the top of the management hierarchy.</td>
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For example, an investigation into strategic control of investment projects has to take into consideration organisations' cultural differences (e.g. risk taking or risk aversion, market or central planning economy); the investigation has to consider current debates on escalating commitment as well as fine-tuning itself to the findings based upon pilot studies; the investigation has to be operationalized (e.g. in terms of the amount of funds allocated to an investment project) if the investigator takes an empiricist viewpoint; the investigation has to be confined within financial limits or time limits; and the investigation has to be undertaken under the banner of satisfying, say, the university's degree requirements, the doctoral panel's expectation, the external and internal examiners' preference, and the research subjects' perceived utility.

5.6.2 Towards a mental map of the study of this researcher

Obviously, as can be seen in Table 5-5, answers to research questions can vary depending on the methods adopted in the investigation, but whether certain answers (or sense data) obtained from the investigation are desirable and sufficient enough to solve the problem of interest relies heavily, in the light of the control process of an investigation (see Figure 5-3), on the goals, the plan, the execution, and the measurement of the research. Consider the plan, for example, there are occasions in which some questions cannot be answered adequately via certain methods no matter how good the design of the study.

Table 5-6 provides a practical illustration of this in relation to the inquiries into the escalating commitment phenomenon (please see Figure 4-2), viz., the match between questions (i.e. from Q5-1 to Q5-18) which are condensed from issues raised in the previously parts of the thesis (e.g. from Q1-1 to Q1-8 and from Q4-1 to Q4-33) and the answers generated from different research methods, namely, archival analysis, case study, experiment, oral history, and survey.

Seemingly, each method enjoys certain unique strengths and can be prolific when used in certain preferred circumstances and, as proposed by Todd (1979), the use of different methods from within the same research paradigm (e.g. empiricism) as well as a careful move across research paradigms can actually activate a 'triangulation' process, viz., the cross check of the results from one method by the results from another. Table 5-6 goes beyond the work of others to highlight some key operational aspects of an investigation, namely, preferred circumstances, unique strengths, major weaknesses, sources of evidence, variants, and practical examples.

5.7 Conclusion and recommendation

Discounting management research leads to the conclusion that no management research methods are wholly effective and safe for all operations (see Table 5-1), and nor are any research procedures (see Figure 5-2). As far as the study of this researcher is concerned, probably the emergent research orientation makes more sense than does the merely quantitative or qualitative in dealing with complex and dynamic management research problems (see Figure 5-2). It seems that to succeed in his management research this researcher needs not only to pump
up an investigation with considerable motivation, support, continuity, quality, knowledge about
the research, and operational skills, but also to cope with political, psychological, operational,
technical, philosophical and ethical challenges emerging in the research process (see Table 5-4).

As a recommendation, it seems plausible that the approach of this researcher stays within the
positivist paradigm (see Figure 5-2) – i.e. how to act - but moves into experimentalism paradigm
later on (see Figure 3-1) – i.e. what to believe – in order to ensure the success of the research
process. Detailed work needs to be done in the next step of the research to cover research
questions in relation to the problems, the contexts, the subjects, the resources, and the
stakeholders by means of a series of control mechanisms (see Tables 5-5&6, Figure 4-3 and
Figure 3-3). Further effort needs to be made to decide whether the research is to be
accomplished by the use of varying research methods and by the triangulation of theories and
data.

1 Houyi was an extremely powerful character in a Chinese fable who had practiced shooting an arrow from a bow everyday in
order to shoot down the sun.
2 Singleton et al (1993) argue that social research consists of (a) selection and formulation of the research problem, (b)
preparation of the research design, (c) measurement, (d) sampling, (e) data collecting, (f) data processing, and (g) data analysis
and interpretation.
3 Sekaran (1992) proposes that scientific inquiry consists of 10 building blocks: (a) observation, (b) identification of problem
area, (c) theoretical framework or network of associations, (d) hypotheses, (e) operational definitions, (f) research design, (g)
data collection, (h) analysis of data, (i) interpretation of data, and (j) refinement of theory (pure research) or implication (applied
research).
4 However, interviewing and observation can, of course, be highly quantitative.
5 This table is a piece of work of this researcher and academic staff who lectured on the Management Consulting courses at
Loughborough University Business School in the year 1996.
6 According to Beynon (1988) and Easterby-Smith et al (1991), the military model favours team research, involves substantial
planning and preparation and abounds in resources; the private agent model encourages independent operations, utilizes
individual resources and makes the best of whatever opportunities are available; the investigative journalism model legitimates
deception, gains access, gathers data, and publishes findings regardless of consequences, and the appropriate technology model
adjusts research to the realities and makes most of the research despite the lack of research support facilities such as easy
communications, transport and photocopiery.
7 Quasi-experiments refer to situations in which the experimenter cannot manipulate behaviour but in which the logic of
experimental design might still be applied (Cook and Campbell, 1979).
Chapter 6  Introducing The Research: The COAL Design

6. Introducing The Research: The COAI Design

6.1 Introduction

Most doctoral research in business schools, as an approach to bridging predictions and theories via observational events (Denzin, 1978), has come from the functionalist paradigm which is predominated by positivist methods although there are considerable pressure to avoid interpretist approaches to research (Jones, 1995). For example, a browse through recent doctoral theses both in the UK and in the USA (e.g. Afred, 1982; Binder, 1984; Bowen, 1987; Jelfrey, 1989; Pearson, 1989; Decker, 1992; Broady, 1993; Ryan, 1994; Dawson, 1995) by this researcher reveals that research leading to a doctoral degree in the domain of management studies imitates the methodology of the natural sciences although none of the researchers concluded that his or her research was of scientific nature,¹ nor had any tried to carry out his or her research outside the dominant paradigm: they all followed the same procedures as depicted in Figure 6-1.

![Figure 6-1: Commonality in methodology among doctoral business research](Source: A sample of doctoral theses in the business domain in the UK and the USA)

The above-cited conservatism not only gives rise to this researcher's philosophic inquiry about ways by which management researchers select their theoretical / philosophic framework— i.e. 'off the shelf', 'from experience', 'from first principles', or deliberately 'avoiding Velikovsky's fate'², but also arouses this researcher's enthusiasm in critically understanding research methodology in the domain of management studies. Consider the research work this researcher undertook in 1993 which partly led to an MBA degree at Keele University, U.K. The project proceeded along a typical positivist route: problem definition, literature review, hypotheses generation, sample selection, fieldwork, data analysis, comparison of data and hypotheses, confirmation / modification of hypotheses (Zhang, 1993). Research rigor as well as statistical sophistication produced research excellence, but it relied too heavily on correlations and statistical analyses to convince the researcher that the results revealed the rich nature of behaviour in organisations. Among fourteen hypotheses seven were confirmed and seven were
disconfirmed after a series of statistical tests including both parametric statistical analyses (e.g. ANOVA, F statistics, the protected t-test, linear regressing, and $\chi^2$ test) and non-parametric statistic analysis (e.g. Spearman rank correlation, Kruskal-Wallis H test, and Mann-Whitney U test) (Zhang and Wilson, 1995). The research carried on well with the confirmed hypotheses. But how about those disconfirmed ones, given the axiom that it is even less risky (see Tables 2-1 & 2-2) to disconfirm than to confirm a hypothesis? Apparently the empiricist paradigm did not encourage this researcher to pursue the other aspect of the correlation coefficient! Other justifications could go to the availability of resources, the requirement of the university, the exigencies of time, ..., and, perhaps more importantly, the conceiving of the research at the very beginning. As research experience tells, an investigator reaps what he sows. In the example, the research could have been different had the researcher - before actually contriving, controlling, co-ordinating, calibrating, conducting, collecting and centering the research - further conceived of, among other things, alternative approaches, the segmentation of the research theme, the necessity of the research, the sufficiency of the research, and the feasibility of the research more carefully.

This part of the thesis aims to challenge the above conservatism - partly due to discussions previously undertaken (i.e. in Chapters 1,2&3 and especially in Chapters 4&5) and partly due to this researcher's own research experience - by staying within the positivist paradigm but treading into the experimentalist paradigm so as to create anew a research design which is hoped to guide the study of this researcher through the somewhat exciting but challenging research process. It is hoped that by the end of this part of the thesis, a macro-view of the new research framework (i.e. COAI design) is to be presented in a practical way. As for the structure of this part of the thesis, therefore, it would not seem surprising to see that this part goes the COAI way: i.e. it follows the sequence of the letters combining the word COAI.

6.2 The COAI design: towards a new research framework

To recall the research work this researcher as well as other doctoral candidates undertook in the past, what appears intriguing is a question of whether those research studies could have been done better, given the same amount of commitment in resources (e.g. time, effort, funds, people's assistance). Bearing this in mind and referring to the Chinese boxes games, the researcher decided not to borrow from the shelf but to devise a cyclical COAI mechanism particularly designed to this research. As can be seen from Figure 6-2 which partially reflects Figure 3-3 (i.e. the 8C framework of research) in Chapter 3 and partially paves the way for Figure 12-5 (i.e. the integrated model of investment decision-making) in chapter 12, the process
of this research is broken into four phases, namely, conceptualization, operationalization, actualization and idealization.

The phase of conceptualization typically refers to conceiving and contriving the research (i.e. the first and second C in the 8C framework) in terms of, inter alia, the identification of a problem, the definition of the problem, normative solutions to the problem, common practices in the real world setting, the severity of the problem, the current position of the research, the relevancy of the research in the empirical setting, and the originality of the research. The phase of operationalization regularly involves the controlling and the co-ordinating of the research (i.e. the third and fourth C in the 8C framework) in terms of, inter alia, the topic of the research, the aims to be achieved, the themes of the investigation, the determination and justification of the variables to be employed, and the pre-supposed criteria to identify a case base. The phase of actualization normally involves calibrating and conducting the research (i.e. the fifth and sixth C in the 8C framework) in terms of, inter alia, the establishment of a case base, pilot studies, the refinement of the research hypotheses or propositions and implementation of the research featuring problem-solving oriented activities. The phase of idealization usually involves collecting and concentering the research (i.e. the seventh and eighth C in the 8C framework) in terms of, inter alia, the interpretation of the results, the convergence of the insights obtained and the advancement of theory in the hope that the perceived benefits of the research can be accordingly derived and that research in the next round can be better conceived, contrived, controlled, co-ordinated, calibrated, conducted, collected and concentered.

6.3 The C: the conceptualization of the research

Industrial experience (Zhang, 1993) tells that although investment decisions may have been made largely in isolation, with most capital proposals being assessed purely in terms of their economic attractiveness, the management of investment has seldom followed suit; in fact, evidence suggests many corporations have over-committed themselves in situations where a
course of action is not working as expected or a loss has resulted from an earlier decision. That is, not all subsequent managerial decisions follow the path suggested by economic rationality. It has frequently been noticed that managerial decision-makers, after suffering set-backs, irrationally 'throw good money after bad' and become caught 'knee deep in the big muddy' (Staw, 1976) when the termination of projects may seem more logical.

The problem: It is typically suggested that managerial decisions (other than non-profit ones) to select investment projects should be made according to the rules of economic rationality. For example, the hypothetical project H in Table 6-1 is very likely to be selected because of its positive net present value (NPV).

<table>
<thead>
<tr>
<th>Year</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>NPV(10%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project H</td>
<td>0</td>
<td>-10</td>
<td>-3</td>
<td>+15</td>
<td>+20</td>
<td>0</td>
<td>+13.36</td>
</tr>
</tbody>
</table>

Rationale: Accept project H because its Net Present Value NPV=+13.36 > 0.

A simple question relating to the above problem could be whether an enterprise should commit additional resources, regardless of other promising opportunities, to an ongoing project that has suffered set-backs following start-up. To illustrate let us assume that, at the beginning of 2001, two years after start up, project H (see Table 6-2) has failed to yield any profits and requires additional investment: should the hypothetical enterprise allocate additional resources to this initially promising but now receding project? Should the enterprise continue to commit resources to this project in 2002 if an even worse situation is reported at the end of 2001?

<table>
<thead>
<tr>
<th>Year</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>NPV(10%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project H</td>
<td>0</td>
<td>-10</td>
<td>-3</td>
<td>-5</td>
<td>-8</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

Rationale: Reject project H because of its seemingly negative NPV.

The theoretical exploration of the problem: In essence the above-mentioned problem deals with decision-making in escalation situations. To illustrate, if a decision is made at the beginning of 2002 to continue its commitment towards the previously chosen but now seemingly ineffective project H, the enterprise continues to play a waiting game (W₁) - i.e. delaying the termination of the heretofore ineffective project H - and will again find itself, as it did in each previous year, subject to four possible decision outcomes as depicted in Figure 6-3: (a) a correct commission if further commitment progressively brings forth success (C₁), (b) an error of commission if further commitment leads to failure (E₁), (c) a correct omission if abandonment saves the enterprise from an otherwise unavoidable failure (C₂), and (d) an error of
omission if abandonment irreversibly excludes the enterprise from an eventually profitable outcome ($E_0$).

<table>
<thead>
<tr>
<th>Figure 6-3: Decision-making quadrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Source: Adapted from Zhang, 1993)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Withdrawal</td>
</tr>
<tr>
<td>+</td>
</tr>
<tr>
<td>Continuation</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Error of omission E1</td>
</tr>
<tr>
<td>Correct commission C1</td>
</tr>
<tr>
<td>Correct omission C2</td>
</tr>
<tr>
<td>Error of commission E2</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Successful</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Unsuccessful</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Subjective value

Normative solutions to the problem as can be suggested by management theorists, consultants, and practitioners: It has become axiomatic that an organization needs to control the destiny of its investment projects once they are under way, but research experience suggests to this researcher that strategic aspects of control of investments have received relatively little attention from an organizational vantage-points despite some effort. In the face of uncertainty and ambiguity, for example, the lack of a practical and effective control model can put an investment project at the frontier of a state of chaos: investment decision-makers may not have been able to revise their beliefs, organizational values along with the temporal success or momentary failure of the investment, or to remain open to feedback and new information about the investment project after it was implemented. Graphically speaking (Figure 6-4), this chaos calls for effective control over both mental and physical investment activities, and necessitates that control mechanisms should consider, *inter alia*, the dimension of time.³

Answers to the problem randomly gathered from practices of investment decision-making: In the practical world there are many different answers to the problem illustrated above. Seemingly, the most astonishing answers to the above problem lie in what can be crystallized into an *ineffective waiting game* over time in which investment decision-makers who find themselves 'muddling through' among various conflicts, until eventually becoming financially lost 'in no man's land'. That is, as depicted in Figure 6-3, investment decision-makers, averse to the most reasonable choice C2 and in the distant hope of C1, persist in avoiding errors of omission E1 at the risk of making errors of commission E2, and find themselves muddling through among various conflicts, until eventually they became lost in no man's land. This issue
refers to one major theme in the study of organizational commitment. Famous examples can include Euro-Disney, Channel Tunnel, British Library, Concorde, Expo'86, Sydney Opera House, Three Gauge Dam, and Japan’s military expansion in the second World War, American’s involvement in the Vietnam war.

The severity of the problem: Commitment escalation in investment decision-making raises problems for the control of a project. It invalidates the usual financial models and complicates conventional control processes. It raises questions regarding effective management control such as:

(a) Do financial models of project appraisal offer sufficient guidance for the overall organizational control of an ongoing project?

(b) Do investment decision makers always behave in an economically rational way when making sequential decisions? If not, what drives them to behave in the way they do? (e.g. The human 'ego', the project itself, the design of the organization, or the complex competing environment.)

(c) What kinds of managers / accountants are most likely to behave economically irrationally in such situations as illustrated in Table 6-2?

(d) What are the underlying causes of this phenomenon? (e.g. Retrospective rationalizing or prospective rationing, or both.)

(e) Is the escalating commitment phenomenon an issue or a problem? Is it always unhealthy as is suggested in Table 6-1 and Table 6-2? If not, when is it plausible and in what circumstances?
(f) Should this phenomenon be cured? If so, how? Are there any guidelines or frameworks for managers / accountants to follow?

(g) How can managers and accountants exert effective control over ongoing projects? Which is the best way of managing commitment?

The current position of research concerning investment decision-making: In the past, a good deal of research on investment decision-making has been undertaken, but most has concentrated on financial analysis and on initial evaluation rather than on the monitoring and post-auditing stages of the investment process as reflected in Neale & Holmes' (1991:7) Capital Budgeting System (Figure 6-5), in which five stages of the investment process have been postulated.

This gives rise to a concern whether more attention should be paid to the researching of investment potential, to the re-evaluating of new and old opportunities, or to the monitoring and the post-auditing of on-going projects.

All this, in essence, relates to the following questions when a project is implemented:

* Do managers / accountants realistically analyze the costs incurred against budget when the project is in progress?
* Are managers / accountants open to feedback and new information about the project?
Are they still as firmly committed to the project as when initiating it?
Do they research and re-evaluate new and/or old project opportunities during and after the initial evaluation and the implementation of an on-going project?
Do they revise their beliefs or organizational values in line with the success or failure of the project?

A number of studies of escalatory commitment have been conducted in the past 20 years. However, most studies have been based purely upon laboratory experiments, and little real world investigation has been undertaken, hence the findings, qua findings, of previous research do not explain causality and are of questionable external validity. What is more, nearly all the previous research has concentrated on psychological factors such as self-justification, self-presentation, and information processing. Less emphasis has been placed on project, social and structural factors. Strategic aspects have received some attention, but relatively little has been done from an organizational vantage-point.

As a result, very few practical frameworks for effective commitment management have emerged, and there is no available framework embracing multiple managerial perspectives, e.g. economic, environmental, operational (product designing, engineering, planning, financing, implementing, pricing, promoting, distributing, servicing), organizational, philosophical, political, psychological, societal, strategic, and technological. Thus, it is felt to be not only desirable but also timely to seek to bridge these gaps and to explore both effective and ineffective investment decision-making in an organizational context.

The relevancy of this research in the empirical setting: In both Britain and China, the theme of escalating commitment has received much less attention than in North America. In the late 1970s Likierman did a study on cost escalation and suggested ways of avoiding cost escalation, emphasizing factors to be considered before an investment project starts and how to control the 'in progress' phase by means of variance analysis (Likierman, 1980). From a British study focusing on different methods of investment appraisal, Dugdale (1991) suggests that social factors are as important as financial analysis. As regards the control aspects of the investment decision-making process, it is argued that techniques such as post-completion audit (PCA) are relatively ignored (e.g. Kim & Farragher, 1981). Surveys of UK enterprises have revealed that post-auditing is less popular in Britain than in the USA, and that less than half of those enterprises which are practising PCA use it on a regular basis (Scapens & Sale, 1981; Pike, 1982; Pike & Wolfe, 1988; Neale & Holmes, 1988). Mills and Kennedy's (1992) analysis of PCA practices also offers some insights into the dynamic managerial decision-making process in the UK setting. China is economically advancing rapidly. While there is little research conducted to examine the Chinese practice regarding investment management, China's managerial
professions are becoming intensively interested in utilizing Western management concepts while preserving their own managerial wisdom. Thus pioneering research in this vein can not only help improve understanding between the two parts of the world, but also help promote future co-operative investment opportunities.

The originality of the research in the context of existing relevant literature: The research of this researcher is original at least within both the British and the Chinese context. Literatures covering escalating commitment tend to be very discrete and no sound syntheses have been produced. The use of meta-analysis maintains a novel as well as a promising approach for assessing the literature. Although many surveys have been conducted to investigate the use of investment evaluation techniques, few investigations have been carried out to show how and why various techniques (e.g. NPV, payback period, and PCA) are used by enterprises at different stages of the project life cycle.

This study employs a unique set of approaches to offer unbounded outside-in as well as inside-out views, whilst nearly all previous research concerning escalating commitment only provides bounded outside-in views and is of little help in revealing causality. Empirical study being involved in this research will help reveal the triggers of escalating commitment in investment decision-making in the full organizational context and enrich the existing literature by extending studies on investment decision-making, organizational commitment, and strategic control into a wider area embodying a broader perspective on the investment decision-making process.

6.4 The O: the operationalization of the research

The topic of the research: The puzzle of investment decision-making in practice as being depicted in Figures 6-3, 4&5 entices this researcher to explore investment decision-making in a full organizational context. More specifically, this muddle inspires this researcher's interest in exploring the role which strategic control plays in the investment decision-making context. Therefore, this research, being strengthened by organizational commitment which in turn functions as a thread to link all of the bit together, sees strategic control as the hub of all research oriented activities; and strategic control of investments actually becomes, after several rounds of evolution, the topic of the research as well as the title of the thesis.

The determination of the research variables: Approaches to strategic control vary non-significantly with most previous studies mainly concentrating on control mechanisms such as premise control, special alert control, implementation control and strategic surveillance (Preble, 1992). However, previous studies of strategic control (e.g.; Coad, 1995; Glueck and Jauch, 1979; Schendel and Hofer, 1979; Harrison, 1991; Stacey, 1991; Kellinghusen and Wubbenhorst, 1990; Wilson, 1995; Schreyogg and Steinmann, 1987), perhaps except Neale and Holmes's (1990)
post-completion auditing and Roush and Ball’s (1987) reporting system, have, despite effort, exhibited a lack of a meaningful as well as operationalizable concept or framework which enables academics and practitioners to unify the existing approaches to strategic control and put them into strategic control practices. This research aims to bridge the gap by employing organizational commitment in resources (e.g. time, effort, funds, people’s assistance) as a medium through which the study of strategic control of investment can be meaningfully operationalized. Since this research focuses on exploring organizational commitment in the investment decision-making process – especially, commitment escalation, commitment de-escalation and strategic control of an investment, organizational commitment is therefore further localized into and operationalized by the amount of resources allocated to an investment project, viz., the amount of resources committed to an investment has been chosen as the dependent variable in the studies of this researcher. Accordingly, critical factors influencing organizational commitment in the investment decision-making process have been targeted as independent variables in the studies of this researcher. For example, the four conflicting perceived utilities (e.g. Wilson and Zhang, 1995c) are employed as the independent variables to portray escalation of organizational commitment in Chapter 9; sunk cost and negative feedback (e.g. Arkes and Blumer, 1985) are jointly employed as the independent variables to portray de-escalation of organizational commitment in Chapter 10; and some 16 strategic control elements ranging from intensive SWOT analysis to timeliness for corrective surgery are employed as the independent variables to portray strategic control of organizational commitment in Chapter 11.

The justification for using commitment as the medium of the study lies in the assertions that organizational commitment remains construct-wise multi-dimensional with as many as possible different forms and foci (Morrow, 1983) and that organizational commitment continues to matter a lot in modern organizations (e.g. Meyer and Allen, 1997), despite the fact that people have been advised not to become too attached to the organizations in which they work or live (e.g. Hirsch, 1987) due to the rapid changes in the world of work (e.g. Cascio, 1995) including global competition (Black et al, 1995), business reengineering (Hammer and Champy, 1993), replacement of jobs with roles (Bridges, 1994), and organizational emphasis on flexibility and efficiency (Meyer and Allen, 1997). Furthermore, research into organizational commitment has been inspired by several other factors (Meyer and Allen, 1997): first, organizations may become bigger by upsizing or smaller by down sizing, but they are not disappearing in that they always maintain a core of people who are the organization; second, organizations may contract out work to individuals or firms outside of the organizations but they still become concerned about the commitment of these others although the focus and duration of which may differ from case to case; third, commitment develops naturally in that people need be committed to something, or...
otherwise, the opposite of commitment, alienation (e.g. powerlessness, meaninglessness, normlessness, and isolation), will effect, perhaps imposing unhealthy implications on the organization (Seeman, 1959; Dean, 1961; Clark, 1959).  

The research themes: To decompose the research focus, this researcher incorporates different research issues relating to the study of this researcher into three workable macro-themes (i.e. escalation, de-escalation, and strategic control) which each range from simple to complicated questions generated from previous discussions (e.g. Q1-1 to Q1-8; Table 2-2; Figure 3-1,2&4; Q4-1 to Q4-33; Q5-1 to Q5-18;) as well as from the researcher's own industrial experience:

Q6-1. Do project (or other) factors, such as closing costs and salvage values, always dictate escalation of commitment in the receding project? If not, when does the role of project factors wane and wax, and what else matters? What is the relative importance of differing factors (such as project, psychological, operational, cultural, political, social, and ideological) upon escalation of commitment in investment decision-making over time? Is there any causal relationship between corporate strategy (such as expeditionary marketing, cost leadership, and differentiation) and investment escalating commitment over time?

Q6-2. What promising ways of de-escalation at different stages of the escalating commitment process are adopted in practice? Are those proposed mechanisms relevant in practical decision-making? Is it really managers responsible for the receding project who are to blame for the repeated failure? If not, at what stage of the project life cycle or in what situations is the organization itself or society itself more likely to be responsible for repeated failure?

Q6-3. What are the effective strategic control mechanisms leading to success for investments? Does the control process described by Neale & Holmes (1991) or the newly conceptualized strategic control framework by this researcher differ over time along the project life cycle? That is, are some steps usually ignored or over-emphasized at different stages of the escalating commitment process? What are the principles of strategic control? What are the most effective strategic control factors in investment decision-making?

The pre-supposed criteria to identify ineffective commitment in investment decision-making: Possible criteria for the identification of escalating commitment in investment decision-making may include the following:

Qc6-1. increasing investment becomes a strict function of a waiting game over time;
QC6-2. at the outset the probability of attaining prior expectations from an investment project is uncertain or, alternatively, an investment outlay which is completely disproportionate to the enterprise’s available resources is required;

QC6-3. both the costs associated with continuing and the presumed proximity (as indicated by economic rationality) to the desired goal increase as additional resources are invested;

QC6-4. conventional mechanisms guiding investment decision-making appear incomplete or ineffective;

QC6-5. there is a conflict between the empowerment (flexibility, innovation, and creativity) of business opportunities and the control of the management processes;

QC6-6. there is a lack of any strategic control framework to synthesize multiple perspectives on control within an organizational context; and,

QC6-7. there is an important shift in the decision-maker’s perception of his/her motivation to invest over time (i.e. from rational to rationalizing).

6.5 The A: the actualization of the research

Bearing in mind the initial state of the problem, the goal state of the problem, the operators of the research and the path constraints of the research, this researcher decides to accomplish the research goal by the use of varying research methods (Abrahamson, 1983) so as to prevent the research from becoming method-bound and to exploit Smith’s (1975) notion of triangulation so as to use the strengths of one method to overcome the weakness of another as well as maximising the amount of data (see Table 5-1, Table 5-2, and Table 5-6). It is also decided by this researcher that the research goal is to be achieved by triangulation of theories - viz., the heuristical use of frameworks from different disciplines to explain complex situations (see, say, Table 5-2, Figure 4-2, Figure 2-5, Figure 3-2 and Figure 1-1), by triangulation of data - viz., the collection of primary data over different time frames or from different sources (see Table 5-6), and especially by Todd’s (1979) methodological triangulation - viz., the use of both quantitative and qualitative methods (see Figure 5-3) and by Bechtel and Richardson’s (1993) systematic process of discovery – viz., the use of debates via conferences and publications with both academics and practitioners so as to clarify the conceptual definition of the research themes and enhance the feasibility of the research, and the use of pilot studies (see Appendix A) and a case base (as being reflected in Acknowledgements) to sharpen the focus of the research (e.g. the refinement of research hypotheses as can be reflected in each individual study of the research or in Appendix A for an example) and probe profitable tactics in relation to the implementation of the research.

The research activities: Among major research activities to be involved in this research include:

= Identifying relevant literature via a manual search to identify suitable material including reference books, journals, and monographs and a computer search to identify suitable material including books and journals published world-wide using BIDS-ISI & BIDS-
UnCover, OCLC FirstSearch (including Article1st, BusPerInd, Contend1st, FastDoc, GenSciIndex, GPO, ReadGuideABs, SocSciInd, and Worldcat), CD-ROMs (including ABI/Inform, Psychlit, ASSIA Plus), and WWW (NCSA Mosaic);

- Summarizing and integrating research findings on escalating commitment via a narrative review of existing literature, and a synthesis of previous research (using meta-analytical procedures).

- Identifying, calibrating and conducting a series of studies vis-à-vis escalation, de-escalation and strategic control (see Appendices A,B&C for samples or detailed designs), by empirical examinations of some investment projects which have evolved over time from escalatory conflicts into either final success (C1), plausible abandonment (C2), mistaken rejection (E1), or irrevocable error (E2) (see Figure 6-2).

- Searching for ways of effective management of investment by concentrating insights into frameworks or theories which can be applied in practice to help disentangle practitioners from decision-making dilemmas in the jungle of world investments.

The micro-themes of the research: The main enquiry activities involve observational case study, mail-based field experiments, interview-based survey. In addition to the questions raised earlier, micro-themes to be covered will include:

Q6-4. Managers' / accountants' career progression. [e.g. Is promotion, as well as reward and penalty systems, short-term performance -oriented? Is there any tendency in practice, as agency theorists have suggested, for managers /accountants to act in their own self-interest, at the expense of the sponsors of the project, and, if so, how can the information asymmetry that leads to private information be cured? Do enterprises have contingent incentive systems that align the interests of the alleged agents and principals (e.g. junior managers versus senior managers, or senior managers versus the financial sponsors of the project)?]

Q6-5. Problems and successful practices – especially regarding the implementation and control of investment projects. (Are decision-makers well informed about an investment project before a decision is made? Is enough attention paid to the control process in practice?

Q6-6. The political, social, economic, operational, inter-personal, organizational, strategic and technological context of an organization. [e.g. Is an investment decision made before the economic appraisal has been conducted? Is the design of the existing accounting system appropriate? Is the emphasis in capital budgeting really misplaced as suggested by writers such as Kim & Farragher (1981)? Are certain industries more likely than others to exhibit escalating commitment?]}
Q6-7. The relationship between the strategic, financial, environmental and psychological dimensions of organizational behaviour. [e.g. Is there any size effect of a project—in financial terms?]

Q6-8. To what extent are managers / accountants aware of the escalating commitment phenomenon and how do they view it? How does escalating commitment emerge and evolve, and in what forms? What are the possible consequences of escalating commitment and do they always reduce performance?)

**Foreseeable problems of data access and likely consequences:** Anticipated problems in data gathering include the following:

QP6-1. Data access relating to enterprises facing fierce competition may be very difficult in that enterprises might not be willing to reveal details of their success/failures.

QP6-2. Given data access, findings may not be comparable due to the differing characteristics of investment projects (e.g. capital intensive or labour intensive) and other enterprise-specific or contextual factors such as the marketing environments and the stages of the business life cycle in which the targeted enterprises are located.

QP6-3. Managers / accountants to be interviewed might disguise their true feelings for various reasons.

QP6-4. Subjectivities due to the interaction of interviewer and interviewees may also affect the reliability of data from case to case.

QP6-5. The accessibility of targeted enterprises in that enterprises approached might refuse to participate.

QP6-6. The built-in subjectivity inherent in techniques (both qualitative and quantitative) adopted to analyze data and represent research findings can also be somewhat misleading.

### 6.6 The I: the idealization of the research

**The interpretation of the results:** This research combines qualitative analysis and quantitative analysis to generate insights from investment decision-making processes as well as collecting non-quantifiable data so as to advance research and theories under this theme.

However, this researcher considers that (a) the results from qualitative analyses (such as the narrative review of existing literatures and the ‘thick’ descriptive case studies) can only be seen as being tentative since deep insights are gained at the cost of a loss in generality, (b) the results from quantitative analyses (such as meta-analytical synthesis, experiments and surveys) can only be seen as being tentative since an integration of existing literatures can be gained only at
the cost of neglecting non-quantifiable literature, and (e) the ending of this research actually initializes the next round of research except the fact that, via cyclical observing and theorizing, organizational (as well as individual) learning is fostered and knowledge on research and strategic control of investments is improved.

**The centering of the insights:** This research goes beyond theory-using by fostering theory-finding in around three themes: investment decision-making (which leads to Chapter 12), organizational commitment (which is discussed in Chapter 13), and strategic control (which is dealt with in Chapter 14). Original effort is made in the line of investment decision-making to integrate the existing theories of investment and investment decision-making in the full organizational context in order to advance the theory of investments and to help practitioners to better understand the real trick of investment decision-making. Original effort is also made in the line of organizational commitment to extract insights from sense-data to form a paradigmatic framework of the management of organizational commitment in investment decision-making and to provide practitioners with both awareness and methods of commitment management. A larger portion of original effort is made to synthesize different theories of strategy, control and strategic control, to build frameworks leading to successful controllership of investments, and to establish a set of criteria for successful strategic control of investments in the full organizational context.

**The benefits of the research:** Among the practical benefits to be derived are:

QB6-1. A better understanding of investment escalating commitment phenomena and strategic control of investments (including definitions) to enhance managers' / accountants' awareness that qualitative factors (whether psychological, social or structural) influence investment decision-making.⁸

QB6-2. A clarification of what managers and accountants actually do when making investment decisions, as opposed to what both management and escalating commitment theories predict.⁹

QB6-3. A valuable insight into the dynamics of the managerial decision-making process which might improve the quality of investment decisions.¹⁰

QB6-4. Improved effectiveness of managers' and accountants' control of projects, especially in the implementation and control stages of the process.

QB6-5. The provision of better training and education for present and future managers / accountants.

QB6-6. The provision of means by which both managers / accountants and organizations can balance financial, strategic, environmental and organizational aspects of investment decision-making.¹¹
QB6-7. The provision of strategies for organizational control over projects before, during, and after their completion, as well as guidelines on what managers can do and what organization can do to avoid unhealthy escalating commitment at different stages.

QB6-8. The provision of various hypotheses for future theoretical and empirical research concerning effective investment decision-making.12

6.7 Conclusion and recommendation

The COAI design partially corresponds to five out of the eight perspectives regarding a quality research (i.e. Q1-1, Q1-2, Q1-4, Q1-7, Q1-8) by concentrating on the conceptualization, operationalization, actualization and idealization of the study of this researcher. The COAI design has also highlighted the work to be done in the COAI fashion. It is expected that, by doing so on his way to explore three macro-theme related issues (i.e. Q6-1 to Q6-3) supplemented by five more micro-theme related issues (i.e. Q6-4 to Q6-8), the researcher is to achieve at least eight sub-goals (i.e. from QB6-1 to QB6-8) if he could manage to overcome at least six generic research problems (i.e. from QP6-1 to QP6-6).

To recommend, the COAI design typically arouses the researcher’s interest in corresponding to the rest of the eight perspectives on a quality research. (i.e. Q1-3, Q1-5, Q1-6). In fact, Q1-3 (i.e. identifying three categories of research “boxes”) clearly demands that a literature review to be thoroughly undertaken in the next part of the thesis otherwise further correspondence to Q1-5 or Q1-6 in the rest part of the thesis can be meaningless as well as aimless.

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1 This finding belongs to the serendipity pattern as this researcher was originally interested in the possibility of the inclusion of the preliminary data of original authors in his meta-analytical study of previous studies on organizational behaviour involving the concepts being employed in this study. The target had been the unpublished PhD theses of those who had been cited in the literature of organizational decision-making.

2 The case of Velikovsky illustrates the strong reaction of those operating in a 'normal' scientific paradigm to ‘revolutionary’ ideas. According to McAulay (1979), Dr. Velikovsky’s attempt to publish his book Worlds in Collision though many of the hypotheses in which were subsequently found to be accurate, was greatly unwelcome and prevented by the scientific community in that the work of Velikovsky was founded on the premise that metaphysics, religion, and politics provide an ‘infrastructure’ which influences scientists’ evaluation of ideas.
This chaos also gives rise to this researcher's curiosity to explore various aspects of commitment over investments from the organizational vantage-point. More precisely, this chaos stimulates this researcher's search for a theory of strategic control of investment projects.

Project factors could involve strategic considerations such as technological innovation and expedient marketing, as well as economic considerations such as sunk cost, the probability of goal attainment under uncertainty, and the availability of investment alternatives. Social factors could involve face saving, competition, external binding, modelling processes and norms. Structural factors could involve economic and technical side-bets, political support, and organizational inertia (e.g. Brockner, 1992; Ghemawat, 1991; Staw & Ross, 1987; Wilson et al, 1992).

Meta-analysis can be used to assess the current state of knowledge, identify directions for future research, guide policy decision as well as advance theory (Staw, 1987). In this research, meta-analysis will assess mechanisms explaining escalating commitment, identify moderating variables worthy of empirical research, and highlight directions for future research.

For example, do enterprises use NPV to appraise and/or re-appraise a project at every stage of the project life cycle? If not, why not? What technique replaces NPV? And at which stage(s) of the project life cycle does the replacement occur?

Alienation refers to a psychological state of individuals which reflects individuals' feeling of lacking in means to eliminate the discrepancy between their definition of the role they are playing and the one they feel they should be playing in a specific situation. The concept of alienation has been identified in four commonly accepted forms: powerlessness, meaninglessness, normlessness, and isolation. Powerlessness (Seemen, 1959) relates to the expectancy or probability held by individuals that their own behaviour cannot determine the occurrence of the outcomes, and it implies that people in organizations may have the feeling of not being able to influence business behaviour in order to protect their interests as members of the organizations (e.g. the feeling of powerless when top management do not respond to line managers' requests for corrective action due to the failure of a product or service to meet their reasonable expectation). Meaninglessness (Seemen, 1959) relates to a low expectancy that satisfactory predictions about future outcomes of behaviour can be made, and it implies that people in organizations may have a feeling of meaninglessness when they find themselves not able to make wise decisions on purchases because of lack of self-confidence, insufficient information about alternative products, or intelligence. Normlessness (Dean, 1961) relates to the absence of values which might give purpose or direction to life, and the loss of intrinsic and socialised values (i.e. purposelessness), or the difficulties of individuals who incorporate conflicting norms in their personality (i.e. conflict of norms), and it implies that people working in organizations can have the feeling of normlessness if they believe that they have been deceived or cheated by top management or stakeholders who are engaged in unethical and unjust business practices. Isolation (Clark, 1959) relates to the feeling of separation from the group or from group standards, which can give rise to many behaviours such as low social participation, spatial mobility, lower percentage of voting, greater unemployment, and a higher rate of job turnover, and it implies that the feeling of isolation occurs when people working in organizations are not able to understand the real meaning of advertisement, to identify with business practices or to experience pleasant decision conditions.

For example, Expo' 86 showed that political support could overwhelm all other factors which lead to escalating commitment. Meanwhile the Sydney Opera House experience illustrates how technological considerations might also dictate escalating commitment.

For example, a field study could test the assertion made by Staw (1976) that those personally responsible for the initial investment decision are very likely to become entrapped when exposed to negative decision consequences. However, responsibility for the initial decision may not necessarily result in escalating commitment. The underlying causes of escalating commitment could also be other factors, such as long term strategic consideration (e.g. 'the locking out effect' (Ghemawat, 1991)), social bindings, and organizational inertia.

For example, by realizing that project factors can possibly dictate escalating commitment earlier in the project life cycle, but that their role could wane later on, and it could also become overwhelmingly important in the decline stage of the project life cycle, investment decision-makers could have a yardstick to guide their control over a project at different stages of its life cycle. Also, an awareness of which of the five steps of investment appraisal (Figure 5) could have been ignored or over-emphasized at different stages of the project life cycle might promote more effective control over that project.

Exploring the integration of finance, strategy and organization behaviour will provide a bird's eye view of how to balance the project, psychological, social, and structural utilities of a project the interactions of which could directly contribute to escalating commitment.

For example, the analysis of analysis (i.e. meta-analysis) can highlight causal relationships between escalatory behaviour and specified variables by moderating various factors contributing to escalating commitment, and direct the dimensions of future research by distinguishing variables including explanatory mechanisms with large effect (e.g. possibly prospect theory) from those with median and small effect. This analysis of analysis can either test, or synthesize, or evaluate, or advance theories by comparing and contrasting discrete literatures as well as providing new hypotheses to be tested via further empirical research.
7. Escalating Commitment In Investment Decision Making: A Review

7.1 Introduction

This part of the research seeks to explore one subset of the “wasteful” face of commitment within investment decision contexts, i.e. the “escalating commitment” phenomenon in an investment decision making context, and provide a review of investment decision making and escalating commitment studies. The research is primarily aimed to summarize existing literatures of escalating commitment in the investment decision-making context so as to provide a better understanding of the escalating commitment phenomenon as well as identifying quantifiable sources on which further quantitative analysis of the phenomenon can be based and further theory-advancing can rely. Structure-wise, this part of the thesis, first looks at the escalating commitment phenomenon in general before locating it within the investment decision-making context, then focuses on the mechanisms attempted to explain the phenomenon, and finally comments on the previous approaches to the study of escalating commitment.

7.2 Escalating commitment phenomenon: an overview

As depicted in Figure 7-1, a managerial decision may effect any of the four possible decision outcomes: C1, C2, E1, and E2. Traditional or economic rationality dictates that managerial decision-makers should only pursue propositions with positive perceived performance (C1) in economic terms, and forgo those with negative perceived performance (C2).

Evidence suggests that not all subsequent managerial decisions are made according to the rules
of organization-specific (e.g. economic) rationality. It has frequently been noticed that decision-makers, exposed to negative feedback, irrationally “throw good money after bad” (Staw, 1976) and become overcommitted to a chosen course of action. That is, managerial decision-makers, averse to the most reasonable choice C2 and in the distant hope of C1, persist in avoiding Type I error E1 at the risk of making Type II error E2 (Figure 7-1), and find themselves “muddling through” among various conflicts, until eventually they became lost “in no man’s land” (Brockner, 1992).

The topic of commitment has been explored extensively. It is commonly noted that consensus over the definition of commitment does not exist but, primarily, commitment has been divided into two types, attitudinal and behavioural (Coopey, 1991; Mowday, 1982). The most frequently adopted definition is that coined by Porter et al (1974:604) as the “relative strength of an individual’s identification with and involvement in a particular organization”. However, a more operational definition is given by Ghemawat (1991:14): commitment refers to “the tendency of strategies to persist over time.”

Most explorations, however, have been based upon the assumption that high levels of commitment are good. For example, Lawrence (1958:208) claimed: “Ideally, we would want one sentiment to be dominant in all employees from top to bottom, namely a complete loyalty to the organizational purpose.” In fact the admiration for individuals, such as Winston Churchill and Tzedong Mao who were each highly committed to a chosen course of action, borders on worship.

Not until recently have references to the possible dangers of high levels of commitment surfaced (e.g. Brockner, 1979, 1985, 1986, 1992; Staw, 1976, 1978; Staw & Ross, 1987b; Tegar, 1980; Whyte, 1986, 1993; Wilson et al., 1992; Wilson & Chua, 1993; Wilson & Zhang, 1995a, 1995b, 1995c, 1997; Zhang & Wilson, 1995; Zhang, 1993). Research about the dangers of high levels of commitment still remains sparse, sporadic, and scattered throughout various disciplines (Randall, 1987). Findings from discrete literatures indicate that high commitment may be linked to a lack of creativity and resistance to change (March et al., 1958; Thompson, 1965), overzealous conformity (Hoffer, 1963), a willingness to engage in corporate crime for the benefit of the firm (Clinard & Yeager, 1980), and an ineffective use of resources (Rowan, 1981; Staw, 1976).

In short, it can be summarized that commitment has two faces (e.g. Statman, 1987; Randall, 1987). The first is a motivating face that helps generate the force needed to surmount obstacles that seem insurmountable and accomplish goals that seem impossibly remote. The second face
of commitment is wasteful. Commitment can easily turn into *escalating commitment* where good money is thrown after bad in the pursuit of impossible goals (Statman, 1987:11).

### 7.3 Escalating commitment in investment decision-making

**Investment Decision Making:** Investment decision contexts are considered broadly as “situations in which resources are allocated to one decisional alternative over others, and in which the level of resources can be increased or decreased at the discretion of decision makers” (Staw, 1976:28). Until recently investment decisions have been considered largely in isolation, with most capital proposals being assessed purely in terms of their economic attractiveness. For instance, as exhibited in Table 7-1, a firm exposed to the rationalization of project investments is very likely to accept projects A, B, C, D, and E purely because of their positive NPV, and reject project F because of its negative NPV.

#### Table 7-1. A Hypothetical Example of the Rationalization of Project Investments, 1999-2002

<table>
<thead>
<tr>
<th>Projects</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlay (year 1999), £ 1,000 million</td>
<td>150</td>
<td>160</td>
<td>100</td>
<td>340</td>
<td>130</td>
<td>110</td>
</tr>
<tr>
<td>NPV (discounted at 10%), £ 1,000 million</td>
<td>+90</td>
<td>+48</td>
<td>+120</td>
<td>+68</td>
<td>+13</td>
<td>-33</td>
</tr>
<tr>
<td>Benefit-cost ratio</td>
<td>+0.6</td>
<td>+0.3</td>
<td>+1.2</td>
<td>+0.2</td>
<td>+0.1</td>
<td>-0.3</td>
</tr>
<tr>
<td>Ranking</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Capital available in 1999, £ 1,000 million</td>
<td>815</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationing</td>
<td>Accept C, A, B, D, and 50% E; Reject F.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total NPV, £ 1,000 million</td>
<td>332.5 (= £90 + £48 + £120 + £68 + £13*50%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Methods of investment appraisal include the discounting techniques (e.g. NPV, IRR, MIRR), risk analysis techniques (e.g. sensitivity analysis, scenario analysis, Monte Carlo analysis) and management science techniques (e.g. game theory, decision theory, computer simulation, critical path, linear programming, probability theory). Table 7-2 serves as an example of the above-mentioned investment appraisal methods: by means of linear programming, the hypothetical firm will optimize its allocation of capital resources in a way that maximizes the total NPV.

It has been suggested that, for many organizations, good investment decision-making is not necessarily synonymous with formalized capital budgeting procedures or the application of textbook appraisal techniques (Pike & Dobbins, 1986; Tomkins, 1991; Neale et al. 1992). Effort has been made to interlink accounting & finance with corporate strategy as well as organizational behaviour, and it has been suggested that they are complementary (Barwise et al., 1989; Ghemawat, 1991; Pike et al., 1986; Tomkins, 1991; Argyris, 1990; Emmanuel et al., 1992; Handy, 1985; Otley, 1987). For instance, investment decision-making has been considered as the natural extension of the strategic planning process (e.g. Neale et al., 1992).
Escalating commitment: The escalating commitment phenomenon refers to the tendency to continue an endeavour, regardless of its merits, once any investment in time, effort, or resources has been made, and the common element across terms is the recognition that people often consider sunk costs relevant in decision making (Whyte, 1993:431). Escalating commitment has several names: “knee deep in the big muddy” (Staw, 1976), “too much invested to quit” (Teger, 1980), “the sunk cost effect” (Arkes & Blumer, 1985), “the dead loss effect” (Kahneman & Tversky, 1984), “putting off the evil day” (Wilson and Zhang, 1995c), and “entrapment” (Brockner & Rubin, 1985).

Escalation situations possess at least the following common properties: (a) a series of behaviour linked into a course of action to achieve a goal-state; (b) feedback suggesting that the course of action is not achieving the goal-state; and (c) an opportunity to commit further time, effort, or funds to achieve the goal-state (Staw, 1982). On the one hand, the above-mentioned approaches often are related, for at least they share with each other what has been called the “ego involvement”, a tendency that individuals are likely to attach psychological importance to their behaviour (Brockner et al., 1986:110). On the other hand, they are analytically separable (Wilson et al., 1992:601) or contextually different (Wilson and Zhang, 1997). A good example

### Table 7-2. A Typical Linear Programming Solution to Capital Rationing for a Hypothetical Firm

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project G</td>
<td>-10</td>
<td>-5</td>
<td>-2.5</td>
<td>+10</td>
<td>+10</td>
<td>+10</td>
<td>+3.94</td>
</tr>
<tr>
<td>Project H</td>
<td>-5</td>
<td>-7</td>
<td>+10</td>
<td>+10</td>
<td></td>
<td></td>
<td>+4.41</td>
</tr>
<tr>
<td>Project I</td>
<td>-10</td>
<td>-3</td>
<td>+15</td>
<td>+20</td>
<td></td>
<td></td>
<td>+13.36</td>
</tr>
<tr>
<td>Project J</td>
<td>-1</td>
<td>2</td>
<td>+5</td>
<td>-10</td>
<td>+10</td>
<td>+10</td>
<td>+6.84</td>
</tr>
<tr>
<td>Project K</td>
<td>-10</td>
<td>-10</td>
<td>+20</td>
<td>+10</td>
<td>+5</td>
<td>+10</td>
<td>+8.36</td>
</tr>
<tr>
<td>Project L</td>
<td>-20</td>
<td>+30</td>
<td>+10</td>
<td></td>
<td></td>
<td></td>
<td>+19.05</td>
</tr>
</tbody>
</table>

Assumption: External finance raised in any one period must not exceed £15m, and the internally raised cannot be used.

Objective function: 3.94*g+4.41*h+13.36*i+6.84*j+8.36*k+19.05*l Max.

Whereas g, h, i, j, k, & l represent the proportion of projects G, H, I, J, K, & L undertaken.

Constraints:
1). 10*g+5*h+1*j+10*k ≤ 15 (Year 1994);
2). 5*g+7*h+10*i+2*j+10*k ≤ 15 (Year 1995);
3). 2.5*g+3*i + 20*k ≤ 15 (Year 1996);
4). 10*j ≤ 15 (Year 1997);
5). 0 ≤ g, h, i, j, k, l ≤ 1.

Results: g=0; h=0; i=1; j=1; k=0.3; l=0.6. Total NPV=£ 34.14 m.

Rationing: Accept project I and J, plus 30% project K and 60% project L; Reject project G and H.
of this is that some sunk cost situations do correspond to escalating commitment situations, and that, whilst entrapment can exist in the absence of escalation (Wilson et al., 1992:601), entrapment also can be irrelevant to some sunk cost situations (Arkes & Blumer, 1985:138). For instance, to quit waiting for a bus implies the nullification of all the time one has already spent waiting, viz., time already spent waiting is the sunk cost.

Famous cited examples of escalating commitment in investment decision making contexts include: Concorde, Sydney Opera House, the Channel Tunnel, the Chicago sewage system, the Humber Bridge, Expo' 86, Shanghai Baoshan Steel Mill, Trans-Alaskan pipeline, and BP's involvement in North Sea oil exploration (e.g. Ross & Staw, 1986; Wilson & Chua, 1993). Table 7-3 provides a brief summary of some vivid examples of escalating commitment, covering the type of escalation as well as the extent to which an investment project has become entrapped.

<table>
<thead>
<tr>
<th>Investment Projects</th>
<th>Estimated costs</th>
<th>Eventual costs incurred</th>
<th>Type of escalating commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concorde</td>
<td>£80 million</td>
<td>£700 million</td>
<td>Inter-governmental</td>
</tr>
<tr>
<td>Humber Bridge</td>
<td>£19 million</td>
<td>£120 million</td>
<td>Economic</td>
</tr>
<tr>
<td>Expo' 86</td>
<td>C $ 78 million</td>
<td>C $1.5 billion</td>
<td>Political</td>
</tr>
<tr>
<td>Sydney Opera House</td>
<td>A $2 million</td>
<td>A $ 102 million</td>
<td>Technological/Political</td>
</tr>
</tbody>
</table>

7.4 Mechanisms Explaining Escalating Commitment

Theories that attempt to explain escalating commitment have mushroomed in the past 20 years. Although some effort has been made to explain escalating commitment in terms of economic rationality (e.g. Tang, 1988), the most plausible explanations have concentrated on psychological rationality (e.g. Brockner, 1985, 1992; Staw, 1977; Staw & Ross, 1987a; Teger, 1980; Wilson et al., 1992, Wilson & Chua 1993, Wilson and Zhang, 1995b, Wilson and Zhang, 1995c).

Brockner (1992:40) believes that most, though not all, of the explanations of escalating commitment (Table 7-4) can be summarized in two broad categories covering complementary aspects of human nature: (A) decision-makers, according to cognitive dissonance theory (e.g. Festinger, 1957), rationalize or self-justify their commitment to the course of action initially
chosen; and (B), as expectancy theory implies (e.g. Vroom, 1964), decision-makers focus on information related to the expectancies and values associated with continued commitment to the course of action.

**Agency theory:** Agency theory postulates that the availability of information and incentives influences agents’ decision making, and predicts that non-sponsor decision makers (a) may act in their own self-interest and (b) be more risk-averse than sponsor decision makers (Harrison et al., 1993:635). Every investment project has sponsors (owners or shareholders) who may hire the Chief Executive Officer to act as their agent to manage the project. But of equal or more interest may be the agency relationship between senior management and junior management (acting as agent). Thus agency theory can be relevant to escalating commitment study within the investment decision making context. Agency theory implies that escalating commitment is more likely to take place when non-sponsor decision makers have both (a) private information (e.g. the projects’ projected future performance) and (b) an incentive to shirk, or to act in their own self-interest at the expense of the sponsors’ interests (Harrison, 1993:636). Proponents of agency theory have also suggested ways leading to de-escalation through developing (a) more complete information systems or (b) contingent incentive systems (Harrison, 1993:641). For example, Harrison’s (1993:641) findings indicate that non-sponsor decision makers tend to make decisions that are in the best interests of the sponsors of the projects.

**Attribution theory:** Attribution theory postulates that individuals (a) try to explain why they behaved as they did by identifying the cause of the behaviour in terms of their motives, intentions, personality and even situational features (e.g. Gross, 1991:208) and (b) eventually learn they must abandon an investment when set-backs occur repeatedly (e.g. Gross, 1991:211). This theory implies that uncertainty results in escalating commitment and that the escalation can be largely reduced later on. For example, investment decision makers after suffering a set-back may rely heavily on subjective impressions that could be influenced by their own choice of action especially when information vital to the attribution process is unobtainable, viz., escalating commitment is very likely to occur. But over time, the problem as well as the prospects of the chosen investment can be clarified by the information obtained afterwards, viz., de-escalation is also very likely to take place. Indeed, Both Staw & Fox’s (1977:448) and McCain’s (1986:283) findings have provided support for this contention. It is claimed that attribution theory can explain both escalation and de-escalation (McCain, 1986:281); using attribution theory alone, however, cannot predict that escalating commitment will necessarily occur. Nor does it tell when and how de-escalation will take place. For instance, Bateman
Chapter 7  Escalating Commitment In Investment Decision-Making: A Review

(1986:47) shows that the communicated attributions of powerful others regarding the success or failure of the decision outcome also affects decision behaviour. In fact, male subjects in his second experiment, unlike female subjects, did not vary their responses when prior failures were attributed to internal causes or external causes (Bateman, 1986:45).

China mentality theory: Zhang (1993) proposes that escalation can come from decision-makers’ deep inner certainty which espouses the confidence to look at things in a new light, to push beyond the usual answers in order to get to the bottom of things, to understand the underlying causes and connections when others have not, and finally to apply this new understanding to build and create anew. As Ohmae (1991) noticed, not having the China mentality, individuals will eventually stop with average answers and half-done attempts. Having China mentality, individuals tend to believe that the insurmountable are surmountable and therefore they are more likely to run the risk of being wrong and of making mistakes (Zhang, 1993). In fact, Wilson and Zhang (1995b) have found in their experiments that individuals under low personal responsibility conditions may also exhibit a commitment as great as those under high responsibility conditions.

Decision dilemma theory: Bowen (1987:64) propounds that escalating commitment can result from a dilemma triggered by the interplay between the degree of commitment to a course of action and the amount of equivocality perceived in feedback on prior investments and in expectations for the future. This theory suggests that escalating commitment stems from any of the following motives: (a) economic considerations; (b) curiosity; (c) the need to see whether greater effort will bring the project to fruition, and (d) the desire to learn about the phenomenon. This “dilemma rather than error” approach has shed new and unexpected light on the escalating commitment study. However, Bowen’s (1987:63) implication that self-justification is largely irrelevant to escalating commitment can be misleading (Bracken, 1992:41). Further, several studies (e.g. Brockner & Rubin, 1985; Garland, 1990) have obtained results contrary to Bowen’s theory. For example, Garland (1990:731) found that “incremental costs...had absolutely no effect on subjects’ willingness to make further investment in the [receding] project.”

Expectancy theory: Expectancy theory (e.g. Vroom, 1964) postulates that decision makers will assess the probability of, as well as the value of, goal attainment of alternatives available to them and choose the course of action which has the greatest subjective expected utility. According to this theory, investment decision makers, even after suffering a set-back, will continue focusing on future outcomes and the probability of achieving them with future behaviour. For example, Rubin & Brockner (1975:1062) found that decision makers show greater entrapment when they
sense that they are drawing ever closer to their goals and when the value of attaining the goals is high. It is also recorded that decision makers are more likely to become entrapped when positive persistence-performance relation is seen as “relatively smooth and continuous” rather than “discrete” (Sandelands, Brockner & Glynn, 1988:212), and when the reasons for the negative feedback are viewed as unstable rather than stable (Brockner, 1992:40). It seems that this mechanism is most relevant to escalating commitment when there is a possibility of recouping one’s losses through a future course of action (Staw, 1978:43). However, expectancy theory alone, while providing an examination of sources of future utility in explaining the actions of decision makers, does not offer the content necessary for predicting the occurrence of escalating commitment (Staw, 1978:43).

**Group polarization:** Group polarization literature (e.g. Myers & Lamm, 1976) suggests that when group members have, on average, a moderate preference for a particular point of view, group discussion will strengthen this preference. Polarization implies that, given an initial preference for escalation among group members, groups that decide to escalate will do so to a greater degree than would their average individual members (Whyte, 1991:413). Indeed, in his experiment, Whyte (1993:446) found that groups, rather than making fewer “errors”, become more frequently entrapped than individuals.

**Learned helplessness theory:** Learned helplessness predicts that, when individuals have been attacked by repeated failure in their previous decision making, they may deduce that no relationship exists between action and consequences and tend to make type I errors (i.e. ignoring the very relevant information in subsequent decision making). Learned helplessness (e.g. Gross, 1991; Wortman and Brehm, 1975) has been widely used to explain human depression. For example, Gross (1991:441) maintains that learned helplessness explains why the original state of anxiety is replaced by depression when the individuals realize that concussion cannot be controlled and are said to be in a state of inaction (or inhibition of coping behaviour) that places them in a highly vulnerable biological position. In general, it is believed that learned helplessness is less likely to arouse escalating commitment when repeated negative consequences are recorded (Bateman, 1986). For example, Bateman (1986:45) revealed that, under failure conditions, the behaviour of female subjects is consistent with the predictions of learned helplessness. However, the learned helplessness individual can also be extremely low in prospective focusing and be more inclined to make type II errors by repeating the same behaviour which could be inappropriate for the new set of circumstances (Staw, 1978:45).
Logical incrementalism: Incrementalism (or the science of muddling through) presumes that
decision makers favour moving, not so much towards a goal as away from trouble, trying this or
that small manoeuvre without any grand plan or sense of ultimate purpose (see examples cited
by Mintzberg & Quinn, 1991:800-807). Logical incrementalism implies that decision makers
will simplify the complexities of the decision situation by, say, concentrating on a few key
thrusts, in the face of making type I errors (Proctor, 1992:5). The reason why logical
incrementalism might facilitate escalating commitment lies in the tendency that incrementalism
invariably has for choosing a direction close to the prevailing action (Etzioni, 1989:124).

Modelling process: Social comparison theory (e.g. Festinger, 1954) postulates that individuals
are concerned with assessing the appropriateness of their attitudes and behaviour. This theory
implies that individuals initially attempt to compare themselves to objective standards of
correctness, and adjust their attitudes and behaviours accordingly. More explicitly, individuals
continually compare themselves with others in order to put their abilities and achievements into
some sort of perspective (Gross, 1991:234). For example, it has been reported (Brockner,
1992:56) that individuals with low self-esteem are more likely to imitate the behaviour of
models than are those with high self-esteem. The reason why modelling can relate to escalating
commitment lies in the fact that, (a) modelling represents a fundamental learning and adapting
process, and (b) entrapping dilemmas per se provide a fertile ground for modelling processes
(Brockner et al., 1984:80). Thus, on attempting to decide whether persistence or withdrawal is
wiser in an entrapping dilemma where objective or physical yardsticks of comparison do not
exist, decision makers are especially likely to consider the behaviour of others as a model for
their own behaviour. Indeed, Brockner et al’s (1984:96) four experiments unanimously confirm
that modelling processes can affect the entrapped decision maker.

Organizational inertia: Organizational theory presumes that organizations have a built-in bias
towards inertia. Organizational inertia refers to “a particular sort of durable, specialized,
untraded factor that the organization is supposed to be stuck with, its culture, broadly construed”
(Ghemawat, 1991:25). This approach predicts that organizational inertia can (a) magnify the
costs to the utility of withdrawal and diminish the likelihood of change in a course of action and
(b) moderate resource allocation in a way that loosens the relationship between investment
decision making and subsequent withdrawal actions (Staw, 1987b:62). This implies that
organizations may espouse a withdrawal from the entrapping conflicts but never really
implement it. Bias that is likely to heighten escalating commitment in the light of organizational
inertia includes: (a) the sunk cost fallacy, (b) vividness of action not taken, and (c) the excessive
discounting of future consequences (Ghemawat, 1991:24). For instance, Ghemawat (1991:23) believes that some measure of organizational inertia can be invoked to explain General Motors’ escalations of commitment in the 80’s (eg. the J-cars and the Saturn project).

**Prospect theory**: Prospect theory posits that: (a) decision makers perceive outcomes as positive or negative in relation to some neutral reference point (Kahneman & Tversky, 1979:286), and (b) the continuing acceptability of an option can depend on whether a negative outcome is evaluated or framed as a cost or as an uncompensated loss (Kahneman & Tversky, 1984:342). Prospect theory (Kahneman & Tversky, 1979, 1984) has also been widely used to explain the phenomenon of escalating commitment (e.g. Arkes & Blumer, 1985; Bateman, 1986; Garland, 1991; Harwood, 1991; Whyte, 1986; Wilson & Chua, 1993). For example, Whyte (1986:311) suggests that prospect theory provides a more compelling explanation of escalating commitment than self-justification.

To illustrate (Figure 7-2), risky behaviour is much more likely at point B where a decision is framed as unsuccessful with a convex value function (as opposed to concave in the domain of gains) than at point A, the outset of the decision. Further, as can be seen in Figure 7-2, let us assume that an investment decision maker has expended on a prospect in the absence of any return, he or she is now (at point B) open to either abandoning the prospect and realizing a disutility of Y1 units, or investing further to continue with the prospect. Abandoning carries no risk, but continuing investment will result in either a potential gain in utility of Y1 units (should the entire investment be recovered and he or she wind up at point A), or an additional loss of Y2 minus Y1 units (should he or she fail to receive any return and wind up at point C). The convex
shape of the value function under loss assures that $Y_2$ minus $Y_1$ will always be less than $Y_1$. Thus given an even chance of additional loss or complete recovery of the entire investment, he or she ought to choose continuation rather than abandonment.

Reactance theory: The theory of psychological reactance (e.g. Wortman and Brehm, 1975) propounds that when individuals initially expect but subsequently fail to have control over the outcomes of their action, they will become motivationally aroused to take action to improve their fate. This theory implies that, after suffering a set-back, decision makers (a) may intensify their efforts to act rationally in the prospective sense rather than getting locked into a losing venture (Staw, 1978:45), and (b) may also become motivationally aroused to re-establish his competence (Wortman and Brehm, 1975:277). For example, both Bateman (1986:41) and Staw (1978:59) use reactance theory (i.e. a competence motive) to explain the “higher investment” by male subjects when success is followed by a threat of failure. Staw (1978:55) further indicates that “there was a much greater effect of causal information following a failure as opposed to a success experience, [and] psychological reactance (i.e. heightened/prospective rationality) is the only model [among six psychological theories] which explains the obtained data...”.

Variables that could strengthen decision makers’ psychological reactance include: (a) the history of personal control, (b) previous role autonomy, and (c) a strong need for self-competence (Staw & Ross, 1978:71). However, like expectancy theory, reactance theory has little predictive power as to whether escalating commitment will necessarily arise or decline (Staw, 1978:45). This is because, with reactance theory, as with expectancy theory, commitment to a course of action is dependent upon the relative utility of the various courses of action available to the individual at the time of his decision.

Reinforcement theory: Reinforcement theory (e.g. Skinner, 1969) suggests that, (a) negative consequences of an investment project lead the decision maker to commit fewer resources to the prior course of action, and perhaps allocate more resources to some new project, and (b) commitment to a course of action is a function of one’s previous reinforcement history (Gross, 1991:55). This implies that escalating commitment is less likely to occur unless the decision makers have either experienced an earlier success in a similar situation or received positive outcomes resulting from similar behaviour on an intermittent schedule (Staw, 1978:41). Evidence in support of reinforcement theory has also been found elsewhere. For instance, Singer & Singer (1986:203) found that individuals who are responsible for negative consequences tend to either reduce or maintain their commitment to the previously chosen course of action. Bateman (1986:45) also discovered that under failure conditions, the behaviour of female
subjects is consistent with the predictions of reinforcement theory. However, like expectancy
theory, reinforcement theory per se does not provide much explanation (other than a whim that
there might be a long individual reinforcement history) on how decision makers can become
locked into an elusive project (Staw, 1978:43).

**Self-justification theory:** Self-justification (e.g. Aronson, 1972) or dissonance theory (e.g.
Festinger, 1957) posits that individuals possess a potent need to restore the “appearance” of
rationality to their own behaviour. In addition, Staw (1978:44) has proposed a revised self-
justification theory by adding that “individuals may also increase their commitment of resources
to a course of action in order to protect themselves from suffering the psychological costs of
failure.” As a result, the theory predicts that individuals will cognitively re-evaluate decisional
alternatives after an important choice (e.g. Vroom, 1966), or actively distort the characteristic of
a behavioural task (e.g. Festinger & Carlsmith, 1959). It indicates that the joint presence of (a)
negative feedback concerning the outcomes of initial resource allocation and (b) a high need to
justify the correctness of the initial resource allocation should lead to the greatest likelihood of
escalation (Brockner, 1992:43). It has been suggested also (Staw & Ross, 1978:71) that
variables which might heighten a self-justification effect could include: a) visible responsibility
for negative consequences; (b) public advocacy of a losing course of action; (c) side-bets; (d)
political vulnerability; and (e) individual differences.

Self-justification theory has been widely accepted as one of the most important forces explaining
escalating commitment (Rubin et al 1975; Staw, 1976; Tegar, 1980). For example, as
Sandelands, Brockner & Glynn (1988:208) noted, “it has become fashionable among
organizational scholars to explain ... escalating commitment through mechanisms of self-
justification.” The major theoretical contribution of a self-justification mechanism is that it
posits a form of retrospective as opposed to prospective rationality. Self-justification theory is
typically applied to explain cognitive rationalization or behavioural inaction (Staw, 1978:44),
though it could also apply to situations in which decision makers have encountered a set-back
but still have an opportunity to recoup their losses (e.g. the USA’s earlier involvement in the
Vietnam War).

However, self-justification notions have received severe attacks. For example, Bowen (1987:54)
argues that “prior escalation studies, having not met the criteria for demonstrating the
phenomenon, should be questioned regarding the theoretical value of the reported results. The
findings of prior research [notably the self-justification mechanism] may be vulnerable to
alternative interpretations.” Meanwhile, other explanations —such as prospect theory and
expectancy theory at the individual level, group polarization and modeling processes and self-presentation theory at the interpersonal and group levels, and theories of organizational inertia at the organizational level—have been designed to replace or supplement self-justification (e.g. Bazerman, 1984; Bowen, 1987; Staw & Ross, 1987b; Whyte, 1986; Wilson & Chua, 1993).

Self-presentation: Self-presentation theory proposes that employees generally behave in a manner consistent with the organization’s shared values, or put differently, tend to reflect employees’ self-presentational motives (e.g. Brockner, 1992:56). In the light of this theory, proponents of self-presentation theory assert that an organization’s culture affects entrapped decision makers (Brockner et al., 1981; Staw & Ross, 1987b). For instance, Staw & Ross (1987b:55) suggest that escalating commitment is more apt to occur in a culture that (a) makes decision makers unwilling to admit failure, or (b) values consistency in behaviour, than in one that favours experimentation. More promisingly, as Brockner (1992:56) noted, future research on self-presentation processes within escalating commitment context can help elucidate whether entrapped decision makers’ self-justification derives from external or internal need, or both (Brockner & Rubin, 1981; Staw, 1981).

Sunk cost effect: the sunk cost effect (e.g. Arkes & Blumer, 1985:124) posits that individuals show a greater tendency to continue an endeavour once an investment in funds, effort, or time has been made. Sunk cost has been defined elsewhere. For example, Kohler’s Dictionary for Accountants (Cooper and Ijiri, 1983) defines “sunk cost” as “a past cost which cannot now be revised and hence cannot (or should not) enter into current decisions for increasing or decreasing present profit levels.” This approach implies that sunk cost can possess relevance in decision making under risk and ignorance (Mepham, 1987:304). For instance, the sunk cost effect relates closely to two features of prospect theory: (a) value function—i.e. the concave utility function for gains and convex for losses (see Figure 7-2), and (b) the certainty effect—i.e. the over-evaluation of absolutely certain gains, and the under-evaluation of certain losses (Arkes & Blumer, 1985:132; Garland, 1991:57). Thus escalation can occur because of the sunk cost effect—especially when decision makers have the desire not to appear wasteful (Arkes & Blumer, 1985:137). For instance, Arkes & Blumer (1985:137) refer to Rubin & Brockner’s (1975:1054) example of bus waiting as escalating commitment that corresponds to the sunk cost effect in that time already spent waiting is the sunk cost. However, sunk cost does not necessarily induce escalating commitment, and it provides a strong impetus to escalating commitment only when continuous losses are endured in the hope of later rescue by a further investment (Arkes & Blumer, 1985:138).
The CPU theory: The conflicting perceived utility model (Wilson and Zhang, 1995c) maintains that escalation of commitment is a result of a shift in the decision-maker's reference point regarding the conflicting perceived utilities in the full organizational context such as the project-related, psychological, social, structural, ideological, strategic, operational, technological. It tends to explain escalating commitment by conflicts among experimenting, persisting, time-biding and withdrawal in terms of perceived utilities such as face, NPV, power, advantage, and positioning. It is also proposed that the CPU theory can be used to provide a paradigmatic service for integrating existing mechanisms explaining escalating commitment. However, although effort has been made to examine this theory from the project perspective of an investment, this theory is still in its infancy stage, and its validity and generalizability is still subject to further tests.

The illusion of invulnerability: The illusion of invulnerability posits that a set-back does not necessarily arouse realistic prospective focusing if the decision makers have experienced an extended series of successes (Nutt, 1991:100). Contrary to the predictions of learned helplessness, the illusion of invulnerability implies (a) that decision makers who have experienced great successes may become too over-confident to make full use of critical decision-making skills, and (b) that high invulnerability to negative consequences may result in escalating commitment. It is believed that the illusion of invulnerability could be fairly relevant in explaining the escalating commitment phenomenon (Staw, 1978:45).

Uniformity pressures: Whyte (1993:434) noted that mutual influence, via the sharing of opinions, information, and arguments, leads ultimately to consensus. This uniformity looms larger when there is (a) an uncertainty about the appropriate response, and (b) a need to maintain good relationships among group members. It is proposed (with experimental support) that groups are more likely to become entrapped when the majority of group members initially advocate increasing commitment to a failing course of action, because uniformity pressures facilitate conformity to the majority view and ensure that the group decision is resonant with the majority preference (Whyte, 1993:446).

In short, each mechanism mentioned above can play an important role in explaining the escalating commitment phenomenon. Of all, self-justification theory appears to be one of the most plausible. Nevertheless, as Brockner (1988:208, 1992:41) proposed, “self-justification notions may offer some insight into the nature (and possibly dysfunctional consequences) of persistence, we believe that these theories do not account for all (or nearly all) of the variance in [project managers’] persistence behavior.” (Sandelands et al., 1988:208). Self-justification
theory provides one explanation of escalating commitment. Prospect theory, decision dilemma theory, group polarization, organizational inertia, and numerous other perspectives (mentioned or not mentioned above) are also likely to provide important explanations of escalating commitment (Brockner, 1992:53). For example, that greater sunk costs in a failing course of action induce escalating commitment may well be explained by prospect theory rather than self-justification (Garland, 1990:728).

7.5 Previous Research On Escalating Commitment: A Summary

Research findings of investment escalating commitment have been attained mainly by means of simulated laboratory games. For example, in their "approach-avoidance conflicts" experiment, Rubin and Brockner (1975:1061) found that escalating commitment is more likely to occur when information about costs are less salient. Staw (1976:40) also discovered that decision-makers are likely to become entrapped when they are responsible for making the initial investment which has hitherto not met with success (the personal-responsibility condition) rather than their predecessor in the organization (the no personal-responsibility condition).

Some effort has been made to explore ways toward de-escalation (e.g. Staw & Ross, 1987a; Brockner et al., 1979; McCain, 1986; Simonson & Staw, 1992; Whyte, 1991; Schwenk, 1988, Drummond, 1995). For instance, Staw & Ross (1987b:71-74) propose to reduce escalation by: (a) recognizing overcommitment; and (b) changing the organization (via rotating administrators, or separating decision makers, or reducing the risk of failure, or improving the information system). In addition, Simonson & Staw’s (1992:424) experiment, comparing the effectiveness of several de-escalation strategies, does provide support for some of the de-escalation techniques proposed by Brockner et al (1979) and Staw & Ross (1987(a). Simonson & Staw (1992:419) have compared several de-escalation strategies and found that among the most effective are “(a) making negative outcomes less threatening, (b) setting minimum target levels that, if not achieved, would lead to a change in policy, and (c) evaluating decision makers on the basis of their decision process rather than outcome.” Nevertheless, the solution to escalating commitment can be situation-dependent.

It can depend upon the stage of the escalation cycle in which the entrapped investment project is located (Wilson and Zhang, 1995c). Based upon their escalation cycle that contains four conflict variables (i.e. experimenting, persisting, time-biding and withdrawing), Wilson and Zhang (1995c) suggest that to escalate or to de-escalate remains a function of the optimizing comparison among the perceived utilities of the receding investment which may include, inter
alia, psychological, cultural, operational, strategic, economic, cultural, organizational, ideological, environmental and political. It can also depend upon the very nature of the entrapped project (e.g. Northcraft & Wolf, 1984; Wilson and Zhang, 1995c). Northcraft & Wolf (1984:233) suggest that investment decision makers can react differently to cost overruns as opposed to revenue shortfalls: “revenue shortfalls may be seen as gains foregone, but cost overruns [may be] felt as losses out of pocket”. But unfortunately, many escalation studies have not yet clearly specified whether set-backs result from higher than expected costs or from lower than expected revenues (McCain, 1986:283).

Moreover, little empirical research on investment escalation and de-escalation exists. One exception is Barton et al’s (1989:541) test which used employees with managerial experience as subjects, by which Staw and Ross’s (1987b:71) prescriptions for de-escalation based on research using students in controlled settings have received conditional support. Barton et al’s (1989:541) test conditionally supported Staw & Ross’s (1987a) recommendations to decouple responsibility for initial and subsequent decisions in a failing situation to reduce escalatory behaviour, but their findings did not support a reduction of project failure risk as a means of minimizing escalation of commitment to a failing course of action. Even less empirical research on investment escalation / de-escalation in a full organizational context exists. The single exception is Ross and Staw’s (1993:723-728) exploration that provides some additional grounding for an organizational theory of escalation and Drummond’s (1995) test of existing de-escalation models which provides us with a possible new dimension of research.

Table 7-5 summarizes some previous research on escalating commitment over the past 20 years. This review involves a computer search of the literature by using three key words (i.e. entrapment, escalation, & commitment). A manual search of selected journals (mainly management and psychology journals) dating back to 1975 has also been conducted. This literature search identifies 45 articles and book chapters on escalating commitment. However, Table 7-5 contains only about 35 studies covering both escalation and de-escalation research. It is exclusive of studies that are not based upon data (e.g. Bowen, 1987; Drummond, 1995; Bracken, 1992; Wilson and Zhang, 1995c; Wilson and Zhang, 1997; Staw and Ross, 1987). Moreover, the findings of each study listed in Table 7-5 have been based upon laboratory experiment(s) and are thus of questionable external validity. As a result, it is unwise to conclude that Table 7-5 offers a paramount view of the past research on escalating commitment in the investment decision-making context.
## Table 7-5. Summary of experimental research on escalating commitment

(Sources: various journals from 1975 to 1998)

<table>
<thead>
<tr>
<th>No.</th>
<th>Author</th>
<th>Year</th>
<th>Findings of each study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rubin &amp; Brockner</td>
<td>1975</td>
<td>The degree of entrapment (in Rubin and Bracken’s (1975) study) varied as a function of three factors: salience, queue position, and decrement.</td>
</tr>
<tr>
<td>2.</td>
<td>Staw</td>
<td>1976</td>
<td>Individuals tend to commit the largest amount of additional resources when they have been personally responsible for negative consequences.</td>
</tr>
<tr>
<td>3.</td>
<td>Staw &amp; Fox</td>
<td>1977</td>
<td>There were immediate effects of personal responsibility and efficacy of resources upon escalation behaviour, but these two variables interacted with the time factor.</td>
</tr>
<tr>
<td>4.</td>
<td>Staw &amp; Ross</td>
<td>1978</td>
<td>Individuals may process information differently after a failure as opposed to a successful experience, and that this differential processing may account for differences in commitment to policy decisions.</td>
</tr>
<tr>
<td>5.</td>
<td>Brockner, Shaw, &amp; Rubin</td>
<td>1979</td>
<td>The degree of entrapment may indeed be determined, at least in part, by cost salience: subjects are more entrapped when cost salience was low, and when in the “control” rather than the “public” condition</td>
</tr>
<tr>
<td>6.</td>
<td>Colon &amp; Wolf</td>
<td>1980</td>
<td>Supported are both the theory that trends in allocation behaviour demonstrated by Staw (1978) are contingent on the intervening cognitive process that develops a rationale for the allocation, and the notion that situational variables and personal styles in coping with problems affect allocations.</td>
</tr>
<tr>
<td>7.</td>
<td>Brockner, Rubin, &amp; Lang</td>
<td>1981</td>
<td>The instructions had a greater effect on subjects with high rather than low social anxiety, and individuals with high social anxiety who participated in front of a large audience were more influenced by the instructions than were those with low social anxiety but participated in front of a small audience.</td>
</tr>
<tr>
<td>8.</td>
<td>Brockner, Rubin, &amp; Lang</td>
<td>1981</td>
<td>Subjects invested more when cost importance was low rather than high, and reward importance had no effect.</td>
</tr>
<tr>
<td>9.</td>
<td>Brockner, Nathanson, Friend, Harbeck, Samuelson, &amp; Houser</td>
<td>1984</td>
<td>Modelling process can affect the entrapped decision maker. Individuals who witnessed entrapped models became significantly more entrapped than those who did not.</td>
</tr>
<tr>
<td>10.</td>
<td>Arkes &amp; Blumer</td>
<td>1985</td>
<td>Those who had incurred a sunk cost inflated their estimate of how likely a project was to succeed compared to the estimate of the same project by those who had not incurred a sunk cost.</td>
</tr>
<tr>
<td>11.</td>
<td>Bateman</td>
<td>1986</td>
<td>Prior failure sensitizes subjects to those aspects of incoming information pertinent to economic rationality. Reactance is the arousal of a competence motive and males are distinguished from females by a cluster of competence-related traits</td>
</tr>
<tr>
<td>12.</td>
<td>Bateman</td>
<td>1986</td>
<td>There is no indication that the escalation of commitment to a failing course of action is a general phenomenon, but decision-maker gender consistently influenced decisions through interactions with success/failure feedback and through the communicated attributions of “powerful others” regarding the causes of previous decision outcomes.</td>
</tr>
<tr>
<td>13.</td>
<td>Brockner, House, Lloyd, Birnbaum, Deitcher, Nathan- son, &amp; Rubin</td>
<td>1986</td>
<td>Decision-makers are more prone to entrapment to the extent that they view the negative outcomes associated with prior resource allocations as reflective of their self-identity.</td>
</tr>
<tr>
<td>14.</td>
<td>Brockner</td>
<td>1986</td>
<td>Individuals’ identification with outcomes markedly affects escalation decisions, and a moderator variable (i.e., performance feedback) can affect the overly simplistic view that identification with outcomes will inevitably lead to heightened commitment to an ineffective course of action.</td>
</tr>
<tr>
<td>15.</td>
<td>Singer &amp; Singer</td>
<td>1986</td>
<td>Individuals who are responsible for negative consequences may either reduce (in the case of sensitizers and externals) or maintain (in the case of repressors and internal) their commitments to the previously chosen course of action.</td>
</tr>
<tr>
<td>16.</td>
<td>McCain</td>
<td>1986</td>
<td>Escalation occurs during the first stage of investment, a process of de-escalation may be typical later on. The availability of alternative investment also limited escalation. Commitment may not be the dominant process in escalation and de-escalation.</td>
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<tr>
<td></td>
<td>Author(s)</td>
<td>Year</td>
<td>Summary</td>
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<td>-------------------------------------------------------------------------</td>
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<tr>
<td>17</td>
<td>Northcraft &amp; Neale</td>
<td>1986</td>
<td>Making opportunity costs more explicit alters the framing of such decisions and leads to decisions which more closely mirror traditional cost/benefit prescriptions.</td>
</tr>
<tr>
<td>18</td>
<td>Sandelands, Brockner, &amp; Glynn</td>
<td>1988</td>
<td>Persistence was greater in continuous than in the discrete condition. Task variables (e.g. ego-involvement) and dispositional (e.g self-esteem) factors moderate the effect of contingency perceptions on performance.</td>
</tr>
<tr>
<td>19</td>
<td>Hollenbeck, Williams &amp; Klein</td>
<td>1989</td>
<td>Commitment to difficult goals was higher when (a) goals were made public rather than private, (b) when locus of control was internal rather than external, and (c) when subjects were high in need for achievement.</td>
</tr>
<tr>
<td>20</td>
<td>Harwood, Pate, &amp; Schneider</td>
<td>1991</td>
<td>There was a shift to greater risk-taking when framing was shifted from positive to negative.</td>
</tr>
<tr>
<td>21</td>
<td>Garland</td>
<td>1990</td>
<td>Relative linear sunk-cost effects were observed in the groups who were asked to authorize additional resources for a threatened R &amp; D project.</td>
</tr>
<tr>
<td>22</td>
<td>Garland &amp; Newport</td>
<td>1991</td>
<td>Persistence was greater in continuous than in the discrete condition. Task variables (e.g. ego-involvement) and dispositional (e.g self-esteem) factors moderate the effect of contingency perceptions on performance.</td>
</tr>
<tr>
<td>23</td>
<td>Brockner, Tyler &amp; Cooper-Schneider</td>
<td>1992</td>
<td>The most negative reactions were exhibited by those who previously felt highly committed but who felt that they were treated unfairly by the organization.</td>
</tr>
<tr>
<td>24</td>
<td>Whyte</td>
<td>1993</td>
<td>Escalating commitment occurred in both individual and group decision making. Group decision-making amplified trends apparent at the individual level in terms of the frequency with which escalation occurred and its severity.</td>
</tr>
<tr>
<td>25</td>
<td>Harrison &amp; Harrell</td>
<td>1993</td>
<td>Subjects in adverse selection tend to continue unprofitable projects, but conditions associated with adverse selection had more influence on continuation decisions when projections were not strongly negative.</td>
</tr>
<tr>
<td>26</td>
<td>Schwenk</td>
<td>1988</td>
<td>Experts’ report can promote escalating commitment and that devil’s advocacy may be effective in reducing it.</td>
</tr>
<tr>
<td>27</td>
<td>Barton, Duchon, &amp; Dunegan</td>
<td>1989</td>
<td>Decision-makers who were initially responsible and received negative feedback were least likely to escalate, and the amount of risk perceived by the subjects may be more important to escalation behaviour than feeling of responsibility or disappointment.</td>
</tr>
<tr>
<td>28</td>
<td>Whyte</td>
<td>1991</td>
<td>Subjects in the individual-responsibility condition were more likely to escalate commitment than those who were in the group-responsibility condition, who in turn were more likely to escalate commitment than were subjects in the no-responsibility control condition.</td>
</tr>
<tr>
<td>29</td>
<td>Simonson &amp; Staw</td>
<td>1992</td>
<td>The most effective de-escalation procedures are 1) making negative outcomes less threatening, 2) setting minimum target levels, &amp; 3) evaluating decision-makers on the basis of their process rather than outcome.</td>
</tr>
<tr>
<td>30</td>
<td>Schaubroeck and Williams</td>
<td>1993</td>
<td>Global type A behaviour pattern and the underlying dimension of achievement are positively related to the desire to continue the chosen course of action in the high prior-responsibility conditions but not in the low prior-responsibility conditions.</td>
</tr>
<tr>
<td>31</td>
<td>Beauvois, Joule and Brunetti</td>
<td>1993</td>
<td>Subjects who were asked to cognitively justify their act tended to commit less resources into a chosen course of action while the subjects to whom the cognitive rationalization was blocked for the previous costly act were more likely to commit an even more costly act.</td>
</tr>
<tr>
<td>32</td>
<td>Schaubroeck and Davis</td>
<td>1994</td>
<td>Salient information concerning relative risk dominates the effect of prior performance information when alternative investments are considered in that responsible subject demonstrated classic escalation tendencies while non-responsible subjects exhibited a significant tendency to avoid reinvestment.</td>
</tr>
<tr>
<td>33</td>
<td>Bobocel and Meyer</td>
<td>1994</td>
<td>Escalating commitment was not significant in conditions of public or private justification but choices may be necessary for escalating commitment.</td>
</tr>
<tr>
<td>34</td>
<td>Wilson and Zhang</td>
<td>1995b</td>
<td>Subjects under high responsibility committed more resources to a chosen course of action but certain group of subjects under low responsibility also exhibited escalation in commitment (nearly as great as that under high responsibility conditions).</td>
</tr>
<tr>
<td>35</td>
<td>Rutledge</td>
<td>1995</td>
<td>Groups are subject to escalating commitment when they are responsible for a prior related investment decision.</td>
</tr>
</tbody>
</table>
7.6 Conclusion and recommendation

To sum up, escalating commitment is very likely to occur when an investment decision maker has the need to justify to himself or to others the previously chosen investment project.

Every mechanism that has emerged may typically explain one or more situations. Self-justification notions provide major explanatory power in some circumstances, and so does prospect theory, etc. However, neither self-justification nor prospect theory, nor any other mechanism entirely explains investment decision-makers' escalating commitment decisions, although the CPU theory attempts to integrate all other theories.

Apparently, it can be concluded that the findings of previous escalating commitment studies (please see Table 7-5) that are mainly based upon laboratory work are of questionable external validity. Hence, it seems necessary that the discrete escalating commitment literatures be critically synthesized and tested (e.g. via meta-analysis), that escalating commitment study be extended into real world settings (e.g. case study, field experiment and survey), and that the antecedents of escalating commitment be studied in different dimensions (Brockner, 1992:58), including marketing, financial, strategic, and behavioural aspects. In addition, it may seem very desirable and timely to conduct longitudinal research that concentrates on the investment decision-making process rather than the decision-making outcome, that considers more than one stage of the entrapping investment decision-making process (Wilson and Zhang, 1995c), and that includes variables covering different perspectives (e.g. individual, interpersonal, organizational, and environmental).
8. Escalating Commitment In Investment Decision Making: A Meta-analytical Synthesis

8.1 Introduction

The purposes of literature reviews include assessing the current state of knowledge, identifying directions for future research, guiding policy decisions, and advancing theory. Meta-analysis has been regarded as a useful technique for achieving these purposes (Guzzo, 1987:407). By extending Wilson and Zhang’s (1995b) original work, this study of the researcher aims to apply meta-analysis to assess existing mechanisms explaining escalating commitment, identify moderating variables worthy of future research, and highlight directions for future research. Structure-wise, this part of the thesis first focuses on the method, then the emphasis is placed on the coding of studies presented in the previous chapter (i.e. Table 7-5), and finally the research results are presented and discussed before further recommendations along this line of research are constructively made.

8.2 Method

Meta-analysis is an analysis of analysis - a methodology for quantitatively accumulating, integrating and evaluating findings across studies. A sound meta-analytical study is said (Zhang, 1993) to consist of five sequential steps: identifying appropriate studies, calculating effect sizes, testing effect size estimates, detecting moderating factors, and classifying effect sizes.

Therefore, in this study, 29 studies (i.e. 27 for escalation studies, and two for de-escalation studies) that are appropriate for meta-analysis were identified (Table 8-1 & Table 8-2), then effect size estimates were calculated by employing and computing the preferred Pearson's r (product momentum correlation coefficient), effect size estimates & significance levels were tested by assessing escalating commitment studies via six types of meta-analytical procedures as well as evaluating de-escalation strategies via four types of meta-analytical procedures (Table 8-1 & Table 8-2), and then moderators were detected by categorizing variables employed by authors of the original articles into several groups, and finally, literatures were synthesized by classifying effect sizes of interest.

<table>
<thead>
<tr>
<th>Table 8-1: Six types of meta-analytical procedures applied to escalation study</th>
</tr>
</thead>
<tbody>
<tr>
<td>(See Rosenthal, 1984:64)</td>
</tr>
<tr>
<td>Analytical Process</td>
</tr>
<tr>
<td>Comparing studies: Diffuse tests</td>
</tr>
<tr>
<td>Results Defined in Terms of</td>
</tr>
<tr>
<td>Significance Testing</td>
</tr>
<tr>
<td>Effect Size Estimation</td>
</tr>
<tr>
<td>Type A</td>
</tr>
<tr>
<td>Type B</td>
</tr>
</tbody>
</table>
There are 12 hypotheses involved in the study (Table 8-3). Among statistical methods involved in the study are (i) parametric statistical ones (e.g. ANOVA, F statistics, the protected t-test, linear regressing, and $\chi^2$ test) and (ii) non-parametric statistical ones (e.g., Spearman rank correlation, Kruskal-Wallis H test and Mann-Whitney U test).

| Hypothesis H1: | The $p$ values of the 27 studies being compared are significantly heterogeneous. |
| Hypothesis H2: | The effect sizes of the 27 studies being compared are significantly heterogeneous. |
| Hypothesis H3: | There is a significant linear relationship existing between the statistic significance of the 27 studies and certain moderating variable(s). |
| Hypothesis H4: | The 27 effect sizes either increase or decrease linearly with the number or amount of certain moderators. |
| Hypothesis H5: | The $p$ values of the 27 studies being combined are obtained when there was an overall relationship existing between variables employed by original authors. |
| Hypothesis H6: | The effect sizes of the 27 studies being combined are obtained when there was an overall relationship existing between variables employed by original authors. |
| Hypothesis H7: | Theories explaining escalating commitment differ significantly in terms of the mean effect sizes. |
| Hypothesis H8: | Independent variables moderate escalating commitment significantly differently in terms of the mean effect sizes. |
| Hypothesis H9: | The $p$ values of the two de-escalation studies differ significantly so that a different inference should be drawn from the results of the two studies. |
| Hypothesis H10: | The effect sizes of the two de-escalation studies differ significantly so that it is possible that the results of the two studies are heterogeneous |
| Hypothesis H11: | The $p$ values of the two de-escalation studies are obtained when there was a overall relationship existing between variables employed by original authors. |
| Hypothesis H12: | The effect sizes of the two de-escalation studies are obtained when there was a overall relationship existing between variables employed by original authors. |

8.3 Coding Studies

This research measures and codes study characteristics by relating the properties of the studies to the studies' findings so as to learn whether the findings differ depending on the characteristics of the studies (Table 8-4 & Table 8-5). The total of $N=27$ observations is ranked from the lowest (rank=1) to the highest (rank=27) (Welkowitz, 1982, 301). Only those statistics both reflecting the independent variables and applicable to the meta-analysis are included in this meta-analytical study. This extraction is subjective and is open to type II error (i.e. failing to detect...
some existing relations). Future research of similar sort should either re-analyze the raw data or cover all independent variables in the analysis.

### Table 8-4. Coded Studies on escalation and de-escalation of Commitment

<table>
<thead>
<tr>
<th>No</th>
<th>Author</th>
<th>Year</th>
<th>N</th>
<th>Explaining Theory</th>
<th>Cat</th>
<th>Independent variables</th>
<th>Focus</th>
<th>Category</th>
<th>Relevant Statistics</th>
<th>Pearson’s r</th>
<th>p value</th>
<th>Corrected Zr</th>
<th>Corrected r</th>
<th>r's rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sandelan</td>
<td>1988</td>
<td>60</td>
<td>Expectancy theory</td>
<td>EX</td>
<td>Task information, Ex-</td>
<td>M</td>
<td>Others</td>
<td>$F(1,52)=4.52, p&lt;0.04$</td>
<td>-0.318</td>
<td>0.025</td>
<td>-0.324</td>
<td>-0.313</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Brockner</td>
<td>1979</td>
<td>81</td>
<td>Self-justification</td>
<td>SJ</td>
<td>Cost salience</td>
<td>R</td>
<td>Salience</td>
<td>$F(1,75)=5.39, p&lt;0.025$</td>
<td>-0.259</td>
<td>0.025</td>
<td>-0.262</td>
<td>-0.256</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Brockner</td>
<td>1981</td>
<td>61</td>
<td>Face saving</td>
<td>OT</td>
<td>Cost &amp; reward importance</td>
<td>M</td>
<td>Salience</td>
<td>$F(1,57)=4.00, p&lt;0.05$</td>
<td>-0.256</td>
<td>0.05</td>
<td>-0.258</td>
<td>-0.252</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Northcarrt</td>
<td>1986</td>
<td>20</td>
<td>Prospect theory</td>
<td>EX</td>
<td>Opportunity costs &amp; Options</td>
<td>P</td>
<td>Others</td>
<td>$F(1,19)=4.9, p&lt;0.001$</td>
<td>-0.223</td>
<td>0.001</td>
<td>-0.245</td>
<td>-0.241</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>McCain</td>
<td>1986</td>
<td>100</td>
<td>Attribution theory</td>
<td>EX</td>
<td>Investment alternatives, commitment</td>
<td>M</td>
<td>Others</td>
<td>$F(1,96)=0.17, p=0.05$</td>
<td>-0.240</td>
<td>0.025</td>
<td>-0.242</td>
<td>-0.238</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Staw</td>
<td>1978</td>
<td>120</td>
<td>Reactance (S-I)</td>
<td>SJ</td>
<td>Responsibility</td>
<td>R</td>
<td>Responsibility</td>
<td>$F(1,116)=4.19, p&lt;0.05$</td>
<td>-0.187</td>
<td>0.05</td>
<td>-0.188</td>
<td>-0.185</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Staw</td>
<td>1977</td>
<td>96</td>
<td>Self-justification</td>
<td>SJ</td>
<td>Responsibility</td>
<td>R</td>
<td>Responsibility</td>
<td>$F(1,92)=1.31, p=0.05$</td>
<td>-0.245</td>
<td>0.05</td>
<td>-0.243</td>
<td>-0.240</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>Singer</td>
<td>1986</td>
<td>93</td>
<td>Reinforcement</td>
<td>SJ</td>
<td>Responsibility</td>
<td>R</td>
<td>Others</td>
<td>$k(91)=2.551,p&lt;0.02; t(91)=1.34,p=0.05$</td>
<td>-0.022</td>
<td>0.015</td>
<td>-0.022</td>
<td>-0.022</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Schaubroek &amp; Williams</td>
<td>1993</td>
<td>100</td>
<td>Type A behaviour pattern</td>
<td>OT</td>
<td>Responsibility, type A constant</td>
<td>P</td>
<td>Others</td>
<td>$t^2_1(1,N=94)=3.97, p&lt;0.05$</td>
<td>+0.067</td>
<td>0.05</td>
<td>0.084</td>
<td>0.065</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Garland</td>
<td>1991</td>
<td>36</td>
<td>Prospect theory</td>
<td>EX</td>
<td>SunkCost(amount &amp; proportion)</td>
<td>R</td>
<td>Sunk-cost</td>
<td>$F(1,102)=3.02, p&lt;0.05$</td>
<td>+0.097</td>
<td>0.05</td>
<td>0.095</td>
<td>0.094</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>Harrison</td>
<td>1993</td>
<td>78</td>
<td>Agency theory</td>
<td>OT</td>
<td>Adverse selection, Case</td>
<td>M</td>
<td>Others</td>
<td>$F(1,176)=24.38, p&lt;0.001$</td>
<td>+0.122</td>
<td>0.0001</td>
<td>0.121</td>
<td>0.126</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>Staw</td>
<td>1976</td>
<td>239</td>
<td>Self-justification</td>
<td>SJ</td>
<td>Responsibility, decision outcome</td>
<td>R</td>
<td>Responsibility</td>
<td>$F(1,235)=5.56, p&lt;0.019$</td>
<td>+0.152</td>
<td>0.019</td>
<td>0.153</td>
<td>0.151</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>Harwood</td>
<td>1990</td>
<td>257</td>
<td>Prospect theory</td>
<td>EX</td>
<td>Domain,framing, Alternative</td>
<td>M</td>
<td>Information</td>
<td>$t^2_1(1,N=257)=7.04, p&lt;0.01$</td>
<td>+0.166</td>
<td>0.01</td>
<td>0.167</td>
<td>0.165</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>Beauvois, Joule &amp; Brunetti</td>
<td>1993</td>
<td>604</td>
<td>Self-justification</td>
<td>OT</td>
<td>Act rationalization</td>
<td>R</td>
<td>Responsibility</td>
<td>$t^2_1(1,N=600)=7.83, p&lt;0.01$</td>
<td>+0.111</td>
<td>0.01</td>
<td>0.174</td>
<td>0.171</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>Schaubroek &amp; Davis</td>
<td>1994</td>
<td>195</td>
<td>Prospect theory</td>
<td>EX</td>
<td>Responsibility, risk of alternative</td>
<td>R</td>
<td>Sunk costs</td>
<td>$t^2_1(1,N=190)=5.33, p&lt;0.02$</td>
<td>+0.261</td>
<td>0.02</td>
<td>0.265</td>
<td>0.256</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>Wilson &amp; Zhang</td>
<td>1995</td>
<td>64</td>
<td>China mentality</td>
<td>OT</td>
<td>Responsibility, decision outcome</td>
<td>R</td>
<td>Responsibility</td>
<td>$F(1,60)=5.698, p&lt;0.05$</td>
<td>+0.262</td>
<td>0.05</td>
<td>0.266</td>
<td>0.257</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>Bateman</td>
<td>1986</td>
<td>99</td>
<td>Reactance theory</td>
<td>SJ</td>
<td>Responsibility, decision outcome</td>
<td>M</td>
<td>Information</td>
<td>$F(1,83)=5.983, p=0.017$</td>
<td>+0.260</td>
<td>0.017</td>
<td>0.263</td>
<td>0.258</td>
<td>17</td>
</tr>
<tr>
<td>18</td>
<td>Bateman</td>
<td>1986</td>
<td>99</td>
<td>Prospect theory</td>
<td>EX</td>
<td>Feedback &amp; feedforward</td>
<td>M</td>
<td>Information</td>
<td>$F(1,83)=8.195, p&lt;0.005$</td>
<td>+0.300</td>
<td>0.005</td>
<td>0.306</td>
<td>0.297</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>Rubin</td>
<td>1978</td>
<td>72</td>
<td>Conflicts</td>
<td>EX</td>
<td>Salience(queue, increment)</td>
<td>M</td>
<td>Salience</td>
<td>$F(1,64)=10.16,p&lt;0.005$</td>
<td>+0.378</td>
<td>0.005</td>
<td>0.392</td>
<td>0.373</td>
<td>19</td>
</tr>
<tr>
<td>20</td>
<td>Brockner</td>
<td>1986</td>
<td>45</td>
<td>Self-identity</td>
<td>SJ</td>
<td>Feedback, Identification</td>
<td>R</td>
<td>Others</td>
<td>$F(1,45)=7.76, p&lt;0.01$</td>
<td>+0.384</td>
<td>0.01</td>
<td>0.396</td>
<td>0.377</td>
<td>20</td>
</tr>
<tr>
<td>21</td>
<td>Garland</td>
<td>1990</td>
<td>407</td>
<td>Sunk costs effects</td>
<td>SC</td>
<td>Group condition &amp; Sunk costs</td>
<td>M</td>
<td>Sunk-cost</td>
<td>$F(1,122)=47.26,F(1,145)=26.17,p&lt;0.001$</td>
<td>+0.450</td>
<td>0.0001</td>
<td>0.484</td>
<td>0.449</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>Whyte</td>
<td>1993</td>
<td>325</td>
<td>Group polarization</td>
<td>OT</td>
<td>Decision frame, Performing unit</td>
<td>R</td>
<td>Group</td>
<td>$F(1,59)=22.7,p&lt;0.001$</td>
<td>+0.527</td>
<td>0.0001</td>
<td>0.584</td>
<td>0.526</td>
<td>22</td>
</tr>
<tr>
<td>23</td>
<td>Brockner</td>
<td>1984</td>
<td>52</td>
<td>Modelling processes</td>
<td>OT</td>
<td>Model’s influence</td>
<td>M</td>
<td>Others</td>
<td>$F(1,48)=25.81, p&lt;0.001$</td>
<td>+0.591</td>
<td>0.001</td>
<td>0.668</td>
<td>0.583</td>
<td>23</td>
</tr>
<tr>
<td>24</td>
<td>Arkes</td>
<td>1985</td>
<td>108</td>
<td>Prospect theory</td>
<td>SC</td>
<td>Sunk cost</td>
<td>R</td>
<td>Sunk cost</td>
<td>$t^2_1(1)=50.6, p&lt;0.0001$</td>
<td>+0.684</td>
<td>0.083</td>
<td>0.681</td>
<td>0.681</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>Whyte</td>
<td>1993</td>
<td>325</td>
<td>Uniformity</td>
<td>OT</td>
<td>Decision frame, Performing unit</td>
<td>R</td>
<td>Group</td>
<td>$F(1,59)=83.5,p&lt;0.001$</td>
<td>+0.765</td>
<td>0.0001</td>
<td>1.000</td>
<td>0.764</td>
<td>25</td>
</tr>
<tr>
<td>26</td>
<td>Rutledge</td>
<td>1995</td>
<td>213</td>
<td>Self-justification</td>
<td>OT</td>
<td>Responsibility, information framing</td>
<td>R</td>
<td>Group</td>
<td>$F(1,219)= 6.79, p&lt;0.0001$</td>
<td>+0.265</td>
<td>0.0001</td>
<td>0.262</td>
<td>0.259</td>
<td>26</td>
</tr>
<tr>
<td>27</td>
<td>Bobocel &amp; Meyer</td>
<td>1994</td>
<td>137</td>
<td>Self-justification</td>
<td>OT</td>
<td>Choice</td>
<td>R</td>
<td>Others</td>
<td>$F(1,133)=6.83,p&lt;0.01$</td>
<td>+0.270</td>
<td>0.01</td>
<td>0.278</td>
<td>0.274</td>
<td>27</td>
</tr>
</tbody>
</table>
Chapter 8 Escalating Commitment in Decision Making: A Meta-analytical Synthesis

8.4 Results

Table 8-5 summarizes the meta-analytical results of 27 studies of escalating commitment. It indicates that average effect size (Pearson’s r) =0.20, the sample standard deviation of effect sizes =0.33, and correcting for sample size influence raises the average effect size to 0.32.

<table>
<thead>
<tr>
<th>Correlations r's</th>
<th>Summary Statistics (Based on r, not on Zr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem leaf</td>
<td>Mean</td>
</tr>
<tr>
<td>0.7 6,6</td>
<td>Maximum</td>
</tr>
<tr>
<td>0.6 8</td>
<td>Quartile 3 (Q3)</td>
</tr>
<tr>
<td>0.5 8,3,3</td>
<td>Median</td>
</tr>
<tr>
<td>0.4 5</td>
<td>Quartile 1 (Q1)</td>
</tr>
<tr>
<td>0.3 8,7,0</td>
<td>Minimum</td>
</tr>
<tr>
<td>0.2 6,6,7,6,6</td>
<td>Q3-Q1</td>
</tr>
<tr>
<td>0.1 7,5,2</td>
<td>Δ * [0.75(Q3-Q1)]</td>
</tr>
<tr>
<td>0.0 9</td>
<td>Standard deviation (SD)</td>
</tr>
<tr>
<td>-0.0 2,3</td>
<td>N</td>
</tr>
<tr>
<td>-0.1 9</td>
<td>Range (from -0.31 to 0.76)</td>
</tr>
<tr>
<td>-0.2 6,5,4,4</td>
<td>Skewness =2(Q3+Q1)-2Median)/(Q3-Q1)</td>
</tr>
<tr>
<td>-0.3 1</td>
<td>Proportion of positive sign</td>
</tr>
</tbody>
</table>

The Results of the Six Types of Tests

- Type A (comparing 27 studies): diffuse test-significance level. df=26, χ²(1)=67.013, p<0.0002. The 27 p values compared are clearly significantly heterogeneous. H1 is accepted.

- Type B (comparing 27 studies): diffuse test-effect size estimation. df=26, χ²(1)=257.028, p<0.0008. The 27 effect sizes (r's) compared are clearly significantly heterogeneous. H2 is accepted.

- Type C (comparing 27 studies): focused test-significance testing. Z=3.134, p<0.0003, one-tailed. The 27 p values compared tend to grow linearly more significant as the number or degree of some 'moderators' increases. H3 is accepted.

- Type D (comparing 27 studies): focused test-effect size testing. Z=3.474, p<0.0008, one-tailed. The 27 effect sizes (r's) compared tend to grow linearly more significant as the number or degree of some moderators increases. H4 is accepted.

- Type E (combining 27 studies): significance testing. Z-weighted=5.936, p<0.0001. The 27 p values combined show the greatest heterogeneity. H5 is accepted.

- Type F (combining 27 studies): effect size testing. Zr=0.179, r=0.169 (if corrected by sample size, Zr=3.173, r=0.321). The 27 effect sizes (r's) combined produce a new r (based on substantial sample sizes) that tends to show a somewhat moderate relationship between dependent and independent variables employed in different experiments. H6 is accepted.

The Results of Further Statistical Analysis

- Correlation between effect size (r) and Z value: 0.846, r = 0.058 + 0.163*standardised value Z. t=7.35, p<0.001), which shows a strong positive relationship as expected.

- Correlation between effect size (r) and the sample size of each study: r= 0.4259, Effect size(r)= -0.0807 + 0.003 *sample size(N). A t-test (t=2.37, p<0.05, 2-tailed) shows the correlation does exist in the population.

- When effect size (r) is classified by independent variables in terms of Information, Salience, Responsibility, Sunk cost, Group consideration, and Others, a one-way ANOVA shows that six variables share with each other the equal means (SSwithin=1.567, SSbetween=1.370, MStotal=0.294, MSwithin=0.134; F=2.897, p<0.05). However, a protected t-test shows conditional support. Further, a non-parametric test (Kruskal-Wallis H-test) confirms that the above six groups have the equal means (SSB=362.120, H=8.973, p<0.001).

- When effect size (r) is classified by the focus of independent variables, a two-population variance test is indicative of the same variance among Retrospective and Mixed focus of independent variables (F=1.89, p<0.0001, SS=0.413 Ss=0.675), but the former have a larger average effect size (r=0.2345 > r=0.218). A t-test also confirms that two populations have the same means (Spooled=0.236, t=1.237, p<0.05). Moreover, Mann-Whitney U-test also confirms that two samples are from symmetrical populations with equal means (U=37, 1.96 > Z=1.524 > -1.96, at α=0.05). H17 is rejected.

- Relationship between effect size and the explaining mechanism, when characterised by Self-justification, Expectancy, Sunk cost and Others (when assigned with a descending rank accordingly): Spearman's correlation coefficient rs = -0.7, which shows a weak correlation. The t-test (6.314 > t = -1.29 > critical value -3.14, at α=0.05) implies that the actual and pre-assigned rankings do not differ significantly. Further, a one-way ANOVA also shows that the means of the effect sizes of the explaining mechanisms do not differ significantly from each other (SSwithin=1.466, df=17; SSbetween=1.103, df=3; MSwithin=0.121; F=3.17, p<0.05). A protected t-test shows moderate support. Moreover, a non-parametric test (Kruskal-Wallis H-test) confirms that the above four groups have the equal means (SSB=256.986, df=3, H=6.05, p<0.05). H17 is rejected.
Table 8-6 Summary of the meta-analytical evaluation on de-escalation strategy

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>N</th>
<th>De-escalation Strategy</th>
<th>Independent Variables</th>
<th>Reported statistics</th>
<th>Pearson's r</th>
<th>p value</th>
<th>Z value</th>
<th>Fisher's Zr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schwenk</td>
<td>1988</td>
<td>112</td>
<td>Devil's adversity</td>
<td>Reducing Self-justification, Simulating accurate decision making</td>
<td>$F(1,108)=0.333, p&lt;0.565$, $F(1,108)=0.111, p&lt;0.739$</td>
<td>-0.044</td>
<td>0.329</td>
<td>0.44</td>
<td>-0.044</td>
</tr>
<tr>
<td>Simonson</td>
<td>1992</td>
<td>193</td>
<td>Gender &amp; Treatments</td>
<td>Task conditions (levels)</td>
<td>$F(1,183)=5.49, p&lt;0.05$, $F(1,183)=3.94, p&lt;0.05$, $F(1,183)=4.07, p&lt;0.05$, $F(1,183)=12.41, p&lt;0.01$</td>
<td>-0.07</td>
<td>0.04</td>
<td>1.75</td>
<td>-0.07</td>
</tr>
</tbody>
</table>

* Type G (comparing 2 studies): significance testing. $Z=-0.926$, $p=0.177$, one-tailed. The 2 p values compared do not differ statistically significantly. H9 is rejected.

* Type H (comparing 2 studies): effect size testing. $Z=0.031$, $p=0.012$, one-tailed. The 2 effect sizes (r's) compared differ statistically significantly. H10 is accepted.

* Type I (combining 2 studies): significance testing. $Z=1.614$, $p=0.053$. This test shows that the overall significance level might be non-significant. H11 is rejected.

* Type J (combining 2 studies): effect size testing. $Z=-0.061$, $r=0.06$. This combination produces a new effect size that is indicative of a very small effect. H12 is rejected.

Dividing the studies on the basis of independent variables employed in the 27 studies as shown in Figure 8-1 results in an average effect size of -0.05 for 'Salience', an average effect size of -0.06 for Responsibility, an average effect size of 0.24 for 'Information', an average effect size of 0.37 for 'Sunk cost', an average effect size of 0.52 for 'Group consideration', and an average effect size of 0.07 for 'Others'.

![Figure 8-1. Effect size (mean) classified by independent variables](image)

Dividing the studies on the basis of explaining mechanisms used by the original authors of the 27 studies as shown in Figure 8-2 results in an average effect size of 0.042 for 'Self-justification', an average effect size of 0.049 for 'Expectancy theory' (Prospect theory included), an average effect size of 0.567 for 'Sunk cost effects', and an average effect size of 0.201 for 'Others'.

Dividing the studies on the basis of the focus of independent variables employed in the 27 studies as shown in Figure 8-3 results in an average effect size of 0.24 for 'Retrospective focus', an average effect size of 0.13 for 'Mixed focus', and an average effect size of -0.09 for...
'Prospective focus'.

Figure 8-2: Effect size (mean) as classified by explaining mechanism

- Sunk costs: 52.00%
- Expectancy: 30%
- Self-justification: 8%
- Others: 5%

Figure 8-3: Effect size (mean) as classified by focus of independent

- Retrospective: 29%
- Prospective: 57%
- Mixed: 14%

8.5 Discussion

This meta-analysis accumulates, synthesizes, and evaluates the research findings on escalating commitment in order to provide information for theory development and future research on escalation. Among confirmed Hypotheses are H1, H2, H3, H4, H5, H6, and H10; and those not proven are H7, H8, H9, H11 and H12 (Refer to Table 8-4). The results can help answer some old questions and point out some new directions for research.

Q8.1. Is escalating commitment a general phenomenon (e.g. Bowen, 1987; Zhang, 1993)? The results of this meta-analysis (Type F test) reveal that the overall effect of escalating commitment is not large at all (effect size $r=0.169$, corrected $r=0.321$). However, this does not mean that the escalating commitment phenomenon should be ignored since,
depending upon the costs and benefits of an investment decision made, effect sizes much
smaller than this can still be of practical significance (Rosenthal & Rubin, 1982). Meanwhile,
given the small observed effect size of escalating commitment, its effect will
more likely be washed out by the random error inherent in the real world than would have
occurred had the effect size been larger. Further, this analysis fails to consider escalating
commitment in the light of the stages of the entrapping process. Variables yielding little
effect in the earlier stage might exhibit large effects later in the process.4

Q8-2. Is escalating commitment literature consistent (e.g. Brockner, 1992; Wilson and Zhang,
1995a; Wilson and Zhang, 1997)? This meta-analysis confirms the discreteness of current
escalating commitment literature (e.g., Brockner, 1992: 40). Two diffuse tests (Types A &
B) exhibit that the findings of the 27 studies are obviously significantly heterogeneous.
Moreover, the overall significance level of 27 studies (Type E combining test) shows the
greatest heterogeneity. However, this heterogeneity could be due to the heterogeneity of
effect sizes and/or sample sizes.

Q8-3. Is self-justification relevant to escalating commitment decisions (e.g. Bowen, 1987: 54)? A
controversy resulting from this meta-analysis further complicates the answer. The results
of this meta-analysis imply that self-justification has been most widely used to explain
escalating commitment but it does not tend to possess a large effect. When classified by
research strategies (e.g. independent variables), the mean effect sizes of variables
favouring Self-justification such as Salience and Responsibility still tend to be rather low
and indicative of a rather small effect. But several separate tests indicate that all strategies
share with each other the same mean effect size (see Table 8-5). This controversy could
derive from the inconsistency of the previous literature or result from random sampling
errors. The lack of sufficient data and the incompleteness of the design of this meta-
analysis could also contribute to this controversy. What is more, the small mean effect
size of self-justification could also be due to the possibility that the laboratory settings are
not overly conducive to studying self-justification processes, thus underestimating the
role of the self-justification motive in the entrapping process. Last, lack of consideration
of the stage of the entrapping process might also contribute to the smaller effect of self-
justification.

Q8-4. Can we identify the strongest determinants of escalating commitment (Staw, 1978; Wilson
and Zhang, 1995c)? The results of this meta-analysis tend to provide a positive answer.
The results of the two focused comparing tests (Types C & D) confirm the existence of
some moderating variable(s) which linearly affect(s) escalating commitment. Although the mean effect sizes of independent variables (as coded in this meta-analysis) do not differ significantly (see Table 8-5), some variables tend to attract more attention. However, this result could have resulted from contradictory data that prevails in previous literatures. The identification of the strongest determinants can be realized either by further moderation of variables when supplemented by sufficient accurate data, or by empirical research focusing on the particular context in which escalating commitment appears, or both. However, there is always a danger that analyses showing a simple correlation between escalatory behaviour and a set of variables may not specify the causal relationship between them.

Q8-5. Should sunk cost be irrelevant in decision making (Arkes, 1985; Wilson and Zhang, 1997)? The results of this meta-analysis tend to confirm the belief (Mepham, 1987: 304) that sunk cost could be relevant in some investment decision making situations. All studies concerning sunk cost effects indicate an effect size that is positive (see Table 8-5). Further, when the effect sizes are classified by explaining mechanisms, 'Sunk cost effects' possess a large effect, the highest of all (see Figure 8-2). When the effect sizes are classified by independent variables, 'Sunk cost' also possesses an above 'median' effect (See Figure 8-1). Although it is far too early, partly due to insufficient data, to conclude that sunk cost plays a very important role in explaining escalating commitment, it is not unreasonable to conclude that sunk cost can be relevant in some entrapped investment decision making situations.

Q8-6. Are other mechanisms "replacing" (e.g. Bowen, 1987; Whyte, 1986) "supplementing" (Brockner, 1981, 1984), or "unifying" (Wilson and Zhang, 1995c) self-justification? This meta-analysis has not yielded much evidence yet. The results imply that self-justification might still provide the most important explanation of the escalating commitment phenomenon, and that other theories can also be promising. However, the lower mean effect sizes of 'self-justification', as compared with others enjoying a large effect (see Table 8-5), could be due to, inter alia, the heterogeneity of effect sizes. In addition, apart from the insufficiency of data and random sampling errors, the definition of effect size as well as the artificial categorisation of theories per se, does not seem complete. Although effort has been made to moderate some variables in order to detect some causal relationships between escalating behaviour and research strategies, less convincing results have been reached. Further exploration is restricted by the discreteness of the previous
literature as well as insufficient data. Future research of a similar sort could extend the analysis into moderating research strategies that are replacement or supplement oriented, and/or moderating variables covering both decision outcomes and the stages of entrapping processes. Thus effort needs to be directed to either longitudinal empirical research or further meta-analysis equipped with sufficient data and a complete design, before one can conclude that self-justification is being replaced or supplemented by other mechanisms.

Q8-7. Is de-escalation accessible (Simonson & Staw &, 1992)? The results of this meta-analysis reveal that de-escalation strategies might provide converging evidence in favour of de-escalation but the solution is by no means universally accessible. Two comparison tests (Type G & H) indicate that although the results of different strategies are heterogeneous a similar inference can be reached. The combining test (Type J), however, illustrates that the two de-escalation approaches coded in this analysis only possess a very small effect, although the combining test (Type I) moderately supports the view that different de-escalation strategies tend to provide converging evidence in favour of de-escalation (see Table 8-6). However, this meta-analytical result can only be viewed as tentative, partly because of its small sample size (two studies only), lack of empirical testing and its high subjectivity.

Q8-8. Is the current research heading in the right direction (Northcraft, 1984, Brockner, 1992, Zhang, 1993)? The results of this meta-analysis call for invoking empirical research in a real world setting. This meta-analysis leaves several old questions still unanswered. Further deepened analysis demands more laboratory thinking focusing on specific areas that might help clarify those unanswered questions. It is also necessary to invoke a wide variety of alternative interpretations to account for results that could result from different research strategies. But the real solution to the escalating commitment problem might well lie in empirical research aimed to test and advance the existing theories within a full entrapped investment decision making context covering different stages of the entrapping process.

8.6 Conclusion and recommendation

In spite of the limitations previously mentioned, this meta-analytical work generally supports current wisdom about escalating commitment. First, the meta-analysis provides some support for the conclusions reached by various organizational theorists including, inter alia, (a) escalating commitment literature is inconsistent (e.g. Brockner, 1992; Staw & Ross, 1987), (b)
self-justification explains escalating commitment, and so does prospect theory and other theories (e.g. Brockner, 1992; Wilson, 1993), (c) sunk cost relates to escalating commitment (e.g. Arkes & Blumer, 1985; Garland, 1991), (d) the strongest determinants of escalating commitment can be identified (e.g. Staw & Ross, 1978), (e) different de-escalation strategies yield converging evidence favouring de-escalation (e.g. Sandelands & Staw, 1992). Second, the meta-analysis further confuses escalating commitment scholars on (a) whether or not escalating commitment is a general phenomenon (Bowen, 1987), (b) whether or not self-justification is relevant to escalating commitment situations (Bowen, 1987), and (c) whether or not self-justification is being replaced or supplemented by other mechanisms (Whyte, 1986, Brockner, 1992).

Though highly open to inconclusiveness, these meta-analytical results provide some clear avenues as well as directions for future research. First, it is important for organizational and investment control scholars to conduct research that can specifically test the causal structure of relationships between entrapping behaviour and its determinants. Second, it is necessary to conduct longitudinal empirical research that considers more than one stage of the entrapping process and includes variables covering different perspectives (e.g. individual, interpersonal, organizational, environmental). Finally, the meta-analytic procedure itself could be usefully extended to allow for the testing of escalating commitment literature as well as detecting causal relationships between specific facets of research strategies and entrapping behaviour.11

Based upon the fact that research on studies of escalating commitment shows inconsistent results, this study provides three recommendations:

QR8-1. future escalating commitment research be directed toward empirical research into real world situations, involving different stages of the entrapping process, as well as different perspectives (e.g. financial, strategic, psychological, operational, social, ideological, organizational, and environmental);

QR8-2. further meta-analysis with complete design and sufficient data be carried out to detect the causal relationships between entrapping behaviour and specific facets of research strategies; and,

QR8-3. more laboratory or field experiments be conducted to compare and contrast, as well as advancing existing mechanisms explaining the escalating commitment phenomenon.

Putting it in practical terms, all this means that,

QR8-1, Q6-1, and Q1-6, along with Figure 3-2, Q4-10, Q4-22, Q5-2,9,10,12,14,15,16,17&18, QC6-1,2,3,4,5,6&7, QB6-1,2,3,4,5,6&8, Q6-4,5,6,7&8, and Q8-
1&2 would indicate that a longitudinal case study be undertaken in Chapter 9 to examine the *escalation* of commitment to an investment project involving different stages of the entrapping process as well as different perspectives of decision-making;

QR8-3, Q6-2, and Q1-5, along with Figure 3-2, Q4-7,10, Q4-23, Q4-20&21, Q5-2,6,9,10,11,12,14,15,16,17&18, QC6-1,2,3,4,5,6&7, QB6-1,2,3,4,5,6&8, Q6-4,5,6,7&8, and Q8-5&7 would suggest that field experiments be undertaken in Chapter 10 to examine de-escalation mechanisms; and,

QR8-1, Q6-3, and Q1-3,4,5&6, along with Figure 2-8, Table 2-2, Figure 3-2&4, Q4-10, Q4-21, Q5-31, Q5-1,3,4,5,6,7,13,14&18, QB6-1,2,3,4,5,6,7&8, Q6-4,5,6,7&8, and Q8-5&7 would suggest that a survey study be undertaken in Chapter 11 to probe effective practices of strategic control and factors influencing strategic control in the investment decision-making process.

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1 However, this approach like any others has some limitations such as internal, external, statistic, or construct validity and / or usefulness.

2 For example, *explaining mechanisms* are categorized into four groups: Self-justification, Expectancy theory (covering prospect theory), Sunk cost effect, and Others. *Independent variables* are grouped into six categories: Responsibility, Salience, (Prospective) Information, Sunk cost, Group consideration, and Others. Research focuses are classified into three types: Retrospective, Prospective, and Mixed focuses.

3 Cohen (1977) proposes the following commonly used guide-lines for interpreting r: r=0.1 (small effect), r=0.3 (median effect), and r=0.5 (large effect).

4 For example, Brockner et al (1982) find that face-saving variables have no effect on individuals’ resource allocation behaviour earlier in the process but show significant effects on investment decision-making behaviour later on.

5 For instance, three separate statistical tests unanimously conclude that the mean effect sizes among four categories of explanatory mechanisms (namely, self-justification, expectancy, sunk cost effect, and others) do not differ statistically significantly (Table 8-5).

6 However, contrary to the overall results, a protected t-test indeed shows that the mean effect size of 'sunk cost' does differ statistically significantly from that of 'Self-justification'. (See Table 8-5).

7 For example, Self-justification shows the greatest inconsistency in terms of the sign of correlations observed (See Table 8-5), and the sign of effect sizes contributes greatly to the lower average effect sizes of 'Self-justification'.

8 However, a protected t-test shows that the average effect size of 'sunk cost' does differ statistically significantly from that of 'self-justification'. (See Table 8-5).

9 For example, the sunk cost effect itself has been considered as being under the umbrella of prospect theory (Arkes, 1985; Garland, 1991). Future meta-analysis could involve, say, Glass et al's (1981:29) D as effect size to further compare the variance in mean effect sizes of both 'control' and 'experimental' groups.

10 For example, effort made to moderate variables reflecting the effect of self-justification as well as that of prospect theory and self-presentation theory on entrapping behaviour could help elucidate what status should be assigned to the self-justification explanation of escalating commitment.

11 It is possible that, by identifying the statistically significant and nonsignificant determinants of escalating commitment, the meta-analytical results could guide the selection of research strategies (e.g. independent variables). For example, future research could direct comparatively less effort to replicate the results for strong and significant determinants of escalating commitment such as 'sunk costs'.
9. Escalation: A Longitudinal Study Of An Entrapped Strategic Alliance

9.1 Introduction

Research around the theme of escalation of commitment has increased over the past two decades. Most research has concentrated on replicating or testing previous results. Two things seem neglected: vertically, little effort has been made to clearly define and redefine escalation; horizontally, little effort has made to identify new potential territories or to search for new themes of escalation study. This study of the researcher tries to make some contribution to these two dimensions. It aims to examine the escalation of commitment to an entrapped strategic alliance involving different stages of the escalatory process as well as embracing different perspectives of decision-making. To achieve the goal, this part of the thesis first reconsiders the escalating commitment phenomenon, then it contrives the study of escalation, before it consequently describes the case and finally interprets the results.

9.2 Escalating commitment reconsidered

It has been well recognized that cost overrun and revenue shortfall exert different effects on investment decision-making (Northcraft & Wolf, 1984), and that not every cost overrun should be regarded as cost escalation, nor should every revenue short-fall be attributed to an escalation of cost (Wilson and Zhang, 1995c). In a similar vein, not every resource overrun should be regarded as commitment escalation, nor should every achievement short-fall be attributed to an escalation of commitment (Zhang, 1993). For example, some apparently certain resource increases such as cost overruns may not, by definition, be commitment escalation at all.

Expanding on the original work of Zhang (1993) and Wilson and Zhang (1995c), a new framework has been developed here to describe the relationship between resource allocation and resource escalation. This point is further illustrated in Table 9-1 wherein $K(>1)$ is a hypothetical number used to represent the realistic estimation (as compared to over-estimate or under-estimate) of resource requirement and $J (0<J<K)$ is a hypothetical number representing the pre-established tolerance for deviation. $K$ is operationalized by budget, $J$ is operationalized by operating standard for deviation, and the unit resource is held constant, all being used purely for the simplicity of illustration.

In short, resource escalation should mean unanticipated resource increases against realistically needed resources, the difference between expended resources and the resources realistically required. To illustrate, among the 25 cells depicted in Table 9-1, only 10 out of 13 cells which apparently involve overruns can be regarded as instances of resource escalation. The principle of
Table 9-1 is also applicable to the relationship between achievement shortfall and resource escalation although further analysis needs to be done (such as calculating the variance of unit resource and the quantity of inputs, and that of the unit price and the quantity of sales). Thus, for it to be meaningful, commitment escalation in the investment decision-making context should mean an unanticipated increase in commitment of resources against a realistically needed commitment of resources (be they time, funds, effort, etc.).

<table>
<thead>
<tr>
<th>Resource expended ≤ (K-J)</th>
<th>Apparently neither saving or escalation; but biggest saving, really</th>
<th>Slightly under-estimated budget ≤ (K-J)</th>
<th>Apparently small saving; but big saving, really</th>
<th>Realistic estimation budget = K</th>
<th>Slightly over-estimated budget &gt; K</th>
<th>Highly over-estimated budget &gt; (K+J)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(K-J)&lt; resource expended ≤ K</td>
<td>Apparently neither saving nor escalation, really</td>
<td>Apparently neither saving nor escalation; but small saving, really</td>
<td>Apparently small saving and small saving, really</td>
<td>Apparently bigger saving; but small saving really</td>
<td>Apparently bigger saving; but bigger saving, really</td>
<td>Apparently biggest saving; but bigger saving, really</td>
</tr>
<tr>
<td>K&lt; resource expended &lt; (K+J)</td>
<td>Apparently bigger escalation; but small escalation, really</td>
<td>Apparently bigger escalation; but neither saving nor escalation, really</td>
<td>Apparently bigger escalation; but neither saving nor escalation, really</td>
<td>Apparently bigger saving; but neither saving nor escalation, really</td>
<td>Apparently bigger saving; but neither saving nor escalation, really</td>
<td>Apparently biggest saving; but neither saving nor escalation, really</td>
</tr>
<tr>
<td>Resource expended &gt; (K+J)</td>
<td>Apparently biggest escalation; but big escalation, really</td>
<td>Apparently biggest escalation; but big escalation, really</td>
<td>Apparently biggest escalation and big escalation, really</td>
<td>Apparently biggest escalation and big escalation, really</td>
<td>Apparently biggest escalation and big escalation, really</td>
<td>Apparently biggest escalation and big escalation, really</td>
</tr>
</tbody>
</table>

Relations between entrapment and escalation: The escalating commitment phenomenon has several names: “knee deep in the big muddy” (Staw, 1976), “too much invested to quit” (Tegar, 1980), “the sunk cost effect” (Arkes & Blumer, 1985), “the dead loss effect” (Kahneman & Tversky, 1984), “putting off the evil day” (Wilson and Zhang, 1995c), and “entrapment” (Bracken & Rubin, 1985). All this refers to the tendency to continue an endeavour, regardless of its merits; once any investment in time, effort, or other resources has been made. The common element across terms is the recognition that people often consider that the resources expended remain relevant in decision-making (Wilson and Zhang, 1995c).

While ‘knee deep in the big muddy’, ‘the sunk cost effects’, ‘too much invested to quit’ and ‘the dead loss effect’ each reflect a branch of the same line of research on escalating commitment, “entrapment” and “putting off the evil day” represent one independent line of research on the escalation of commitment in situations where decision-makers tend to persist with failing courses of action (Zhang, 1993). Simply put, E2 epitomizes entrapment and E2 plus C1 epitomizes escalating commitment. E2 and C1 cannot co-exist at a given point of time but remain interchangeable over time. That is, E2 and C1 each can beget C1, E2, C2 and E2 (see Figure 9-1).
To illustrate this, it is necessary to further distinguish entrapment from escalation of commitment in a broader context. Figure 9-2 which approximates the flow of investment escalating commitment is used here to provide a metaphor for the relations between escalation and entrapment. Escalation refers to a continuing strategy to carrying on a course of action which contextually contains both “carpe diem” (make the most of the present) and “putting off the evil day” while entrapment exclusively accords with “putting off the evil day” (Wilson and Zhang, 1995c).
Entrapment and escalation are analytically separable (Wilson et al., 1992) but are often related because they share with each other what has been called the 'ego involvement' (i.e. a tendency by which individuals are likely to attach psychological importance to their behaviour (Bracken et al., 1986)). More specifically, entrapment typically refers to situations in which decision-makers incur small, continuous losses as they seek or wait for an eventual goal (Bowen, 1987; Bracken et al., 1982; Bracken & Rubin, 1985; Proctor, 1992; Zhang, 1993; Rubin & Bracken, 1975; Wilson & Zhang, 1995a). Despite the fact that in most commitment escalation studies it has been found that persistence in pursuing a goal magnifies losses, an entrapment study distinguishes itself from others by a major operational difference in that, whereas others have made the amount of investment an independent decision (e.g. McCain, 1986; Staw, 1976), an entrapment study has made increasing investment a strict function of a waiting game, i.e. delaying the economically-sound actions in the hope of acting more effectively later (Zhang, 1993).

Commonalties of escalating commitment: Previous research results (Bracken et al., 1984; Zhang, 1993) suggest that escalating commitment can be found in many situations which contain the following features: (a) the same parameter may be seen as both an investment or an expense; (b) both the cost associated with continuing and the presumed proximity to the desired goal increase as additional resources are invested; (c) the decision-makers must believe at the outset that the probability of attaining the goal is uncertain or, if it is certain, an investment completely disproportionate to their available resources is required; (d) the decision-makers must always have alternatives which lead them to either continue or withdraw from the escalating conflicts; (e) decision-makers’ perceptions of their motivations for the course of action change from being rational to rationalizing over time; and (f) escalating commitment is behaviourally self-perpetuating, at least up to a point.

Escalating conflicts: After the clarification of the meaning of entrapment and of escalation, it becomes more sensible to tease out, by means of logical reasoning, the root from which escalating commitment phenomena derive, so as to provide a thematic description and/or explanation of the phenomena. Wilson and Zhang (1995) extract from the above-mentioned presumed commonalties of escalating commitment and the research findings of Zhang (1993) and posit that investment escalating commitment can be better mirrored by investment decision-makers’ continuously augmenting resource allocations to a failing project after experiencing a series of conflicts occurred in the decision-making process. This certainly includes self-justification (Staw, 1978), prospect theory (Kahneman & Tversky, 1979), CPU theory (Wilson and Zhang, 1995c) and China mentality (Wilson and Zhang, 1995b). It has also been posited (Wilson and Zhang, 1995c; Zhang, 1993) that there are at least eleven foreseeable and
unforeseeable major conflicts occurring in the decision-making process which include (a) a set of three conflicts during the justification of the correctness of the initial decision, (b) a set of two conflicts on whether or not to withdraw from the investment, (c) a set of two conflicts on whether or not to persist in the investment, (d) a set of two project-specific-factor related conflicts, and (e) a set of two organization-specific-factor related conflicts.

Antecedents of escalating commitment: It would seem that investment escalating commitment can remain a function of many conflicting factors which change over time and space, and that business uncertainty, ambiguity, and complexity around investment decision-making are responsible for various conflicts occurring in the investment decision-making process. Wilson and Zhang (1995c) propose that there are foreseeable investment-related conflict factors which specifically contribute to escalating commitment and they are, among other things, (a) the costs already incurred, (b) any further investment required, (c) the probability of attaining the goal, (d) the probability of the investment's failing, (e) the perceived future probability of both the ongoing and opportunity investments, and (f) the 'stickiness' of the project such as the salvage value of both the amount of funds already spent and the remaining resources. Zhang (1993) proposes that unforeseeable investment-related conflict factors which directly or indirectly influence escalating commitment include (a) mental gains and losses which can induce error in investment decision-makers' financial calculation such as reinforcement traps, self-justification, self-inference, and information processing, (b) cultural norms about gains and losses which can distort investment decision-makers' economic calculations and foster inappropriate decision-making (e.g. face-saving, external justification, external binding, competition, modelling, pressure for uniformity, norms), and (c) constitutional contingencies about gains and losses which can exceedingly complicate accounting concepts and methods (e.g. economic and technical side-bets, political support, administrative inertia and institutionalization).

Conflicting utilities of an ongoing investment: Zhang (1993) conceives that, for any decision resulting in either actions or non-action, there are four possible utilities (persisting, withdrawing, time-biding, and experimenting) all of which jointly constitute a utility collectivity. As can be seen in Figure 9-3, the utilities (be they project, psychological, environmental, social, ideological, operational, etc.) of persisting, withdrawing, time-biding, and experimenting interlink as well as conflict with each other.

Wilson and Zhang (1995c) further propose that, the utilities of withdrawing from an investment include certain loss of start-up as sunk costs, certain gain of start-up as salvage value, possible loss due to future gain and possible gain due to future loss; the utilities of persisting include certain loss of return from diversion as opportunity cost, certain gain from diversion as salvage
value of diversion, a high probability of further loss and a small probability of recouping initial investment; that the utilities of time-biding include possible loss due to neither withdrawing nor persisting, possible gain due to neither persisting nor withdrawing, certain gain due to neither persisting nor withdrawing, and certain loss due to neither persisting nor withdrawing; and the utilities of experimenting include possible gain by experimenting, possible loss by experimenting, certain gain by experimenting and certain loss by experimenting.

A careful look at the major concerns regarding both actions and non-action which contribute to the escalating commitment syndrome tends to reveal that escalating commitment reflects a compromise among the perceived utilities of withdrawing, persisting, time-biding and experimenting, with escalating commitment occurring particularly when the utility of persisting eventually outranks that of others even though the utility of others (especially of time-biding and withdrawing) once outranked that of persisting in the decision-making process.

Escalating processes: Escalating commitment can be triggered by various forces and the antecedents of escalating commitment can also change over time. In order to acquire insights into the nature of investment escalating commitment, Zhang (1993) employs the product life cycle to approximate the investment life cycle (Figure 9-4) to suggest that escalating commitment occurs and begets further escalating commitment only when the driving forces overwhelm the constraints at different stages of the escalating process or when the utility of persisting somehow overwhelms that of others.

Wilson and Zhang (1995c) further explore the escalating process by arguing that, highly positive economic utilities strongly influence the start of the investment, that economic utilities often play an important role in facilitating escalating commitment in the growth stage of the investment life cycle, that both economic and psychological utilities associated with the investment play a significant role in facilitating escalating commitment in the maturity stage of the investment life cycle, that both psychological and social utilities of the investment play an
important role in facilitating escalating commitment in the saturation stage of the investment life cycle, and that economic, psychological, social and structural utilities all play an important role in causing escalating commitment in the decline stage of the investment life cycle.

**Figure 9-4: Escalating processes via an approximation of the investment life cycle**
(Source: Adapted from Wilson and Zhang, 1995b)

Theories of escalating commitment – an integration: Most discussions of the escalating commitment phenomenon aim to explain rather than describe it (Zhang, 1993). Little effort has been made in the literature to formulate a definitive framework which integrates all other theories that have emerged to explain the escalating commitment phenomenon. Staw and Ross (1987) describe the escalatory process of the phenomenon by dividing it into four factors (i.e. project, psychological, social, and structural). Wilson and Zhang (1995c) attempt to go the opposite way by integrating all factors into perceived utility which, by definition, embraces varying factors affecting the decision-making process. Staw and Ross’s (1987) approach describes the phenomenon but fails to unite the varying explanations of other mechanisms. Wilson and Zhang’s (1995c) CPU theory can be useful not only in explaining the escalating commitment phenomenon, but also in unifying other mechanisms.

According to the CPU theory (Wilson and Zhang, 1995c), designed to integrate the existing theories which attempt to explain escalating commitment, escalating commitment represents a decision-making phenomenon resulting from a dilemma caused by the interplay between perceived utilities of persistence, withdrawal, waiting or experimenting (reflecting structural, operational, strategic, environmental, cultural, psychological, social, and project characteristics).
Chapter 9 Escalation: A Longitudinal Study Of An Entrapped Strategic Alliance

across various conflicting decision-making processes (Figure 9-5). In the light of the CPU theory, escalating commitment occurs when decision-makers mentally magnify the probability of sequential success (i.e. $p_1$ in Figure 9-5) and diminish the probability of sequential failure (i.e. $p_4$ in Figure 9-5). For example, one can easily infer whether escalating commitment is going to occur by comparing the decision-makers’ perceptions about an investment with the CPU theory’s underlying logic – i.e. (a) the up (or down) shift of the reference point from $R_e$ to $R_a$ (or $R_b$ for the ‘down-shifting’) indicates that the decision-maker perceives a lesser (or greater in the ‘down-shifting’ scenario) likelihood of his or her goal attainment and (b) the left (or right) shift of the reference point from $R_e$ to $R_a$ (or $R_b$ for ‘right-shifting’) dictates that the decision-maker has become less (or more in the ‘right-shifting’ scenario) willing to continue with his or her unproductive endeavours.

Since CPU theory considers that escalating commitment derives from an opposite but unifying paradox consisting of subjective value(s) and objective value(s) and that it is the shifting of the reference point that triggers escalating commitment, it actually makes it easy to relate CPU theory to other theories. Taking prospect theory as an example, under uncertainty, a decision-maker’s judgement about a future event tends to be at least partially influenced by the immediate feedback from an initial decision (Kahneman & Tversky, 1979). Negative feedback

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**Figure 9-5: The CPU theory: investment decision as the shift of reference point(s)**

(Source: Adapted from Wilson and Zhang, 1995c)

Perceived expected performance (e.g. NPV, face-saving, power, knowledge)

<table>
<thead>
<tr>
<th>+2</th>
<th>Continue</th>
<th>0</th>
<th>Withdraw</th>
<th>-2</th>
</tr>
</thead>
</table>

Realized performance (profit)

<table>
<thead>
<tr>
<th>Successful</th>
<th>Ra</th>
<th>Re</th>
<th>Rb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct commission $C_1$</td>
<td>$p_1$</td>
<td>$A_a$</td>
<td></td>
</tr>
<tr>
<td>Error of omission $E_1$</td>
<td>$p_3$</td>
<td>$E_e$</td>
<td></td>
</tr>
<tr>
<td>Realized performance</td>
<td>$R_a$</td>
<td>$R_e$</td>
<td>$R_b$</td>
</tr>
<tr>
<td>Unsuccessful</td>
<td>$R_b$</td>
<td>$R_e$</td>
<td>$R_a$</td>
</tr>
<tr>
<td>Error of commission $E_2$</td>
<td>$p_4$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct omission $C_2$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: $p_1$, $p_2$, $p_3$, $p_4$ are the perceived probability of $C_1$, $C_2$, $E_1$ and $E_2$, respectively, $p_1 + p_2 + p_3 + p_4 = 1$; $R_a$, $R_b$, $R_e$, $R_a$, $R_e$ are psychological reference lines, $A_a$, $B_b$, $E_e$ are mental reference points.
can dictate a possible down and right shift of reference point from Ee to Bb which, in turn, produces a relatively high $p_1$ and a relatively low $p_4$; positive feedback can result in a possible shift of reference point from Ee to Aa which, in turn, produces a relatively low $p_1$ and a relatively high $p_4$.

9.3 Contrivance of the research

Research objectives: In essence, the foregoing theoretical formulations suggests that it is the shifting of the reference point that triggers escalating commitment. The objective of the present study is to forward research on escalating commitment (in terms of projecting new research propositions and advancing theories) by means of examining the interplay between perceived utilities of persisting, withdrawing, time-biding and experimenting and the escalating process of an investment by studying the case of an entrapped Sino-Korean strategic alliance. The case concerns an investment project which, having lasted for 12 years, has never reported any net profits, but still has not yet been finally dissolved by the end of 1998.

Guiding propositions: There are two guiding propositions which are subject to examination: (a) the interplay between perceived conflicting utilities of persistence, withdrawal, waiting or experimenting across various phases of decision-making processes which induce investment decision-makers to escalate more resources to an on-going investment, and (b) investment decision-makers tend to magnify the probability of sequential success, diminish the probability of sequential failure and consequently their shift of reference points gives rise to escalating commitment.

Method: In this study, multiple sources (e.g. four investment decision-makers who were also the board members, four failing general managers who each on their turn held total responsibility for the investment, and nine consulting experts who once directly participated in advising on the revitalizing of the investment) were approached to provide multiple perspectives upon the same phenomenon so that the risk of bias could be highly reduced. Multiple methods of data gathering were utilized (i.e. direct observation in formal and informal meetings, informal and formal interviewing, diary keeping, content analysis of documents and unobtrusive methods) to generate insights into the phenomenon as well as enriching the researcher’s learning processes.

The researcher was urgently called upon in the late 1980s by the Chinese side investment decision-makers to lead a group of 9 experts to examine the investment, was headhunted by the (Chinese) holding company to carry out an official assignment by undertaking a research-based consultation on the staggering investment in the early 1990s, was commissioned by the parent
company of the (Chinese) holding company of the strategic alliance to consult on the operations of the investment in the mid-1990s, and was invited to offer advice on the destiny of the investment in the late 1990s. Therefore the researcher was able to conduct enquiries unobtrusively, observe events first hand, be party to sensitive information unconditionally, and have access to investment decision-makers conveniently. Events prior to and after the researcher's appearance at the strategic alliance were investigated by informal interviews and some other data were gathered via documentary sources. However, the researcher had no personal interest in the outcome of events, nor was he involved in any of the decisions to escalate. Data were initially recorded by notes made unobtrusively during and immediately after the event or interview and afterwards transcribed into a diary style report in the form of highlights of contextually critical evidence and paradigmatically unbiased advice.

Matching data to the propositions: Data collection in this study focuses on a series of crucial events over a period of twelve years around each of which an opportunity existed for the joint venture either to re-invest or to divest. Each time the researcher aimed to elucidate the reasons for decisions to persist, withdraw, wait, or experiment as well as determining how much, and why, they match or differ from what was prescribed. This was done from as wide as possible decision-making context. The present study concentrates on reporting critical facts by means of first-hand accounts corroborated by some other first-hand evidence; other material is introduced as complementary and illustrative only.

9.4 “Putting off the evil day”: the case of an entrapped Sino-Korean strategic alliance

Literature on strategic alliance: Research on strategic alliance has mushroomed (e.g. Hamilton et al, 1995; Lorange and Roos, 1992; Lorange et al, 1992; Glaister and Buckley, 1994; Cravens et al, 1993) since Williamson's (1986) work on the general theory of organizational form. Strategic alliance has been defined as "a durable relationship established between two or more independent firms, involving the sharing or pooling of resources to create a mechanism (corporate or otherwise) for undertaking a business activity or activities of strategic importance to one or more of the partners for their mutual economic advantage" (Hamilton et al, 1995:15). In essence, there are four criteria by which strategic alliance might be defined, identified, or justified (Table 11-1): (a) the form of the relationship (Lorange and Roos, 1992), (b) the nature of the relationship (Williamson, 1986), (c) the purpose of the relationship (Glaister and Buckley, 1994), and (d) the strategic importance of the relationship (Hamilton et al, 1995).
### Table 11-1: The characteristics of strategic alliances (Source: Various kinds of material)

<table>
<thead>
<tr>
<th>Criterion 1: Form</th>
<th>Non-strategic alliances</th>
<th>Strategic alliances</th>
<th>Non-strategic alliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-based transactions, relations</td>
<td>Informal cooperative ventures</td>
<td>Formal cooperative ventures</td>
<td>Joint ventures</td>
</tr>
<tr>
<td>Non-strategic alliances</td>
<td>Strategic alliances</td>
<td>Non-strategic alliances</td>
<td></td>
</tr>
<tr>
<td>Intra-firm transactions, relations</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Criterion 2: Nature</th>
<th>Non-strategic alliances</th>
<th>Strategic alliances</th>
<th>Non-strategic alliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical contractual</td>
<td>Neo-classical contractual</td>
<td>Relational contractual</td>
<td>Obligational-contractual</td>
</tr>
<tr>
<td>M-form</td>
<td>Unified governance</td>
<td>U-form</td>
<td></td>
</tr>
<tr>
<td>High degree of certainty; Infrequent transactions; Low requirement for idiosyncratic investments</td>
<td>High degree of uncertainty; Frequent transactions; High requirement for idiosyncratic investments.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Criterion 3: Purpose</th>
<th>Non-strategic alliance</th>
<th>Strategic alliances</th>
<th>Non-strategic alliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-based transactions</td>
<td>Avoidance of transactions costs; Securing sources of supply, market outlets; Achieving economies of scale and scope; Retaining flexibility of sources of supply, market outlets; Avoiding diseconomies of scale; Avoiding (financial, cultural, etc) costs of mergers and acquisitions.</td>
<td>Intra-firm transactions</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Criterion 4: Strategic Importance</th>
<th>Non-strategic alliances</th>
<th>Strategic alliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (absolute and relative) resource commitment; Short term relationship; Ad-hoc relationship; Peripheral activity; Speculative or opportunistic activity.</td>
<td>High (absolute and relative) resource commitment; Long-term relationship; On-going relationship; Core activity; Strategically committed activity.</td>
<td></td>
</tr>
</tbody>
</table>

**Background:** This is a typical ‘cooperate and win’ scenario. The case concerns a strategic alliance between a giant Korean textile company (KG hereafter for brevity) and a giant Chinese conglomerate (SG hereafter). The joint venture (SK hereafter) is the biggest textile company in Northern China and is situated in a superb suburb of a northern Chinese industrial city. SK has a splendid office building, and two well-equipped workshops which totally exceeded 32000 square meters. It had two holding companies: the Chinese holding company was SH (under SG) operating all over China, and the Korean holding company was KH which operated in Hong Kong, Europe, the Middle East, America, and Africa. SK’s initial investment totalled ¥20m and each partner possessed 50% of the company’s assets.

The general manager of SG, Mr SA1 served as SK’s first Chairman. The Chairman and President of KG, Mr KA2, acted as SK’s first deputy chairman. Both SH’s general manager (Mr SA3) and KH’s CEO (KA4) served as SK’s vice-chairmen. The director of the local branch of a major Chinese bank (Mr CB5) served as a non-executive vice-chairman. SK’s top management mainly included a general manager of Korean nationality nominated by KG, Mr. KA6i, a deputy general manager of Chinese origin nominated by SG, Mr.SA7i, two vice-general managers of Chinese nationality nominated by SH, Mr SA8 and Mr SA10, and two vice-general managers
nominated by KH, Mr KA9 (of Korean nationality) and Mr KA11 (of Korean origin). SK’s middle management consisted of a group of young bicultural talents.

SK was officially approved by the state in early 1986. In early 1987, for the purpose of better administrative cooperation as well as better cultural understanding, all SK’s managerial and technical staff not familiar with the Korean language received training in Korea for half a year, and all SK’s staff from Korea were organized to tour the relevant industries in Northern China. In late 1987, the ceremony marking the completion of implementation of the strategic alliance went on extremely well with joy and happiness showing on every attendee’s face, and it hit the media, providing the bosses of CB, SG and KG with a long lasting memory. Immediately after the celebration, follow up activities were all carried out in peace: experimental productions went well, the quality of the products was high, sales went well, so mass production started. The establishment of SK marked the turning points of SG as well as of KG, because both could stretch their own strengths in business operation and overcome their own weaknesses by utilizing others’ competencies.

The first crucial (starting) event in 1987: Since its introduction in early 1987, SK had been running smoothly. By the end of 1987, however, one thing started to annoy SK’s top management. A special material (hereafter Ms) which happened to be extremely expensive and which could only be bought from a Korean company was required for approximately four fifths of the purchase orders. The top management decided to let the Korean holding company KH deal with the imported material. A strange decision situation loomed: SK could run at full capacity and dominate the market but record losses, or wait by doing nothing but risk losing market share, or experiment but risk losing current customers, or stop but lose what had been invested. Everything had been tried but to no avail, so SK’s top management chose to continue at full swing by borrowing more from the bank. Since the market competition did not slow down as expected, SK’s market share was high, but losses incurred grew higher and higher. Revenues generated by its non-Ms segments was just good enough to pay the overheads. SK chose to borrow from the bank in order to continue investing in new technologies (i.e. 9 needle- and 12 needle- machinery as reflected in Figure 9-6) which could enable it to compete in premium textile segments, despite the fact it had recorded significant losses.

Analysis of the first crucial event: Since its start, SK copied the then famous Korean practice of Chaebao the main idea of which is to link the enterprise closely with financial institutions. Therefore, it is no surprise that SK acquired a substantial amount of loan capital from CB, and the loan served as the major source of SK’s working capital and SK’s further investment. What really surprised the researcher is how SK was going to manage its account at CB because banks
do not lend for nothing. Obviously the loan and the interest payable could cause SK to fail overnight. Research results revealed that CB gave SK a beneficial policy that, as long as it pays the interest, SK need not start to pay the loan until the fifth year of operation. Said a CB officer, "it is our policy to support new things, we would normally provide a loan to a promising investment if it is approved by a financially strong holding or parent company, besides we normally offer a better policy if the investment-related properties such as equipment and buildings are mortgaged (as deposits) in the bank". However criticisms from SK and its holding company also loomed large although the voices were low: "to borrow from the bank is going to be terrifying experience", "to borrow money to produce and to sell below the cost is more terrifying", and "how could they manage if they do not sell well later on?"

Figure 9-6: SK’s decision situation around 1987

Escalation theory (Wilson and Zhang, 1995c) suggests that investment decision-making at the introductory stage is primarily dominated by economic rationalities such as NPV and ROI. This explanation, however, can be surely partial, at least in the international management context. As the SG’s chief economist put it, "...a joint venture theoretically marks that SG starts to go international. We have better projects which enjoy higher expected financial returns and less risks, but we like to go for it [i.e. SK]...". SK’s deputy general manager commented, "we don’t like to run business with debts all over the corners,......[but] we have to meet challenges from time to time, it is a go-for-it or disappear situation...". To most managers at SG and SH, "no working capital is dangerous..." but SG is a "laboratory experiment...[which] offers, if put right later on, exciting opportunities for people to see the new world of management...[and provide] a new horizon for organizations to follow...". For the bankers, "[SK is a]...complete new things which enable us to participate in real world manufacturing decision-making", and "...[it] is good for us to lend this company whose parent companies are big and strong". However, SK’s
Korean managers commented, "...it is common in Korea to borrow to produce and to sell to return and make a profit".

It seems that strategic considerations and organizational learning are considered first. SG's general manager commented, when he was interviewed about SK, that "it is not always enough for a 'go' [i.e. as in the game of chess which resumed its popularity very recently in China] player to go for challenging moves, he has to learn to place strategic moves, otherwise he is soon to be out-raced". SH's general manager once delivered a briefest speech to celebrate the first sales of SK by saying "we all come to cooperate with each other and we all come to learn from each other, so let's take more daring actions". One SG group accountant and one SG business development manager told the researcher: "[the accountant thinks that SK] provides an excellent opportunity for me and my people to know how people in the other part of the world manage their accounts...", and "[the development manager] surely, nothing ventured nothing gained,...it [i.e. SK] can be the base for us to leap".

It seemed that economic considerations (e.g. high positive economic returns) play a very important role in initiating an investment project as well as fostering a trembling investment, but they can be outranked by technology-determinism or other organization-specific factors such as competitive advantage and knowledge accumulation. The deputy general manager, SA7, said that "technology is the no.1 element of SK's productivity and prosperity". SK would not have been the option for SG if economic rationalities took charge in 1987. SG had another alternative which it re-considered in 1993 (a joint venture among domestic companies which has so far been a very successful story). When asked why SK was given more strategic and financial leverage this time, SA3 replied that "numbers are numbers and it will be unusual if numbers always beat senses..., besides, numbers are useless without a context but mind is the absolute boss, thus, we need to listen more to our boss". SA1 maintained that "the company [i.e. SG] believes that innovation and creativity at business is the core for future success,...SK, along with our other moves such as JHL and Fiveloop [i.e. two other joint ventures] is just an example of that,...[and] those moves [including SK] was hoped to improve our knowledge about international business so that we can better increase our companies' [i.e. the SG group] competitiveness".

It also seems that psychological or political factors (e.g. hidden agenda) can play a big role in initiating an investment. Every structure serves a purpose. However, a structure can also be used to serve both an explicit purpose and implicit purpose. A strategic alliance works well only if mutual trust and common purpose are held by both parties (Zhang, 1988). Cooperation means better utilizing each other's unique advantage for the benefit of both partners rather than one
party's taking advantage of the other (Zhang, 1988). As one of the Korean appointed engineers disclosed later on, "in Korea we have to go high-tech because of the increasingly high cost of labour...[So] we shipped to SK as a part of direct investment many of the used items of equipment which we needed to get rid of...". One of the Chinese appointed SK chief engineers echoed on another occasion that "it is on earth a good project...[but] what really matters to me is that getting this project quickly continued means I could go abroad sooner to buy equipment for the firm as well as seeing how firms function elsewhere,... [this could be the only chance in the foreseeable future]...so I voted strongly for this project's continuance rather than others". Is all fair in love and war?

In brief, it seems, to this researcher, that SK's ventures in the introductory phase of its life cycle more or less indicate that the utilities of continuance can outrank those of others such as experimenting, withdrawal and time-biding, and that escalatory behaviour happens when the utilities of continuance appear to be superior to others especially from the strategic, technological, organizational and economical perspectives along the consideration of some psychological and political factors. A careful examination of SK's flow of business operation can raise a sharp question, as being raised by this researcher after he was first called to examine the investment in 1989 (Figure 9-7): "Is this strategic alliance going to be ended up with, a life-long successful marriage, an expected one-sided sale, an unexpected disappearance in the early stage of its life cycle, or a non-ending disastrous trap?"

The second crucial event in 1989: In early 1989 SH called for an urgent board meeting
regarding SK’s operations in that SH’s request for exchanging financial information with KH encountered repeated silences. Rumours spread over SK that KG’s brands were used for SK’s products, that KH is selling SK’s products at unreasonable prices to rescue KG’s operations in Korea due to emerging competition and recession, and that SK had recorded losses ever since it started. Besides, staff at SK started to complain that the top management do not communicate with the middle management and take little care of shop floor workers. Numerous complaints went to SH, and SH’s general manager SA3 called a special board meeting on behalf of SH to examine SK’s performance and its policies. In the board meeting SK’s general manager KA61 confirmed the rumours. The board realized that SK had entered a strange but vicious syndrome in that the more it produces the heavier the losses will be. KG’s KA2 apologized for the Korean speaking general manager’s incompetence and for the mismanagement of SK’s brand, but praised his contribution to the establishment of a new technology-based production line. It was decided that SK should continue to survive, but several changes occurred as the result of the meeting: (1) the first general manager of SK was asked to resign from SK; (2) SK should further invest on developing its own brand under the joint leadership of SH and KH as well as trying its best to help KG out of its recessional operations in Korea; (3) a new Chinese-speaking Korean general manager KA62 was nominated by KG; (4) information is set to be shared among the three companies, SH, KH, and SK; (5) a new post was created by SK to recruit a female vice general manager (i.e. SA12) to concentrate on improving staff welfare, working conditions and other environmental and cultural issues; (6) SK was empowered to build its own sales force for domestic sales while still relying on KH’s distribution channel for export; and, (7) last but not the least, more funds were injected into the business from both parties. The board meeting ended with peace and SK was set to restructure its business operations after the new general manager’s arrival.

Analysis of the second crucial event in 1989:² It can be arguably held SK was at the time in the growth stage of its life cycle: “orders flooded in, staff did not have holidays because of the demand...”. Commented the Korean general manager, “our workers are working by the same machine they were working back to early 1987 when they received training in the South Korean factory,... We believe that it is the training that really facilitated our growth...”, and “Chinese workers are highly productive, disciplines and rewards help you meet the deadlines of impending orders...”. A close look at SK’s operational activities from the start up to 1989 reveals (Figure 9-8) that SK, by the nature of its business operation, actually acted as a manufacturing base for KG, perhaps partly due to SK’s being a novice in the world textile exporting market, or perhaps partly due to KG’s cultivation, or perhaps due to the design of SK from the very beginning.
As one of the Chinese vice-general managers SA7 said, and "...[SK is actually] an advanced manufacturing machine which is remote controlled leaving its operators not knowing how good or bad it has performed, thus, we all work absolutely for orders". However, further research revealed that there was actually an organizational inertia surrounding SK. "Let the Koreans worry about acquiring sales orders while we can have a cup of tea because everything is in the contract that the Korean holding company is responsible for acquiring orders and we just produce what is asked by the Koreans". As for the people in KH, the picture is quite different, "we have been doing this [marketing] job for years and we know what we are doing, if we go bust they [i.e. SK] will just follow suit".

SK's actual situation appeared to be more interesting: SK has recorded losses ever since its production lines started and the more it produced the more losses it recorded. In the last two years "the production is nearly up to its full capacity, workers have been working on shifts...", "we are informed that we are the only enterprise in this city which earns foreign currencies in this industry,...this year's earning is reported to be double last year's...., [and it is] impossible that we do not make any money out of it [i.e. SK]". The reasons for that are many - as members of the top management team at SK, KH, and SH indicated. First, "...the Korean general manager insisted that the firm has to import some core material from Korea..." because "...the quality of local substitution is under suspicion". Second, "the competition is extremely high in the world market [especially in Korea] so that it is not unreasonable to sell at a price which is just above the unit non-variable cost". Third, "...Chinese workers will and have to have salary regardless of the organization's financial situations in that they are the masters of the..."
organization... [as in the case of many organizations when the holding company or parent or grand or even great grand parent company financially subsidizes the loss-making subsidiaries],... so we took that under consideration in pricing [SK's product]. Fourth, "a friend in need is a friend indeed...and we need to help our parent company [i.e. KG] to overcome its temporary obstacles...". Fifth, "things will get better later on..., so let us [i.e. SK] just focus on the work we need to do today and tomorrow will be fine...". Sixth, "we [i.e. KH] pre-pay for the core material in non-Chinese currency, and you get US dollars from us [i.e. KH] without borrowing it from the Chinese bank...". Sixth, "...we [i.e. SH] suspected but we did not really [think] things could go that far...they [i.e. KH] should have let us know much earlier...". Seventh, "we should have built our own marketing force if we could know the situation...".

Entrapment theory (e.g. Wilson and Zhang, 1995b) and escalation theory (e.g. Staw and Ross, 1987; Brockner, 1992) would suggest that economic utilities often play an important role in facilitating escalating commitment in the growth stage of the investment life cycle. It seemed true that, from the costs already incurred in SK, further investment was required for its further growth, the probability of attaining the goal of forming a global competitive giant, the probability of the investment’s quickly going bust, the perceived future probability of both the ongoing and opportunity investments, and the ‘stickiness’ of the project such as the salvage value of both the amount of funds already spent and the remaining resources, all played an important role in escalating SG’s, KG’s, SH’s, KH’s and SK’s commitment to the investment. As was revealed by the secretary of the board meeting, many of the board members believed that "...[SK] is an investment which bears significant meaning for both [SG and KG]...", and had mentioned that, given enough support from both parties SK is unlikely to die young, that it was a “waste of resources for both parties”, that the future of “further cooperation is still promising and encouraging...", and that SH was willing to invest for the domestic market. SA3 revealed later that "we have the funds available on our side, ... we are willing to help SK to squeeze into the domestic market,...we know we have further investment opportunities, ...we also know that if we don’t use the funds left [a substantial amount of allocated by the parent company (i.e. SG) to foster exciting investments] it is gone and we won’t have it next year...".

However, economic utilities are not alone in facilitating escalating commitment in the growth stage of the investment life cycle, and SK’s reality suggested that cultural or ideological norms can play an important, if not bigger, role in facilitating escalating commitment. As SA1 joked when he was asked why SG tolerated SK’s support for KG’s home struggle, "...China once helped Northern Korea to fight against Southern Korea, why couldn’t we help the southern Korean friends to fight against their southern Korean competitors...". Perhaps one of the mysteries of modern China is that the Chinese are willing to show their hospitalities on their
doorstep. "Let's tighten our belt by cutting costs, and focus, if we are asked for help, on what we can help rather than what we can't help...". Said a SG-appointed high-rank commissioner to SK, "[because SH] is our son...[and SK] is our grandson, when our grandson's problem appears to be our problem, let's face it and try to solve it together". SK's practice vividly suggests that the role of social norms (e.g. cultural and ideological) in triggering escalatory behaviour cannot be ignored in that they can magnify the possibility of gains, shrink the probability of losses, consequently distort economic calculations and hence result in escalating commitment.

Research results did not record any significant effects of certain psychological gains and losses (e.g. reinforcement traps, self-justification, self-inference, and information processing) or of certain constitutional contingencies about gains and losses (e.g. economic and technical side-bets, political support, administrative inertia and institutionalization) or of certain social gains and losses (other than cultural or ideological) had any significant role in causing escalation at this stage of SK's life cycle. However, the existence has been found in SK's road to rapid growth of such psychological factors as information processing, such social factors as competition between SH-appointed staff and KH-appointed staff and such constitutional contingencies as economic side-bets; but they can only be treated as non-insignificant. In fact, both SH and KH were processing the same information provided by SK, although SH had only had limited sources of information in that the control of marketing activities was at KH's disposal. Both SH-and KH-appointed staff at SK started to compete for success, power, social recognition and political status; but this did appear to affect the investment decision-making process.

In brief, it seems to this researcher that SK's ventures in the growth phase of its life cycle more or less indicate that the utilities of experimenting can outrank those of others such as continuance, withdrawal and time-biding, and that escalatory behaviour happens when the utilities of experimenting appear to be superior to others especially from the economical perspectives along the consideration of some social factors such as the cultural and ideological.

The third crucial event in 1993: The third general manager of SK, KA63, resigned in the winter of 1993. He was of Chinese nationality and was appointed by KG due to KG's one-sided re-location two years ago of their previously appointed general manager KA62. The reasons that he used to justify his resignation included: "...I couldn't stand any further pressure from the bank which kept demanding the firm [SK] to pay back part of the loan as outlined in the contract,...[KG] was on the brink of bankruptcy in Korea,...[KH] was no longer effective in acquiring overseas orders,...overheads were too high,...losses were amounting higher and higher,...I had too many bosses [KH, SH, sometimes, KG and SG] competed for
power,...quality standards were falling since many batches of work had to be redone,...and it was totally out of my capacity to bring the firm back to a healthy track". Commenting upon his behaviour, the only female vice-general manager, SA121 said, "[KA62] was like a mad bull...wasn’t going to do this, wasn’t going to do that...slamming the office phone down and never switched his mobile phone on...passing every task and responsibility to the deputy general manager as if he were on holiday in Qing Emperor Island". As a result, a new round of urgent board meeting was called by SK’s top management. This round of board meetings had a new board member, Mr. SA32, the new general manager of SH. This board meeting appeared to be the biggest board meeting so far held for discussing and deciding on SK matters in that invited to attend the meeting were the whole top management team of SK, SH, and several top guns in KH and KG. The board accepted KA63’s resignation, claimed that no general manager was going to be nominated but the deputy general manager took full charge, and decided that SK should continue to survive but should shift its focus from export-orientation to domestic market-orientation. Thus, the young deputy general manager who was nominated one year later by SG as SK’s fourth general manager, SA61, had an opportunity to reform the joint venture at a full swing including recruiting a young SG accountant as the deputy general manager SA72 and another young female vice-general manager (i.e. SA122) to replace the previous one (i.e. SA121) who took two years’ maternity leave after enormous success at SK.

**Analysis of the third crucial event:** It is obvious that SK was at the time in the maturity stage of its life cycle. The removal of the first general manager did not do any good, neither did the re-location of the second general manager. The third general manger proved to be very competent but lost his confidence. SK’s top management looked as if it was playing a time-biding game, waiting to see something good to happen. So did the two holding companies SH and KH. SK had not saved KG and both were in trouble. Two worse situations couldn’t make a good one. Perhaps, for many SK people, the only fortunate thing which occurred to SK was that it had established its own marketing taskforces in the past four years, being directly helped by both SH and KH. SH had invested heavily in SK in terms of personnel, material, and capital. As the then general manager of SH, who became the deputy general manager of SG in 1993, said, “the parent company has not lost confidence in the joint venture...and the time will come for people in the joint venture to see prosperity and enjoy their fulfilment”.

A brief look at the flow of SK’s business activities reveals that SK was literally still focused in the textile industry (Figure 9-9). SK had squeezed into the Chinese clothing market and the Chinese work-wear market and had a good position in both markets. While exports declined, domestic sales increased. However, what upset SK’s top management was the fact that SK was still unable to make a profit. The sales increased but so did the overheads. The losses mounted
higher and higher. In addition to that, SK was obliged to pay back part of the loan borrowed from CB every three months. Given that exports had sharply declined, every SK employee was expecting that magic could happen in the Chinese domestic market.

Escalating commitment theory suggests that both economic and psychological utilities of the investment play a significant role in facilitating escalating commitment in the maturity stage of the investment life cycle. The research evidence seems to indicate that, for SK, the joint force of economic utilities played an important role in triggering further escalating commitment, but they tend to have lost their momentum. Said one of the board members, “let bygones be bygones and let’s decide for tomorrow”. SA4 recalled that “it was accepted that the probability of being a global competitor had been smashed by KG’s declining,...[while] the probability of going bust did not loom large....” Other board meeting attendees added, “some of us did value the opportunity investments higher than the current one” and “the salvage value of the plant would be nil for nobody would take it at its book value and we are not allowed to sell it below the book value”.

For SK, psychological utilities tended to dominate in triggering further escalating commitment in this maturity stage of its life cycle but they did not play a major role. Fresh faces tended to attack the old faces, while the old faces tended to explain how the decision situation had been. As one of fresh faces challenged, “further resources should not have been put into their [SK’s
top management) hands, for they could do nothing but borrow from the bank... People in my cycle have been fed up with them... I think we need to sack all of them and sell the plant to the bank". One of the old faces replied, "[last time] the board had many experts’ advice to support the project but it did not come through,...[this time] you guys want this project shut,... how can you know you are better than them?" The Chairman SA1 calmed everybody when he said, "I hold the overall leadership responsibility for those misfortunes...[and] I trusted that no one, including me, in the past, at present and in future, would intend to erect a building and immediately destroy it because it’s built on good purpose...". Research revealed that the Koreans acted very passively, perhaps due to the language problem, and insisted that SK’s future needed to be carefully examined and cautiously determined. The Chinese, however, had mixed views. However, one thing that did matter a lot was SK’s workers’ concerns about their jobs. SA1 took out a batch of letters and read one of the named to the board stating “We have listened hard, we have worked hard, we have never hidden our energy, the factory is our home, we need our home...". Most board member felt pressures for uniformity when some board members declared support for SK’s continuance and further investment. Thus the decision was made to let it have a go, and to see what would happen next. One of the board meeting attendees commented, “I was moved, I voted for it because I shared the feelings of the workers. They need a home, I need a home, We all need a home”. Nonetheless, other board attendees confessed that “home and business are two different concepts,...[but] a few of us cannot make a majority”.

In brief, it seems to this researcher that SK’s ventures in the maturity phase of its life cycle more or less indicate that the utilities of time-biding can outrank those of others such as continuance, withdrawal and experimenting, and that escalatory behaviour happens when the utilities of time-biding appear to be superior to others especially from the social perspectives along the consideration of some psychological and economical factors.

The fourth crucial event in 1996: In the summer of 1996, CB, for the first time for nearly 10 years, CB called for an urgent board meeting to discuss the management practices at SK. It was alleged that SA61 violated the initial agreement between SK (under SH and KH’s approval) and CB. CB had stopped lending loans to SK. SK delayed again and again in paying back the loan and the interest. In fact SK did not show any sign of paying them in the near future. Even worse, it was known that SK had opened a new business account in another bank, CB2, the strongest competitor of CB. There were also rumours that neither KG nor KH was satisfied with the top management of SK in that they seized every bit of power and had acted very arrogantly towards the holding company. Besides, SK’s competitive marketing force started to provide services to SK’s competitors to help them to export certain categories of products which SK was no longer producing. Although the machines were still running, the loan and the interest relating to the
loan had severely hampered SK people’s ambition. During the board meeting, the top management team was ordered to be replaced by some outsourced high flyer, and, although no substantial financial resources were further allocated to the project, SK was encouraged to continue its course under new leadership. Workers did not like the decision. But CB liked it this way, so did KH and SH. A new top management team was recruited which included SK’s fifth general manager (i.e. SA62) who had a good track record. Moreover, more people flooded in to replace the previous administrative staff. One special movement was that KH had withdrawn all its appointed or nominated staff under the excuse that they were required to return home because KG had suffered huge losses at home. It was claimed that KH’s world-wide office could still be used by SK but the fact was there were few offices which were still open at the time. After the arrival of the new general manager, SA62, SK started another long march.

Analysis of the fourth crucial event: Obviously SK was in the saturation stage of its life cycle. Through building up its core people management team, SK’s performance was actually hampered by its expanding overhead. It was a joke among the SH people that SK people looked as if they no longer need their parent’s advice. Others commented that SK people under AS61’s leadership had in fact produced a lot of products, they also earned a lot of revenue, and they had saved a lot of the funds they borrowed (from the bank), but they also spent a lot of funds on people’s training, public relations, cars, office equipment, and travelling, etc..

Escalation theory (e.g. Wilson and Zhang, 1995c; Staw and Ross, 1987) suggests that both psychological and social utilities of investment play an important role in facilitating escalatory behaviour in the saturation stage of the investment life cycle. Research evidence tends to support the theory. It was observed that SK people actually predicted that there was no relationship between their actions and SK’s consequences and, as Gross (1991) predicted, after several failures in acquiring quality orders via KH, SA61 and his team had the feeling of learned helplessness, they did not contact KH once throughout the whole year of 1995. They tended to just not believe in KH and SH. For people at SH, SH, and CB, psychological reactance (Wortman and Brehm, 1975) easily drove them to re-seize control which they previously expected to have and pushed themselves further down towards the escalatory black hole.

Social factors also seemed to be active in this stage of SK’s life cycle. SA61 was said to have joked with his core team mates that they were a rolling stone that gathered no moss. Job insecurity started to become a shadow for the administrative staff at SK after the new year of 1996 when there was a rumour that there would be a lot of personnel movement from 1996 onwards. The biggest shock could be that KG was expected to go bust soon in Korea. Thus the Korean nominated or appointed staff started to make a lot of phone calls, even at lunch time.
Nobody was really helpful when the research was in progress because “everyone had another fish to fry”. Senior people tended to save face by muddling through from time to time, exhibiting self-presentational motives, while the young were more daring to head for immediate success.

However, political factors were also found to facilitate escalatory behaviour at this stage. SK, SH, and KH were acting as a triad, all bidding for power and influence. SK under SA61’s leadership had undergone a lot of changes. It was quite usual for SK to refuse to attend any meeting conveyed by SH. SK’s staff sometime went beyond SH to contact the SG boss for advice. KH’s influence and marketing power were cut to zero. SK people often maintained that KH needed to help themselves first, and thus, it was quite usual for SK to reject orders acquired by KH if they were economically inferior. People at SH and KH complained that SK’s top management had not learned how to cooperate at all. Workers at SK mentioned that SA61’s leadership was probably so far the best even though no net profit had ever been made yet. Moreover, although SG had shown signs of retreat by withdrawing its staff, it defended at the board meeting furiously that they were not retreating. As written in the memo of board meeting, KA2 pleaded that SK should not be abandoned, and “we need to be side by side, we need to believe in ourselves, and ...[KG] will be back”.

In brief, it seems that SK’s ventures in the saturation phase of its life cycle more or less indicate that the utilities of both time-biding and withdrawal outranked those of continuance and
experimenting, and escalatory behaviour can happen when the utilities of time-binding appear to be superior to others especially from the psychological or social perspectives along with the consideration of some political factors.

The fifth crucial event in 1998: In the spring of 1998, KG was declared bankrupt in Korea, and KH was dismantled. CB started to use legal weapons. This time an extended board meeting with the absence of KG and KH staff was held. SA1 had left his post as SG’s general manager and went for a higher rank post as the deputy general manager of a nation-wide operation. SA31 became SG’s general manager and also succeeded as SA12. The decision was made that SK was not to declare bankrupt and that the plant should run as usual, despite its continuous financial nightmares.

Analysis of the fifth crucial event: SK was at the time in the decline stage of its life cycle. The market share was falling. It really looked like a deserted home. Even at daytime, there were “no noises, no cars, no calls, ...and no people”. Revenues generated in the textile sector kept falling sharply, partly due to market competition, partly due to organizational inertia, partly due to learned helplessness, and partly due to social pressures. People who could afford to abandon the job had all left. Revenues generated at other sectors can only be good enough for the salaries of those remaining workers who did not have any place to go. Job security was still a big issue there.

Escalation theory (Wilson and Zhang, 1995c) suggests economic, psychological, social and structural factors all play an important role in facilitating escalating commitment in the decline stage of the investment life cycle. Evidence found in SK seems to support this. However, SK’s practice suggested that economic factors play an unforgettable role in facilitating escalating commitment but their importance can fade away dramatically as compared to the previous stages. The investment incurred can be treated as “a pity,...[but] it is your boy”. SK’s salvage value was regarded as too low. Proposals were raised that SA should write-off SK because focuses needed to be on alternative investment opportunities. Psychological factors still seemed to be very active. When asked, many decision-makers still convince themselves that the problem was temporary. Said the new chairman, for example, “It is always dark before dawn...” and “Remember the days when the company [i.e. SG] was established, nothing was possible but the pioneers had made everything possible”. Social factors seemed to play a rising role in that “[SG] is to lose its whole face,...[and SH and SG] need to get it back” and that pressures for job security had become intensively high. Structural factors seemed to play a supreme role in facilitating further persistence, because that new businesses under SK (see Figure 9-11) had been created and some operations (e.g. importing) had already started to show some excitement,
that “political influence needs to be carefully considered before a big decision”, that pressures from the workers’ union were high, that “the bank [i.e. CB] will take away everything immediately”, and that, given the impression that SK’s problem was also considered as SH’s problem and SG’s problem, the symbolic meaning was so high that something must be done on it.

On the surface, SK saw the utilities of withdrawing surmounting those of persisting, time-biding, and experimenting due to changes in its environment. However, time-biding seemed to be a better choice for SK. For one thing, “the official contract of the strategic alliance will last until 2001”. For another, “we still have a chance to re-run it [i.e. SK] if the bank can write-off the loan and interests”, and “if the machinery is be put on auction, a lot of us would like to discuss the possibility”. All this showed that legitimate withdrawing can sometimes give way to unreasoned time-biding in that utilities of time-biding can be magnified by a small probability of recouping the initial investment depending on the reference point of the decision-maker. Besides, there were generic utilities of time-biding which include certain gain due to neither persisting nor withdrawing and possible gain due to neither persisting nor withdrawing. And this was perhaps why SK was still rolling forwards when its debt from the bank had exceeded ¥5m.

The sixth crucial (ending) event in 1998: In late 1998 SK was officially closed and the splendid office was taken over by one of its main stakeholders, CB. The bosses of SK, SH and SG gathered again, unofficially though, to discuss SK matters. It was revealed that the final
liquidation, according to one source of information, wouldn’t start until the beginning of 2002.

Analysis of the sixth crucial event: It looks like that SK’s search for success has been going towards a non-ending disastrous trap (Figure 9-11), although an inductive reasoning based generalization can be unsound (Hume, 1951).

At this final stage of its life cycle, SK metaphors a typical Chinese saying that “an insect of one hundred legs can be still alive even if it is frozen”. Reasons for not declaring bankruptcy could include many. Among those conceivable were that, “nobody deserts a dying child”, that situations might turn around, that keeping an option can be better than exercising an option, that “the Koreans might show up one day”, that “it can be as easily revived as it is closed by the bank …”, that “we [SG] want a footprint, not a shadow…”, and that “it is not finished until it is finished”.

The summarizing analysis of the crucial events since 1987: After 12 year’s operation SK’s appearance had been surfed by all sorts of factors, strategic, organizational, operational, psychological, environmental, ideological, cultural, social, political, legal, and constitutional, etc. Above all, it tends to be a self-deception trap, and the spontaneous, emerging interweaving of utilities of withdrawing, experimenting, persisting and time-biding had entrapped decision-makers to “put off the evil day” by sometimes intentionally and sometimes unintentionally taking the upward-, downward-, leftward-, rightward- shift of their reference points (Figure 9-13), the consequences of which were that the process was dynamic, that the decision situation was worsening, and that the effect of escalation was like a black hole.
9.5 Discussions

This longitudinal study of an entrapped strategic alliance is definitely an example of escalation, and clearly an example of entrapment, or “putting off the evil day”. Each crucial event triggered by change, things, people, or events themselves, presented the investment decision-makers with an opportunity to persist, withdraw, wait, or experiment. All of these options had appeared although the magnitude and scope of each option and the time and space of the exercise differed. However, the investment rolled forward and forward until it was nearly absorbed by the black hole.

In review, SK’s escalation in committed resources is not limited to funds alone. Escalatory attempts have covered other resources such as time, human resources, technology, and strategy. In fact, SK not only increased its loans from the bank, but also added more people, more equipment, more time, more structure, more strategies to the investment aiming at its objective to become a global competitor. As can be seen in the analysis, the research was focused upon crucial changes caused by unexpected changes in things, people, events and changes themselves, and so the research was contextually justified by focusing only on the unanticipated increase of resources (be they time, funds, effort, etc.) against realistically needed resources in investment decision-making.
In this study, escalation has been referred to SK’s continuing strategy to carrying on the investment which contextually contains both “carpe diem” (make the most of the present) and “putting off the evil day”. However, the research was limited to several crucial events which this researcher thought had exerted significant influence on the investment. It would be wrong to suggest that SK was a case of strict entrapment which exclusively accords with “putting off the evil day”. There were events or changes in people, things, and changes which could not be held to be escalatory at all. For example, personnel change due to the maternity leave of a vice-general manager and the layout re-arrangement of production lines had been downsized.

While economists were discussing financial traps ahead of SK, sociologists might conclude that the economic rationalities per se which articulate the economists’ traps are traps themselves. Thus, this research was not conducted purely based upon economists’ perspectives. As can be seen in the text, little attention was paid to financial analyses. The research was conducted to cover the full organizational context, which include, inter alia, economic, psychological, social, strategic, political, institutional perspectives. SK’s escalation in commitment reflects a compromise among the perceived utilities of withdrawing, persisting, time-biding and experimenting. When further funds were demanded by the market-oriented rationalities, for example, SK’s boss could choose to stop, wait, or experiment; but SK bosses decided to persist, a situation in which escalation occurs particularly when the utility of persisting eventually outranks that of experimenting, or time-biding. At various stages of its life cycle, SK-decision-makers’ chaotic and interweaving shifts of reference points on their varying reference maps jointly lead to their down-and-left-ward shift of reference points on their economic-perspective reference map and consequently contributed to escalation of economists’ prototype.

The present study examined the interplay between conflicting perceived utilities of persisting, withdrawing, time-biding and experimenting along the approximated investment life cycle of a Sino-Korean strategic alliance. It achieved its objective to forward the research by extending escalation study into new territories (i.e. Asian dimensions and the strategic dimensions) and new research themes (i.e. the match between outputs and processes).

Although they cannot be used to convincingly test theories, the research results implied that it can be vague to describe escalatory behaviour without a full organizational context. Persisting resulted in escalation, but so did time-biding and experimenting. In fact all of the four elements can appear in the escalating processes. It is the perceived utilities of each factor which is fully filled with spontaneously emerging conflicts (e.g. certain gains, certain losses, possible gains and possible losses) that actually matter. Eventually it is the decision-makers’ shift of reference points on their varying reference maps (i.e. perspectives such as strategic, operational, economic,
environmental, social, ideological, structural, and psychological) that distort their reference points on their economic maps and drag the investment into the black hole.

However, the interpretation of the research can be problematic. Further, effort directed at a sub-theme of the research (i.e. hidden agenda) was not very productive. Little effort had been made to examine the opportunity costs of the strategic alliance despite the fact that there exists vivid evidence in that line. Since more emphases were place on insights any sorts of generalization can only be treated as tentative or suggestive. However, given that the research can be said to be thoroughly undertaken in a constructive way, some further research propositions derived from the research can be used to partially justify the conclusion: (a) escalating commitment is more likely to occur in investments involving more than one investors; (b) some corporate cultures (such as the Chinese and the Korean) can be in favour of escalating commitment; (c) decision-makers' task-oriented leadership styles can be more vulnerable to escalation than the relationship-oriented; (d) the less decision-making power the top management team has on an investment the more likely the team is to escalate commitment to its course of action; (e) escalation is more likely to appear as an interweaving process constantly interacted by varying contingent factors covering the full organizational context; and (f) compromise among the perceived utilities of withdrawing, persisting, time-biding and experimenting tends to lead to escalation of commitment in the investment decision-making process.

9.6 Conclusion and recommendation

Commitment escalation in the investment decision-making context should mean unanticipated increases in the commitment of resources (be they time, funds, effort, etc.) against realistically-needed commitment in resources. Escalation refers to a continuing strategy to carrying on a course of action which contextually contains both "carpe diem" (make the most of the present) and "putting off the evil day" while entrapment exclusively accords with "putting off the evil day". Escalating commitment reflects a compromise among the perceived utilities of withdrawing, persisting, time-biding and experimenting, with escalation occurring particularly when the utility of persisting, experimenting, or time-bidding eventually outranks that of others. The decision-makers' down-and-left-ward shift of reference points on their varying reference maps jointly distorts their reference points on their economic maps and consequently contributes to escalation. Future practice in this line should aim at integrating different perceived utilities rather than simply pursuing a compromise among them, and future research in this line should include further longitudinal case studies which reflect the dynamics of the escalatory processes as well as further theorizing on escalation of commitment.
Moreover, it seems that investment projects once on their way tend to be escalatory, and therefore, escalating commitment in the investment decision-making process can be a general phenomenon, although the findings of the meta-analytical synthesis did not provide a very strong statistical support (please see Type F test or Q8-1). Thus, escalating commitment in investment decision-making, as a phenomenon, demands that researchers go beyond the phenomenon to explore what lies behind the veil of escalation. This suggests that advancing the theory of investment decision-making also seems promising and profitable. That is, specifically, investment decision-making needs to be considered as both a science and an art and as a vehicle for humankind to make progress towards their desirable ends, goals or objectives. Another profitable theme of future research under the mega-theme of investment decision-making can be, in the light of Q1-1, Q1-3 and Q1-6, the study of organizational memory about investment decisions made in that it seems that decisions made tend to be naturally forgotten by organizational decision-makers over time. (All this is going to be dealt with in Chapter 12 entitled “On Investment and Investment Decision-making”.)

1 Words in quotation marks are extracted from Zhang et al (1989), while words in square brackets are this researcher’s insertion. Other sources of evidence include corporate memos of board meetings, corporate documents and materials filed at the great parent company.
2 Words in quotation marks are extracted from Zhang et al (1989), while words in square brackets are this researcher’s insertion. Other sources of evidence include corporate memos of board meetings, corporate documents and materials filed at the great parent company.
3 Words in quotation marks are extracted from Zhang et al (1993), while words in square brackets are this researcher’s insertion. Other sources of evidence include corporate memo, corporate propaganda, memos of managerial meetings.
4 Words in quotation marks are extracted from Zhang et al (1996), while words in square brackets are this researcher’s insertion. Other sources of evidence include corporate memos of board meetings, corporate documents and materials filed at the great parent company.
5 Words in quotation marks are extracted from Zhang et al (1998), while words in square brackets are this researcher’s insertion. Other sources of evidence include corporate memos of board meetings, corporate documents and materials filed at the great parent company.
6 Words in quotation marks are extracted from Chou (1998), while words in square brackets are this researcher’s insertion. Other sources of evidence include corporate memos of board meetings, corporate documents and materials filed at the great parent company.
10. De-escalation: An Experimental Study Of Managerial Cadres’ Perseverance

10.1 Introduction

It seems that there is a glaring omission in the corpus of escalation and de-escalation literature: it lacks direct research (Mintzberg, 1979; Zhang, 1993). Little is revealed about how decision-makers actually experience mounting evidence of failure in a venture which is important to them; little is understood about how it feels to be confronted with a dilemma; little is reported about how decision-makers actually behave in those circumstances and, most important, what informs their actions; and little is known about the conditions under which decision-makers opt for de-escalation.

Partially based upon this, therefore, this study of the researcher aims to forward the research on de-escalation of commitment by examining the combined effects of sunk costs and negative feedback on decisions to de-escalate commitment to a diversifying programme with a string of investments. Structure-wise, this part of the thesis first explores the theme of sunk costs and negative feedback, then provides a brief review of the de-escalation literature, and finally summarizes the two field experiments undertaken in a large Chinese enterprise with regard to the settings, methods, results and analyses.

10.2 Escalation and de-escalation: behind the veil of sunk costs and negative feedback

Investment decisions made in conditions of uncertainty and ambiguity can fail to turn out as expected. When decision-making situations deteriorate, investment decision-makers can be faced with a dilemma over whether to risk continuing or whether to withdraw and face the consequences (Zhang, 1993). Research into such predicaments (i.e. escalation) has mainly sought to identify the reasons for irrational persistence known as escalation (e.g. Brockner, 1992), and has been predominantly experimental presenting decision-makers with forced choices such as whether to commit further funds to an ongoing course of action or not. In such circumstances, investment decision-makers are believed to compound the problem by persisting irrationally, and reasons for such irrational persistence have been broadly categorized into four groups: project, psychological, social and structural (Staw and Ross, 1987).

Basically, there are three areas of research suggesting that sunk cost effects and negative feedback affect decisions to escalate or de-escalate organizational commitment to an on-going course of action. First, a series of research papers by Staw (e.g. 1976, 1981) on escalation of commitment suggests that investment decision-makers often allocate additional resources (e.g.
time, money, knowledge, effort) to an on-going investment project despite information suggesting that the investment is not likely to achieve its intended outcomes; this line of research is primarily based on a model of decision-making in which negative feedback following the choice of some action stimulates concern for the justification of that choice and encourages escalation of commitment in the hope that future positive outcomes might vindicate the original choice. Second, a related area of research on entrapment (Rubin and Brockner, 1975; Brockner et al 1979; Wilson and Zhang, 1997) suggests that the allocation of resources to obtain some goal may be followed by increased allocations when the goal is not achieved; the explanation proposed for entrapment involves approach-avoidance conflicts in which, as time passes by, the desire to obtain a goal surpasses the desire to minimize cost-benefit ratios. Third, a distinctive string of research promoted by Arkes and Blumer (1985) suggests that investment of any resource in an activity directed at obtaining some outcome may result in ‘irrational’ sunk cost effects, whereby the tendency to commit additional resources is positively influenced by the magnitude of prior investments.

10.3 De-escalation literature

Staw and Ross (1987) have suggested non-empirically that the relationship between de-escalation and escalation is fundamentally one of opposites. Losing predicaments, they suggest, present decision-makers with conflicting pressures for persistence and withdrawal respectively. Seemingly, withdrawal can be the more probable outcome where alternative investment opportunities exist, and psychological and social pressures are either weak or outweighed by fears of consequences. High accountability, for example, is thought to reduce cognitive bias, thus producing de-escalating effect (Tetlock, 1991); but it is also thought to enhance cognitive bias, thus fostering escalation (Simonson and Staw, 1992). The pattern of project variables such as high salvage value is also regarded as critical in de-escalation decisions (Staw and Ross, 1987). De-escalation can be facilitated where a venture has not yet become organizationally embedded or where the decision-maker believes that the goal is distant, or where there exist conditions which are opposite to those favouring persistence (such as low commitment and low information equivocality). The few empirical studies of de-escalation of commitment have been primarily concerned with comparing the worth of various de-escalation strategies.

Summing up, plausible de-escalating strategies proposed by previous research include:

1. backing off (Staw and Ross, 1987),
2. being aware of the likelihood of entrapment (Nathanson et al, 1992),
3. boosting experimentation (Staw and Ross, 1987),
4. creating decision alternatives (McCain, 1986),
5. evaluating decision-makers on the basis of their decision process rather than outcome (Simonson and Staw, 1992),
6. forcing decision makers to review their options (Bracken et al, 1979),
7. improving the information system (Staw and Ross, 1987),
8. maintaining a balance between risk and opportunity (Drummond, 1994),
9. making negative outcomes less threatening (Simonson and Staw, 1992),
10. preparing a progress report on the project (Ghosh, 1997),
11. providing information about future benefits of additional expenditure (Ghosh, 1997),
12. providing unambiguous feedback regarding previous expenditure (Ghosh, 1997),
13. recognizing over-commitment (Staw and Ross, 1987),
14. reducing the risk of failure (Staw and Ross, 1987),
15. seeing escalation for what it is (Staw and Ross, 1987),
16. separating decision-makers (Staw and Ross, 1987),
17. setting minimum target levels (Teger, 1980; Simonson and Staw, 1992),
18. turn over administrators (Staw and Ross, 1987),

10.4 Forwarding the research on de-escalation: the relevance of sunk cost and negative feedback in diversifying investments

What the three strings of research on escalation and de-escalation have ignored are any specific relationships that might exist in a particular investment situation among sunk cost, negative feedback, the subjective probability of future returns, and the felt responsibility for the previous decisions, although these relations can vary widely across different investment decision-making contexts and types of decision-making tasks.

It has been held (Wilson and Zhang, 1997) that prospect theory (Kahneman and Tversky, 1979) remains one of the most viable mechanisms which provide sound explanations for the escalation and de-escalation of organizational commitment phenomenon. According to prospect theory (Kahneman and Tversky, 1979; 1984), investment decision outcomes are normally evaluated as gains and losses from some reference point. Investment decision-makers are posited to be influenced by a ‘certainty effect’, in which probable outcomes are under-weighted in comparison with certain outcomes. Because de-escalation of commitment may lead to any sunk costs being viewed as a certain loss, people ought to become more reluctant to de-escalate their commitment as sunk costs increase.

Sunk cost effects, as predicted from prospect theory, may indeed occur in games of pure chance. Whilst prior loss and future return are unrelated, sunk costs mount with each loss. Furthermore,
the common 'gambler's fallacy' (Tversky and Kahneman, 1974) which is based upon the erroneous belief that a series of losses makes a win more likely serves to strengthen sunk cost effects in gambling situations. This shows that sunk cost effects can actually deter de-escalation of commitment. For instance, in some investment projects, such as R&D, long delays between investments and returns coupled with the fact that increased expenditures usually bring investment decision-makers closer to the project completion, can result in a great reluctance to de-escalate the commitment as investments increase; indeed, studies using R&D decision scenarios have often found strong sunk cost effects (Arkers & Blumer, 1985; Garland, 1990).

Taking negative feedback, which indicates failure to achieve a desired outcome after action, it can be reasoned that things such as no return following some investment can cause lower expectations about future returns after similar actions. Indeed, Staw and Ross (1987) argue that when negative feedback suggests that future investment is not likely to result in positive returns, as it might when negative returns are experienced repeatedly (Staw and Fox, 1977), or when the cause of a negative return is perceived to be endogenous to the course of action itself (Staw and Ross, 1978), de-escalation of commitment may be the most likely response taken by investment decision-makers.

10.4.1 The settings of the present study

In the present study, this researcher focuses on decision-making in the context of diversifying investment projects in China's state-owned enterprises. The current status of diversifying investments in China's state-owned enterprises can be defined as a series of investment decisions, with each decision producing a progressively clearer determination of risk versus reward and serving for the experimentation of exploring new business horizons, which might contribute to an organization's continuous prospering, although the organization may not necessarily enjoy distinctive advantages compared to competitors in the marketplace.

In one type of diversifying situation currently occurring in China's state-owned enterprises, "Xia Gang Feng Liu" (i.e. diversification and divergence), the term sunk cost takes on a literal meaning. Typically, one company has received encouragement from both the central government and its holding company to create new businesses so as to provide more job opportunities. On the basis of hierarchical intent in terms of downsizing goals, a decision is made to initiate an investment which can desirably break even. If the investment turns out to be an 'iron hen' (i.e. no financial rewards so that the firm can hardly break even), a significant sunk cost (i.e. the cost of implementation of the investment such as equipment, technology, capital, knowledge) has been incurred. At the same time, the infertile investment provides feedback
which may influence the decision-makers’ expectations of finding another profitable investment in the light of the hierarchical intent.

After having implemented an investment and witnessed its fruitlessness, the decision-makers have to decide whether to continue (by means of new management, new resources, etc.) or discontinue staying in the same business (by means, say, of embarking on new ventures). The interesting question here is how, if at all, this second decision will be influenced by the negative outcome from the earlier investment. On the one hand, prospect theory might predict that the cost of the first venture, in the absence of any return, will place the decision-maker on the loss side of the value function, thereby increasing the likelihood of his or her commitment to the previously chosen investment. On the other hand, if the infertile investment project decreases the perceived likelihood of subsequent success, the decision-maker may be less willing to escalate but more willing to de-escalate commitment towards the previous chosen investment. Assuming that the decision-makers do not run out of funds, which has been the case in so many Chinese state-owned enterprises in the past decade, the research question can be extended to how a second, third, fourth, and nth infertile investment will influence the decision to undertake the next investment, given that, with each infertile investment, both sunk costs and negative feedback have increased.

Nonetheless, it is not this researcher’s purpose in this thesis to generate a definitive test of different theoretical models such as self-justification, China mentality, prospect theory, sunk cost effects, and organizational inertia, because it remains doubtful that at the present stage of theoretical development any empirical study of decision-making in a moderately complex situation could provide such a test. Instead, the researcher seeks to examine the generalizability of sunk cost effects on the escalation and de-escalation of commitment to ongoing elusive projects among expert decision-makers in a familiar context in which sunk costs are inextricably tied to clear negative feedback.

10.4.2 Field Experiments I and II

Subjects in these two experiments are educated managerial cadres of a development company, which is a subsidiary of a state-owned enterprise seeking ways of downsizing. A mail-based survey design (please see Appendix B) is used to conduct two different experiments simultaneously. Each respondent is presented with one of the five developmental investment scenarios, which have been randomized before the mailing. The scenarios are developed by this researcher and have been reviewed by two experienced researchers and three professionals in the industry.
Four scenarios form a between-subjects experiment (i.e. experiment I) with sunk costs manipulated by depicting a situation in which one to four infertile investments have already been implemented, at a fixed cost per investment and with an investment budget that allows for five investments. After reading a scenario, each managerial cadre is asked to indicate both the likelihood of authorizing the funds to conduct the next investment and the perceived likelihood that the next investment would be productive.

The fifth scenario is a within-subjects experiment (i.e. experiment II) designed to better represent the dynamic nature of Chinese state-owned enterprises’ sideline investment decisions. The managerial cadres are first asked to indicate the likelihood that, after one infertile investment, they would authorize the capital resources to initiate the next investment, they then continue to respond to an evolving scenario of questions about the likelihood of authorizing resources for a third, fourth, and fifth (i.e. the last) investment, under the assumption that all preceding investments have been infertile.

10.5 Method

The sample: independent managerial cadres (N=500) were randomly selected from the computerized database of a large state-owned enterprise in northern China. The reason why independent managerial cadres are chosen as subject lies in the fact that they are believed to have the widest range of investment decision-making experiences among 3802 employees. The experiment was conducted in the autumn of 1998. A total of 235 completed forms are returned (with a response rate of 47%). The final sample size in experiment I is 197 and that in experiment II is 38.

The procedures: a personal covering letter from the researcher (please see Appendix A) and an internal return envelope were sent along with an experimental scenario to each individual targeted. The covering letter states that the researcher has received the cooperation of the managers’ committee in conducting research on investment decision-making in support of the firm’s continuous prospering. Respondents were assured of the confidentiality of their responses and thanked in advance for their cooperation. The fact that the experiment asks for no organizational information serves to both reinforce the researcher’s promise of confidentiality and reduces the amount of time necessary for responding.

Experiment I: In this between-subject design with four levels of sunk costs, all subjects are provided with a two-page protocol (please see Appendix B). A cover page (identical in all conditions) is used to help assume that the subjects are experiencing the situation depicted on the second page of the protocol and to respond as if they really have to make a decision.
Furthermore, the importance of actually placing oneself in the situation described is then reiterated.

The decision scenario is designed to portray, albeit in a simplified form, a realistic investment project situation. All information presented is easily understandable to the managerial cadres. To examine the impact of infertile investments on the decision to realize additional investments, all other things being equal, the researcher deliberately excludes from the scenarios the typically generically rich or poor investments. The actual scenario employed in the first investment condition is as follows:

Your company has recently realized an investment in the petroleum-chemical industry, similar attempts in other part of the land have been proven very successful. The acreage position is such that a minimum of five more similar investments can be planned and implemented. The holding company provides ¥10 million RMB budget for up to five investments with each investment sharing a maximum of ¥2 million RMB allocation (¥1 million RMB for implementation cost, another ¥1 million RMB for operation cost). You have been given the final authority to authorize all expenditures on varying investments in five years. The research result previously carried out has proven both your original implementation plan and associated financial forecast. However, the realization of such an investment is a ¥1 million RMB infertile project and your total cost for this non-producing investment is, thus, ¥1 million RMB.

Subjects in the two, three, four infertile investment conditions read the same scenario, except that it is specified that the realized investments and the next one, two, or three investments have all been infertile. In addition, it is specified that the total cost for these two, three or four infertile investments is ¥2 million RMB, ¥3 million RMB, or ¥4 million RMB, respectively. By emphasizing the total cost of infertile investments in each condition, the researcher hopes to make sunk cost salient to all subjects.

A number of points should be made about how managerial cadres in a large Chinese state-owned enterprise would interpret the facts presented to them in these scenarios. First, the positive information provided about the investment supported by the managerial success in another part of China clearly implies that there is potential profit which can be made in this part China. Second, it would be assumed that the management has made the specific choice as to the best available location, capital and personnel to implement all investments in this part of the land. Third, the relatively low cost of the land, compared with the cost of implementation, is typical in the petroleum-chemical industry. Fourthly, it remains typical to authorize both the cost
of implementation and operation for each investment, even though the actual risk involved is only the implementation cost of the infertile investment, which in the present case is ¥1 million RMB.

Immediately following the scenario were two questions. First, subjects were asked to indicate "on a scale from 0 to 100 (%) how likely it is that if faced with this situation, you would authorize another ¥2 million RMB to realize the next (or third, fourth, last, depending on the subject's condition) investment in the programme"; subjects respond by circling a point along a 100 point scale marked definitely would not authorize (0) and definitely would authorize (100) at the endpoints with the midpoint of the scale (50) marked even chance. Second, subjects are asked "Regardless of how you answered the previous question, what remains your perception of the likelihood that the next investment to be implemented on this prospect would break-even as in the case of some other company in another part of the country?"; subjects are reminded that a break-even business is a reasonable and desirable endeavour for the holding company which seeks to create job opportunities so as to downsize the mainstream businesses; again subjects respond along a 100-point scale marked definitely would not break even (0) and definitely would break even (100) at the endpoints and even chance (50) at the midpoint.

Experiment II: The protocol for the within-subject experiment includes a cover page and four further pages. The cover page is identical to that in the between-subjects experiment. After reading the investment decision scenario, subjects are asked to respond to the same question about the likelihood of their authorizing another ¥2 million RMB to realize the next of the four remaining investments in the programme. To avoid confusion in this more complicated research design, the researcher did not ask subjects to indicate their perceptions of the likelihood that the next investment would break even.

On the third page, subjects read the following:

Assume that you have decided to implement the second investment which turns out to be another infertile project. Your total expenditure for the two infertile investment has been ¥2 million RMB. On a scale from 1-100 how likely would you be to authorize another ¥2 million RMB to implement the next of the 3 remaining investments in the programme?

On the fourth and fifth pages, subjects are asked to assume they have decided to implement the third and fourth investments, respectively. In each case, subjects are reminded of their total expenditure (i.e. ¥3 million RMB and ¥4 million RMB, respectively) and asked to indicate the likelihood of their authorizing another ¥2 million RMB to implement the next investment in the
programme. Repeated references to the total expenditures associated with implementing the infertile investment projects should make sunk costs particularly salient to respondents in this within-subjects experiment.

10.6 Interpretations of the results

10.6.1 Results

Table 10-1 records responses to the dependent measures in each of the infertile investment conditions for both experiment I and II. Seemingly, Table 10-1 tells that within columns means with different subscripts are significantly different from one another, \( p < .05 \), given the fact that subjects in experiment II are not asked to estimate the likelihood of next investment's breaking even.

<table>
<thead>
<tr>
<th>Table 10-1: Responses to dependent measures across four infertile investment conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experiment</strong></td>
</tr>
<tr>
<td>Items</td>
</tr>
<tr>
<td>Parameter</td>
</tr>
<tr>
<td>1 One infertile investment</td>
</tr>
<tr>
<td>2 Two infertile investments</td>
</tr>
<tr>
<td>3 Three infertile investments</td>
</tr>
<tr>
<td>4 Four infertile investments</td>
</tr>
</tbody>
</table>

10.6.2 Further analysis

**Experiment I: First**, a multivariate analysis of variance on responses to both dependent measures across the four conditions of Experiment I shows that a highly significant effect (i.e. \( F_{\text{wilks}}(6,384) = 13.13, p < .0001 \)) of the number of infertile investments that have been implemented. **Second**, separate univariate tests on each dependent measure reveals a significant effect of number of infertile investments on both the reported likelihood of authorizing the funds to realize the next investment (i.e. \( F(3,193) = 26.67, p<0.0001, \omega^2=0.28 \)) and the perceived likelihood that the next investment would break even (i.e. \( F(3,193) = 20.82, p<0.0001, \omega^2=0.23 \)). **Third**, polynomial analyses reveal that a highly significant linear trend on each measure, \( F(1,193) = 70.79, p<0.0001, \omega^2=0.25 \), for the likelihood of authorizing, and, \( F(1,193) = 57.17, p<0.0001, \omega^2=0.22 \), for the likelihood of breaking even. **Fourth**, the effect of a number of infertile investments on each dependent measure is clearly negative as can be seen from the above Table 10-1: the greater the number of infertile investments, the less likely subjects are to authorize funds to realize the next investment and the less likely they are to believe that the next venture will break even. **Fifth**, consider the difference between a subject's reported likelihood of
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authorizing funds for the next investment and his or her perception of the likelihood that this investment will break even, there is a positive difference (i.e. higher probability of investing than the perceived probability of breaking even) which might be interpreted to reflect a particular type of risk seeking and a negative difference (lower probability of investing than the perceived probability of breaking even) which might be interpreted to reflect a particular type of risk aversion; and, a mixed-model analysis of variance (ANOVA) with number of infertile investment treated as a between-subjects factor and type of dependent measure treated as a within-subjects factor reveals a significant between-subjects main effect of the number of infertile investments implemented (i.e. $F(3,193) = 28.70, p<0.0001$, $\omega^2=0.30$), no significant within-subjects effect for type of dependent measure (i.e. $F(1,193) = 1.46$), and a significant interaction effect of these two factors on subjects’ responses (i.e. $F(3,193) = 7.21, p<0.0001$, $\omega^2=0.09$). Sixth, further tests show that, despite the significant interaction suggesting differences between a subject’s reported likelihood of authorizing investment and the perceived likelihood of the pursued investment’s breaking even, only in the one-infertile investment condition is the difference between responses to the two dependent measures statistically significant (i.e. $F(1,193) = 19.8, p<0.0001$).

Experiment II: First, as can be seen in Table 10-1, as the number of infertile investments increase, subjects are markedly less willing to authorize the next investment in the programme, and a repeated-measures ANOVA (multivariate approach) reveals a significant effect on number of infertile investments (i.e. $F(3,35) = 81.47, p<0.0001$, $\omega^2=0.77$). Second, further examination of Table 10-1 shows that the willingness to authorize funds to implement the next investment after one or two infertile ones is virtually identical across both the between-and within-subjects experiments, but in Experiment II, de-escalation of commitment to the diversifying programme after the third and fourth infertile investments is far greater than in Experiment I. Third, in order to ascertain how a subject’s willingness to commit resources to the infertile investments is influenced by his or her previous decisions and by consistent negative feedback, it seems appropriate to make statistical comparisons across experiments at any level of infertile investment variables since subjects in Experiment II are actually a random subgroup of the sample used in Experiment I; and the results of these comparisons are highly significant for three and four infertile investments (i.e. $t (85) = 3.71, p<0.0001$, and $t (89) =4.05, p<0.0001$). Fourth, attempts (by dividing the managerial cadres into two groups on the basis of the median reported likelihood of authorizing investment funds to implement next investment after one infertile investment has been implemented, median = 70) to compare patterns of de-escalation of commitment after negative feedback among managerial cadres who are more or less willing to authorize investment fund following the first infertile investment in the diversifying programme
reveal that the managerial cadres can be rated as either enthusiastic (above the median) or unenthusiastic (below the median) as can be graphically viewed in Figure 10-1, which clearly shows that the two groups converge over time with repeated negative feedback and there exists a significant interaction effect (i.e. $F_{\text{wilks}} (3,34) = 19.63, p < .0001, \omega^2=0.09$) by means of a 2 (enthusiastic vs unenthusiastic) x 4 (number of infertile investments) mixed-model ANOVA.

10.6.3 Discussion

The results of Experiment I and Experiment II suggest that, in their decisions to de-escalate or escalate their commitment to an on-going investment, these managerial cadres are not subject to the kind of sunk cost effects which have been observed in previous research studies (e.g. Arkers & Blumer, 1985). Earlier work (e.g. Wilson and Zhang, 1997), including the earlier study of this research (e.g. Table 7-5 in Chapter 7 and Q8-5 in Chapter 8), would suggest that higher sunk costs are associated with decisions to escalate involvement in on-going investments while in this study it is found to have a strong and opposite effect. That is, as sunk costs increase, investment decision-makers are more willing to de-escalate their involvement in on-going investments in the diversifying programme and less willing to escalate their commitment in on-going investment activities. This study also provides partial support for one of the research findings generated from an earlier study of this researcher (i.e. Q8-7 in Chapter 8) that different de-escalation strategies tend to have a very small effect on de-escalation (please see type J test in Chapter 8).

The results of Experiment II (within-subjects) both support and extend the results of Experiment I (between-subjects). Moreover, when investment decision-makers in Experiment II make repeated decisions, they exhibit an even stronger tendency than do the investment decision-makers in Experiment I to de-escalate commitment to the diversifying programme as the number of infertile investments increases. The fact that subjects in Experiment II make their decisions in rapid succession could certainly have accounted for the apparent rationality of these decisions. However, the rapid evolving scenario employed in this within-subjects experiment repeatedly emphasizes the overall expenditure for all infertile investments in the programme, which increases with each trial. Given this, it would have been surely reasonable, at least according to prospect theory, for the managerial cadres to have become more risk-seeking over trials, as they increasingly frame their decisions as a choice between losses (Kahneman and Tversky, 1979). Moreover, the fact that de-escalation of commitment is as strong (actually stronger) for those who are initially enthusiastic about realizing investment as it is for those who are less committed to begin with, suggests that self-justification (Staw, 1978) is not a major factor in the results of this fieldwork, and this echoes Q8-2 that escalating commitment literature is inconsistent and
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Q8-3 that self-justification does not tend to possess a large effect on escalation and de-escalation at all.

To compare this fieldwork with previously conducted research in this vein, one can find that one obvious difference between this work and earlier work in this area is that subjects in this work are all Chinese and all experts who are presented with a decision problem which is common in their line of routine work. As noted by Wilson and Zhang (1997) and Conlon and Parks (1987), most experimental studies of escalation have employed university students who lack experience in the decision-making contexts with which the researcher presents them.

Looking back, one can find that there exist at least two factors, either alone or in combination, which may account for the discrepancy between the findings of this work and those of earlier research on sunk cost effects on decision-making: first, subjects in this research are all formerly trained in rational decision-making in their field of experience, whereas the subjects of most experimental research on sunk cost effects and escalating phenomenon have been relatively inexperienced university students, and this gives rise to the inevitable difficulty of generalizing from students to expert populations; second, in this research a decision scenario is deliberately developed in which sunk costs are directly related to unambiguous negative feedback, whereas in earlier studies decision scenarios are often related to negative feedback which is either ambiguous or less diagnostic.

10.7 Conclusion and recommendation

The results of the experiments imply that the effects of negative information on decisions to escalate or de-escalate commitment towards an on-going investment can be influenced by the degree to which that information is diagnostic of future returns. Although this study can not be regarded as, not even by design, providing a test of varying theoretical models of escalation and
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de-escalation of commitment, research results do suggest that one needs to be careful in attempting to use one decision model to understand the impact of single variables (e.g. sunk costs, negative feedback, etc.) on behaviour across situations in which all things are far from equal.

What can be learned from the results of this study is that, despite any tendencies respondents may have had to engage in self-justification (Staw, 1978), and despite a decision-making problem in which de-escalation of commitment is very likely to be framed as a loss (Kahneman and Tversky, 1979), the structure of the problem is such that respondents cannot ignore the diagnostic value of repeated failures which mount in direct proportion to sunk costs. That is to say, had this researcher chosen to structure the problem differently, the research result might have looked quite different. For instance, it is possible that the greater the funds expended to implement an investment to a higher business level (e.g. going beyond pure manufacturing of products to include the establishment of the distribution channel), the greater the propensity to implement and improve the investment when the investment fails to break even.

In their review of behaviour in escalation and de-escalation situations, Staw and Ross (1987) contrast a protocol situation for de-escalation of commitment with one for escalation of commitment. It is asserted (Staw and Ross, 1987) that two major factors in the prototype of de-escalation of commitment are that the "objective situation increasingly worsens over time, making it economically clear that persistence is more costly than withdrawal" and the existence of "social norms for experimentation and the acceptance of failure". The first factor is certainly present in the infertile investment scenario which this researcher presented to managerial cadres of a Chinese state-owned enterprise which is undertaking a downsizing programme; the second factor seems endemic to the petroleum-chemical industry under the influence of horizontal diversification. Thus, in this study, this researcher seems to have identified at least one combination of an applied decision context and a problem in which increasing sunk costs are associated with increasing tendencies to de-escalate rather than escalating commitment to ongoing investments.

In a number of ways, the method utilized in this study seems to represent a step forward from earlier studies of sunk-cost and escalation effects. This is because, in those earlier studies, more often than not university students were asked to respond to hypothetical scenarios outside the realm of their experience. However, no matter how expert the respondent and how relevant the scenario, experiments cannot substitute for the study of actual decision-making in field settings. Although it is likely that one can manipulate sunk costs or feedback or both in most business settings, researchers should not abandon more descriptive field studies of actual decision.
behaviour. The fact that the decision scenarios presented to the Chinese managerial cadres exclude the type of detailed data and social pressures usually present in job-orientated diversifying programme may have contributed to the overall level of rationality observed. For instance, the absence of these complicating factors in this researcher’s study on de-escalation of commitment may have heightened the salience of negative feedback and reduced concerns about self-justification. It thus remains possible that, had the Chinese managerial cadres been involved in a real investment project, their decisions would have been less rational and more susceptible to escalation effects. Moreover, the major difference between this study and previous ones perhaps lies in the fact that, while others use a theory as the theory to explain things, this researcher in this study uses a theory as a proposition (i.e. Q4-20, 22, 23&24) to probe new theories or add new dimensions to the theory.

To gain more insight into how less expert individuals might respond to the procedure of this research, future researchers can repeat, given time and access, the between-subjects experiment with a sample of university business students, or alternatively, involve themselves in more rigorous research such as a longitudinal case study. Although the escalation and de-escalation literature is filled with anecdotal examples of what look like sunk-cost effects, more descriptive field research and controlled experimental studies are needed to document the conditions under which ‘irrational’ effects are most or least likely to occur. There is also a definite need to combine the manipulation of theoretically important variables with richer methods of collecting respondent data. Therefore, future researchers can continue to investigate practical techniques that have the potential to contribute to effective decision-making by minimizing irrational sunk-cost effects and maximizing concern for future costs and benefits.

To go further beyond the theory-using paradigm of escalation of commitment, future researchers can direct their research effort at organizational commitment itself by examining the bond or contract (be it psychological, economic, ideological, political, social or environmental) by which investment decision-makers are attached to organizations and/or investments. Research in this line can prove useful in re-establishing the criteria for the identification of escalating commitment (e.g. improvement for QC6-1,2,3,4,5,6&7) and in re-discovering the importance of proper amount of commitment in organizations, the ways in which organizational commitment manifests itself, and the ways by which investment decision-makers can effectively manage their double-edged commitment towards investments. (All this is to be dealt with in Chapter 13 entitled “On Organizational Commitment”.)

1 For example, in the one-infertile-investment condition, the difference is positive (risk seeking); in the two- and three-infertile-investment condition, there are no differences; and in the four-infertile-investment condition, the difference is negative (risk averse).
11. Strategic Control: A Survey Study Of Chinese General Managers’ Perceptions

11.1 Introduction

Nowadays, people in the world of investments tend to accept the notion (Mintzberg and Waters, 1985) that strategy is no longer the prerogative of top management but emerges from the outcome of organizational struggle. Moreover, "self-organization" (Dermer, 1988) becomes more rampant than ever before in that it is much easier nowadays for people to form groups which produce patterns of behaviour despite the absence of formal hierarchies within the groups or authorities imposed from outside them. Concepts of emergent strategies and self organization directly encourages people to reconsider the notion of strategic control (Coad, 1995).

Investment decisions made in conditions of uncertainty and ambiguity can fail to turn out as expected and thus strategic control as an integral part of the overall process of strategic management emerges to play an essential role in ensuring that the strategy is being implemented as planned and that the results produced by the strategy are those intended (Schendel and Hofer, 1979). For example, despite the belief that strategic control is little understood and seldom found operating effectively in practice (Goold and Quinn, 1990), it has been reported that effective strategic controls at firms as diverse as Chevron, Honda, Bank of America, Anheuser-Busch, and DPA have led them to substantially improved economic performance.(Harrison, 1991).

Partly for this reason and partly because of the aggregate demand from QR8-1, Q6-3, Q1-3,4,5&6, Figure 2-8, Table 2-2, Figures 3-2&4, Q4-10, Q4-21, Q4-31, Q5-1,3,4,5,6,7,13,14&18, QB6-1,2,3,4,5,6,7&8, Q6-4,5,6,7&8, and Q8-5&7, this study sets out to explore to what extent the Chinese general managers understand and exploit the concept of strategic control. That is, is strategic control at the top of the indigenous Chinese state-owned enterprises merely a scarcity as it is in the UK and the USA (Goold and Quinn, 1990) or does it play a more active role in formulating, selecting, implementing and improving organizational strategies (Zahra, 1990)?

This part of the thesis aims to identify and validate those strategic control factors which directly contribute to the success of investment decisions made, implemented, evaluated and improved across China by the use of face-to-face interview based survey. In terms of structure, the researcher first provides a review of strategic control literature, then conceptualizes an empirically backed-up strategic control process model, and then describes the method as well as the subjects of the study before he finally discusses the research results of the study.
11.2 Strategic control literature

11.2.1 The definition of strategic control

Definitions of strategic control range from overly simplistic to needlessly complex. Strategic control is most usually portrayed as something to do with ensuring conformity with the central organization-wide intent of top management (Schendel and Hofer, 1979). Schreyogg and Steinmann (1987) claim that strategic control means “the critical evaluation of plans, activities, and results, thereby providing information for future action”. Glueck and Jauch (1988) declare that strategic control is intended to see that implemented strategic choices result in the attainment of the objectives which gave rise to the process of choice. Neale and Holmes (1990) perceive strategic control as an advanced form of post-auditing of actual performance against intended performance with a particular emphasis on achieving long-range objectives within established time and cost constraints. Kellinghusen and Wubbenhorst (1990) advance a triadic model of strategic control made up of awareness, audit and action. Roush and Ball (1987) conceive strategic control as a reporting system designed to provide the CEO with timely information related to the successful implementation of strategic decisions.

However, organizations are increasingly viewed by leading management theorists (e.g. Hamel, 1997) as non-goal-oriented, non-instrumental social systems which are susceptible to change in infinite ways. Thus, the concept of strategic control needs to explicitly recognize that forces other than senior management can and do shape strategic evolution and that organizational effectiveness is no longer goal-related but can be evaluated only in terms of adaptability and, ultimately, survival. One of the most recent descriptions of strategic control goes to Coad (1995) who sees it as “concerned with the decisions and actions undertaken by organizational actors in response to perceived environmental patterns in organizational action, past or yet to come”. Harrison (1991) sees strategic control as being ‘a discernible sub-process within the overall process of strategic management...[which] focuses on the fit between the formulation of strategy and its implementation ensuring that the strategy is both on schedule and on target’. Harvey (1987) notes that strategic control is the managerial function that ensures that actual organizational actions correspond to planned actions”. Stacey (1991) sees strategic control as “...the process by means of which the managers of an organization discover strategic issues, make strategic choices and act to realize those choices”.

For the purpose of this study, strategic control, is conceived as a cyclical progress-oriented process featuring identification, definition, searching, choosing, authorization, implementation, monitoring, and improvement of an investment strategy for the total organization, and it can be both a subset of a large development-oriented process that includes the conceptualization,
operationalization, actualization and idealization of the investment at the macro level and a mega-set of a small performance-oriented process that includes the goal, plan, execution and measure of the investment at the micro level.

11.2.2 The need for strategic control

The need for strategic control lies in the intrinsic nature of the overall strategic management process in that strategic control is intended to measure and evaluate the effectiveness of selected managerial strategy with a particular emphasis on the attainment of the established managerial objectives. For example, strategic control provides management with information regarding the progress being made in the operating areas of the organization so as to facilitate the successful implementation of the selected managerial strategy and, further, to ensure that actual outcomes are in conformity with the outcomes integral to the strategic choice.

The need for strategic control is also centred in the inevitability of change in the organization's external environment which is fully filled with forces (such as political, economic, technological and social) which bring forth change. For example, it can be difficult for investment decision-makers to implement a given strategy with complete confidence that its outcome will result in the attainment of the pre-aimed objectives. Thus, it seems both plausible and necessary for managers at all levels (especially the decision-makers) to review, via strategic control mechanisms, the results of the implemented managerial strategy and to make adjustments in the system as appropriate.

The need for strategic control also results from the potential of increasing efficiency in the operating areas of the organization. If a given implemented managerial strategy generates continuing evidence of a departure from its intended objectives, strategic control mechanisms can be employed to signify a need to make preventive adjustments or corrective surgery. For example, a different mixture of inputs, a different application of technology, a different use of key personnel, or a different layout of process, can result in an outcome which is more (via strategic control) or less (via laissez) in keeping with management's strategic choice. Thus, continuous improvements in the internal efficiency of the organization, along with the requirement to remain constantly responsive to environmental forces such as the PETS (i.e. political, economic, technological and social), poses a continuing need for strategic control.

11.2.3 The position of strategic control

Anthony (1965) emphasized the triadic hierarchy of control with his conceptualization of strategic planning, management control and operational control, Lorange (1984) propounds strategic control as the top-level totality of all control systems in an organization. Higgins (1985)
develops a hierarchy of strategic control, management control and operational control. Thus, there is no surprise, given the responsibilities of the top management for overall monitoring and surveillance of the total organization, when Harrison (1991) anchors strategic control at the apex of a triadic systems of controls that starts with top management and extends downwards through middle management into the bottom lines of the organization.

To distinguish strategic control from management control and operational control, one can easily find that strategic control normally starts with the strategic plans at the level of general management and extends downward through middle management into the operating areas of the organization, with information feedback beginning with operations and being transmitted upward from the operating control system through the management control system into the strategic control system at the level of general managers. Seemingly, at each level of management, the operating performance is measured and appraised against the organizational objectives which underlie the strategic plan of the organization; at each level, corrective or preventive actions may be initiated depending on the nature of the actual divergence (i.e. the difference between pre-established objectives and the performance measured).

It has been argued (Harrison, 1991; Asch, 1992) that strategic control is accomplished by the establishment and use of strategic checkpoints which act as benchmarks employed by top management to measure and evaluate organizational progress toward the accomplishment of a given strategy. Roughly speaking, it can be held that strategic control is objective-oriented in the same way that management control is responsibility-oriented and operating control is task-oriented. To put it another way, while strategic control remains addressed to the accomplishment of organizational objectives, management control remain addressed to the allocation and utilization of resources in the accomplishment of such objectives, and operating control remains concerned with the execution of the tasks made possible by the aforementioned allocations.

11.2.4 The approaches to strategic control

Wilson (1995) has identified five approaches to strategic control which can be regarded as very helpful for investment decision-makers to understand strategic control in the jungle of control—Lorange et al’s (1986) strategic momentum and strategic leap; Schreyogg and Steinmann’s (1987) premise control, implementation control and strategic surveillance, which is further aided by Preble’s (1992) special alert control; Johnson and Scholes’s (1988) information and control systems, regulatory systems, cultural systems, and political systems; Simon’s (1987,1990) prospector, defender, and analyzer; and Stacey’s (1991) closed change, contained change and open-ended change.
Taking Preble’s (1992) modified 4-step model of strategic control for example, Preble (1992) extends and modifies Schreyogg and Steinmann’s (1987) 3-step (i.e. premise control, implementation control and strategic surveillance) model and forms a so-called comprehensive system of strategic control (Figure 11-1). As reflected in Figure 11-1, strategy formulation (i.e. determining an organization’s strategic direction) begins at time $T_0$. The strategic surveillance

![Figure 11-1: Strategic control components in the strategic management process](image)

(with environmental scanning as its key mechanism) of emerging events parallels the strategic management process and runs continuously from time $T_0$ to $T_3$. Special alert controls (with crisis audits or crisis management as its key mechanism) are really a subset of strategic surveillance controls and therefore conducted over the entire planning cycle. Premise controls (with environmental monitoring as its key mechanism) run continuously from the point of initial premise/assumption setting (i.e. $T_0$). Implementation control (with implementation process as its key mechanism) begins when strategy implementation starts (i.e. $T_2$) and runs to the end of the planning cycle (i.e. $T_3$).

To further illustrate, the common purpose of all the strategic control components is to examine and determine on a continuous basis whether strategies should be modified in accordance with changing circumstances. Premise controls involve qualified individuals and divisions in the systematic and continuous checking of environmental conditions to see if planning premises (such as forecasts of expected inflation and the nature of competition) are still valid which are
Previously established earlier on in the strategic planning process and are later employed to act as a basis for formulating organizational strategies. Strategic implementation controls provide additional sources of information and help compensate for selectivity in planning by continuously questioning the basic direction of the organizational strategy by means of first establishing milestones, intermediate goals, and strategic thresholds and then applying them to evaluate the suitability of continuing or terminating new strategic investments or reassessing existing investments based upon results achieved up to particular points in time. Strategic surveillance, compared to premise control and implementation control, is designed to be a relatively open, unfocused, and broad search activity, and aims at early detection and advance warning of events or issues which may threaten ongoing strategic investments.

11.2.5 Some problems with strategic control

There are several limitations of strategic control, some of which are believed to be generic. First, the body of literature relating to strategic control is still extremely small (Shrivastava, 1987; Preble, 1992). Second, the practice of strategic control by organizations can be characterized as still being in its infancy (Goold and Quinn, 1990). Third, most strategic control approaches such as Schreyogg and Steinmann's (1987) 3-step model hold a limited objective of providing a conceptual foundation for strategic control. Fourth, many approaches to strategic control have been accused of being incomprehensive and inaccurate due to their requirement for massive investment in analysis, planning and bureaucracy (Goold and Quinn, 1990). Fifth, formalistic, cut and dried, and simplistic control systems carry the danger of bureaucratization when attempting to operationalize strategic control in that the logical rationality underlying these strategic control models may conflict with a skillful decision-maker's powers of intuition and judgment (Lorange et al, 1986). Sixth, many of the above-mentioned approaches to strategic control suggest that analysis and intuition be combined in such a way as to help assure a creative strategic control process which retains its vitality over time, but all fail to prescribe how to achieve this ambitious (if not nearly unachievable) goal.

One of the most significant problems in strategic control relates to measuring performance in that it seems that poor objective and poor performance appraisal trigger most of the control problems (Asch, 1992). It has been frequently noted that establishing objective measurable targets or goals is essential for successful strategic control (e.g. Asch, 1992; Harrison, 1991; Ansoff, 1987). For example, financial measures of performance for strategic control often prevail. Financial methods are often more objective, but they tend to emphasize the measurement of outputs via inputs (rather than the process), although they deal with inputs better than with outputs. Consider return on investment (ROI) which is commonly employed to
measure divisional performance relating to an investment, given that the lower the asset base the higher the ROI, it may be in the interests of business unit managers not to replace equipment and technology as this increases the asset base, so to either use normal accounting rules or to apply replacement value or to employ market value becomes a tough decision for the investment decision-makers. Besides, most profit measurements are problematic in that unless the business unit operates only in an open market the resulting revenues and costs can be subject to distortion due to imperfect or fixed internal markets, and this can easily lead managers to influence results in the short term by postponing or canceling altogether discretionary costs such as R&D and maintenance.

11.2.6 Barriers to strategic control

It has been argued (e.g. Lorange and Murphy, 1984, Goold and Quinn, 1990) that there are three broad categories of barriers to strategic control. **First**, there are systemic barriers which are most likely to stem from deficiencies in the design of the control system itself, or from an inability to manage the system. For example, investment decision-makers may experience difficulty in defining adequate performance measures for strategic control. There can be excessive complexity in the control system. The cognitive capacity of investment decision-makers to reconcile meaningfully a diversity of variables, especially when multidimensional interpretation of performance is required, can also contribute to system design problems. **Second**, there are behavioural barriers which might stem from an inability to dispense with the habit of thinking that an investment decision-maker’s background, education, training and corporate culture have created over many years or stem from cognitive limits to the decision-maker’s basic intellectual capacity. For example, vested interest and sunk costs can lead to entrapment which can further but adversely affect the utility of strategic control. Fear of losing face or being proved wrong, or the difficulty involved in abandoning familiar thought patterns and acquired behaviour can also enhance behavioural barriers. **Third**, there are political barriers which might stem from decision-makers’ inability to create a sufficiently broad sense of agreement regarding basic direction, or stem from their inability to manage the resources needed to get to where they want, or stem from the lower level managers’ unwillingness to report unfavorable results to top management. Clearly, a strategy has to be ‘politically’ accessible for the various power groups which exist in most organizations. For example, if the strategic control process calls for changes in the basic strategic agenda, it can affect internal power groups and thus it can be viewed as potentially disruptive to the relative power of coalitions, thus leading to resistance.

11.2.7 Prescription for effective strategic control systems

It seems inappropriate to attempt to formulate any common prescription of a normative view of
strategic control. However, some ideas developed by previous researchers can prove worthy of consideration in developing strategic control systems. For example, Lorange and Murphy (1984) highlight that investment decision-makers need to keep the strategic control process as simple as the external environment permits, to create a broader and more explicit awareness of strategic control issues such as making the process explicit, and to promote interorganizational trust which can be crucial to the development of a viable control atmosphere and which may result in a shared perception safeguarding the long-term viability of the organization and also of their employees.

Preble (1992) proposes that investment decision-makers can employ environmental monitoring and scanning techniques as efficient mechanisms for implementing premise control and strategic surveillance respectively, and use crisis audits and crisis management teams as effective mechanisms for conducting special control so as to refine the strategic control process. Preble (1992) further prescribes that, to achieve effective strategic control, investment decision-makers, can follow Ansoff’s (1980) procedures to guide strategic issues groups (e.g. by means of staff groups or ad hoc groups) to help with the coordination of the strategic control system, or organize their strategic control activities in accordance with the considerations descriptively summarized in Table 11-1.

| Table 11-1: Constructive how-to-organize considerations for strategic control  
(Source: Adapted from Preble (1992)) |
<table>
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<tr>
<td>Components of strategic control</td>
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<tr>
<td>Dimension s</td>
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<tr>
<td>Purposes</td>
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<tr>
<td>Keep premises current and strategies valid</td>
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<tr>
<td>Monitor the effects of actions as they impact on strategy</td>
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<td>Advance warning (via early detection) of environmental changes or shifts that could affect strategic direction</td>
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<td>Strategic readiness in times of crisis</td>
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<td>Mechanisms</td>
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<td>Environmental monitoring</td>
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<td>Implementatio process</td>
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<td>Environmental scanning</td>
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<td>Crisis audit / crisis management</td>
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<td>Procedure s</td>
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<tr>
<td>List premises (i.e. GNP growth rate, industry growth rate, societal resistance to certain products, competitor actions, length of new product life cycle)</td>
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<tr>
<td>Establish standards (milestones)</td>
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<tr>
<td>Determine and partition the environment into manageable sectors (e.g. economic, industry, social, market, governmental) and break into a cluster of variables (e.g. economic-interest rate, inflation rates, business cycle, income trends, employment trends, money supply)</td>
</tr>
<tr>
<td>Determine vulnerable areas (human, production, organizational, technological, social, political, macro-economic systems, internal or external), call for immediate and intense strategic review and a 'wartime' response</td>
</tr>
<tr>
<td>Key points</td>
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<tr>
<td>On-going validity</td>
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<td>On-going responsibility</td>
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<td>Data acquisition</td>
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<td>Unwelcome surprises or discontinuous leap of change</td>
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In summary, strategic control demands critically checking (via observations), scrutinizing (via measurements), and acknowledging (via actions) assumptions, strategies, processes, and results continuously in the light of evolving internal and external conditions; and the strategic control process begins when planning starts and is performed continuously and simultaneously with it. Strategic control is forward looking in nature and has its own rationale. It can be held that effective strategic control can not only facilitate the timely updating of strategies but also improve the overall success rate of strategic management.

11.3 Strategic control of investments: Chinese general managers’ perceptions

11.3.1 The conceptualization of strategic control

Figure 11-2 reflects a conceptual process model of strategic control developed from leading edge theories and real world applications expressly for use in the study of some Chinese general managers’ perceptions underlying the strategic control practices in the Chinese state-owned enterprise sectors. It features four phases: the conceptualization phase which runs from T_{i,1} to T_{i+2}, the operationalization phase which runs from T_{i+3} to T_{i+4}, the actualization phase which runs from T_{i+5} to T_{i+6}, and the idealization phase T_{i+7} to T_{i+8}.

Given that strategic control demands continuous checking, scrutinizing, and acting on the assumptions, strategies, processes, and results of an investment, the timeliness and effectiveness of strategic control progress-oriented actions become crucial if the organization wants to
become constantly fit for the evolving internal and external conditions and consequently survive. There are eight components together with sixteen checkpoints of strategic control which are central to this study of the Chinese general managers’ perceptions on strategic control.

**Identification of the potential.** Identification of the potential strategy is the triggering phase of strategy formulation. By means of an *intensive SWOT analysis*, strategy-makers can actually recognize investment problems and understand investment opportunities. However, strategy-makers cannot always rely on normal investment opportunities, sometimes they need to create revolutionary investment opportunities. Thus, *pertinent articulation of strategic intentions* becomes as important as a SWOT analysis. Usually, it seems nearly impossible to obtain the information required for every investment potentials and thus the identification phase itself needs to be both contextually undisciplined and purposefully disciplined.
Definition of the workable. Definition of the workable strategy is the matching of what is available - i.e. availability of resource such as competent personnel, finance, advanced technology, and beneficial governmental macro-political and economical policy - and what is wanted - criteria for performance such as measurements for results and tolerance for errors. This is to ensure that strategic intentions can be turned, by the use of standardized documentation, procedures and the like, into operational formulations of spending requirements, implementation practicalities and measurements for the outputs as well as the processes of the forthcoming organizational activities.

The search for the possible. The search for the possible strategy aims at the development of alternatives from which decision-makers can choose and further exploit. It has been noted that the generation of investment alternatives can be more ‘emergent’ than ‘deliberate’ (Mintzberg and Waters, 1985) or vice versa (Ansoff, 1991). A strategy would not be said to be successfully fulfilled if it did not have alternatives from the outset. Forms of developing alternatives can include planning screening activities, market survey, telephone calls and collective brainstorming; but the key to alternative producing is competent, imaginative, and cooperative people. Thus, it remains essential for organizations to promote both individual creativity in the generation of ideas and collectivity in the development of options. Seemingly, the combination of individual creativity and collective effort are needed to search for alternatives.

Choosing the optimal. Choosing the optimal strategy is actually a well thought compromise between rationality and reality. Stakeholders of the organization can sometimes provide the management with sharply differing rationalities, and the management needs to process them and produce a set of clearly prioritized rationalities (e.g. economic or operational) which can be used to overwhelm the rest of them. To evaluate an investment one needs appraisal techniques such as payback, average accounting rate of return, net present value and computer simulation. However, these examples of economic or financial rationality can, due to the validity of the very assumption underlying such techniques, fail to reflect the real investment decision-making situations. That is to say, experienced decision-makers’ intuition or judgment can outpace economic or financial rationalities. Therefore, careful consideration of practicality can become relevant in choosing a strategy, and people’s experience, intuition, sense, and judgment can play as useful a role in decision-making as can formalized rationalities.

Authorizing the chosen. Authorizing the chosen strategy relates to allocations of funds, responsibility and authority. Seemingly, the primary vehicle through which allocations of resources are made is the budget, which itself is derived from strategic intention related resource. Needless to say, performance positively relates to budget, and performance within budget results
in the attainment of strategic objectives. So when facing the scenario of many investment bidding for scarce resources, investment decision-makers need to encourage *proper stretch for budgetary allocation* so that strategic intentions receive strategic attention in terms of formal statements of policies, goals, and plans. However, budgets are not only reflected by the amount of resources allocated but also bear on them varying standards on the basis of which performance can be measured and evaluated. This refers to *anchored contractual assignments* which can be, *inter alia*, behavioural, economic, ethical, environmental, societal, and technological. Authorizing the chosen strategy not only leads to the allocation of funds, authority, and responsibility to varying hierarchical levels and especially to the business level, but also implies the accountability of the allocator to the allocated. That is to say, the allocators of resources should remain accountable for the results of the allocatees and the general managers whose authority spans the whole enterprise should hold the final accountability for the performance of the investment being authorized.

**Implementing the approved.** Implementing the approved strategy relies on competent personnel who are not merely 'prospectors' nor just 'defenders' but also 'analyzers' (Simons, 1990). It is the implementers of a strategy who physically actualize the conceptualization and operationalization of an investment and directly contribute to the further idealization of the investment. Therefore it remains crucial that the implementation of an investment involves a sharp focus on *the balance between efficiency and effectiveness* in that the implementers have been allocated direct responsibilities for better utilizing the input and producing quality output as well as the accountability for the interactive process of inputs leading to desired outputs. This also suggests that the implementation of an investment needs to involve a *performance-oriented execution*, that is, relevant activities need to be rigidly controlled with an emphasis on goal, plan, execution, and measure. For the implementation of an investment to be successful, investment decision-makers need to follow a logical sequence which includes setting goals and standards, planning resources, preparing for and carrying out the execution, measuring and evaluating the results. Further, this logical sequence not only applies to implementing the approved, it also applies to the rest of the strategic control components; and this justifies why the implementation control loop covers not just implementation but the whole process although the former shares a much higher rate of importance than the latter.

**Monitoring the on-going.** Monitoring the on-going strategy suggests that a strategy is nothing without control. To achieve effective strategic control, investment decision-makers need to ensure that all elements of the decision-making process are designed, including control mechanisms such as feedback or feedforward methods, to function in a coordinated way. Since, in the age of knowledge, one thing which has not been changed is change, it appears sensible for
Chapter 11 Strategic Control: A Survey Study Of Chinese General Managers' Perceptions

an enterprise to adopts a change-detection-orientation for continuous surveillance so that the enterprise can monitor, via environmental scanning, the emerging events affecting the investment which are likely to threaten the course of strategic action. The ever-increasing complexity of business activities due to the advent of information technology and diversified man-made knowledge, it also appears necessary for an enterprise to adopt wide-angle auditing (e.g. before, during and post completion auditing, and peace and crisis auditing, internal and external auditing) so that the enterprise can be provided with a comprehensive advance warning of impending threats or evolving weaknesses which, from the perspectives of response time and flexibility, enables the management to take timely and effective actions.

Improving for tomorrow. The improving for tomorrow strategy epitomize the notion that today is the image of yesterday but the shadow for tomorrow (Zhang, 1988). It seems that at the apex of the improving for tomorrow strategy are progress-orientation for preventive refinement and timeliness for corrective surgery. This requires that the total accountability holders of an investment promote continuous improvement if past decisions are proved effective, urge the provision of corrective actions if past decision are seen to be ineffective, and facilitate further analyses (i.e. let i=i+1 in Figure 11-2) if the current review of the process (i.e. the eight strategic control components) has not shown a clear picture of the enterprise’s strategic intents. That is, to combine them, the total accountability holders of an investment need to encourage organizational learning in terms of knowledge creation, knowledge utilization, knowledge abandonment, and knowledge accumulation.

To sum up, it seems clear that the proposed knowledge-oriented strategic control process consists of eight strategic components (i.e. identifying the potential, defining the workable, searching for the possible, choosing the optimum, authorizing the chosen, implementing the approved, monitoring the on-going, improving for tomorrow), which further feature sixteen strategic control factors (i.e. intensive SWOT analysis, pertinent articulation of strategic intentions, availability of resource, criteria for performance, individual creativity in the generation of ideas, collectivity in the development of options, clearly prioritized rationalities, careful consideration of practicality, proper stretch for budgetary allocation, anchored contractual assignments, the balance between efficiency and effectiveness, performance-oriented execution, change-detection-orientation for continuous surveillance, wide-angle auditing, progress-orientation for preventive refinement and timeliness for corrective surgery).

11.3.2 Real-world applications of the model

The conceptual process model of strategic control depicted in Figure 11-2 is partially derived from the actual experiences of organizations such as DPA, CNPC, and WPS which have
followed the process to a successful outcome. A brief mention of three of these successes is expected to help clarify the scope of applicability across various organizations.

DPA has been the most admired state-owned enterprise in China for nearly 30 years. It the early 1980s it acquired the major petroleum operations in North and West China ranging from Jilin province, Heilongjiang Province, Inner Mongolia, to Xingjiang Province. In implementing, DPA dispatched a work force to Xingjiang, Inner Mongolia and Jilin, thus expanded work and increased output without rigid downsizing. DPA's primary standard by which to retain strategic control of its expansion and growth objective was always not to operate in any field in which DPA did not have over 50% of the total market. Through progress-oriented preventive refinement and timely correction, the company successfully implemented the strategic choice to dominate in Jilin, Inner Mongolia, Xingjiang, Heilongjiang, and today DPA is not only the most competitive and knowledgeable organization but also the only profitable petroleum company in China. DPA used the factors of strategic control depicted in Figure 11-2 with consummate effectiveness.

In 1993, WPS established a joint venture, JHL, in Beijing, with its strategic intention being to strengthen its market leader position in China and, more specifically, to deepen its penetration of the rapid growing market for petroleum down hole services throughout China and Asia. The joint venture among 14 indigenous companies throughout the country created the nation's fourth largest petroleum development company in central China. By observing the factors of strategic control conceptualized in Figure 11-2, JHL aggressively attacked the Asian market and the Chinese market and today JHL, with WPS as its holding company, is hailed as a tremendous success with its assets increased 100 times. It looks like that JHL met its strategic intentions through a strategic decision process featuring careful consideration of practicality, the balance between efficiency and effectiveness, and change-detection-orientation for continuous surveillance and auditing.

By size, CNPC is arguably one of the top 10 largest companies in the world. Since 1997 it has attempted to acquire chemical companies in China. This strategy involved a decision to downsize the corporation and refocus its operations in the northern part of China. To meet the need of the newly appointed general manager, Mr Fucai Ma, controls were strengthened at all levels. Contractual assignments are anchored; accountability was strengthened; and budgetary allocations were stretched. With an emphasis on improving resource availability, CNPC conducted intensive SWOT analysis, highlighted competence among its managers and integrative cooperation of resources, promoted individual creativity in the generation of ideas as well as collectivity in the development of options. The clearly prioritized economic and
marketing rationalities, among other factors, fostered CNPC to successfully achieve its strategic intentions in the middle of 1998. Today, in CNPC, severe bureaucracy is gone, redundancy is eliminated, peripheral business is trimmed, the then sleeping giant is now with its feet on the ground and its eyes on the future. The process model of strategic control depicted in Figure 11-2 seems further validated by the reality of this success.

In short, the brief mention of three successful Chinese organizations’ strategic successes only provides limited evidence for strategic control factors set forth in Figure 11-2. However, the point seems well made that the process model of strategic control depicted in Figure 11-2 is representative of the way in which many Chinese organizations have strategically and successfully managed investments. One thing for sure is that it is worth testing the process model of strategic control set forth in Figure 11-2 in a wider investment decision-making context, preferably in an empirical setting.

11.3.3 Method of the study

Studies of strategic control centred directly on Chinese general managers are rare in the literature. This researcher’s study reports the perceptions of incumbent general managers regarding the factors of strategic control which they feel contribute significantly to the successful implementation of investment decisions. The study was conducted in early 1997. Semi-structured interview was used to obtain information from the Chinese general managers. The interview involved Likert-scaled questions, the interviewees were asked to rate (from one to five points representing very low, low, neutral, high, and very high, respectively) factors related to successful strategic control of investment decisions. The interview was designed to last for about one hour. However, other sources of information about the specific organization such as documents, video programmes, and informal contacts were tried by this researcher prior to the interview so that the researcher was background-wise well prepared. Some interviews were disrupted due to genuine causes but resumed later on. Most interviews were conducted during the Chinese two hour lunch time breaks. Some were conducted at night at the interviewees’ homes when the interviewees insisted on exhibiting traditional hospitalities.

The organizations included in the study were randomly selected from “Dang Dai Zhu Ming Qi Ye Ji Jin” (A Collection of 500 Modern Excellent Chinese Enterprises), an propaganda type material updated every four or five years by a provincial authority. It had made clear that only general managers were the target. 110 organizations were contacted by telephone and 87 of them offered access. Of the 87 organizations, a total of 101 attempts were made, and 64 general managers participated in the interview. One Chinese statistician who used to be this researcher’s assistant at WPS was invited to help document and analyze the results.
The answers received from the 64 Chinese general managers were analyzed using Statistical Package for the Social Sciences (SPSS), including \( \chi^2 \) analysis, analysis of variance, and Pearson correlation coefficient analysis. This researcher focused on measures of central tendency for selected factors of strategic control which were subsequently correlated to ascertain significant, meaningful statistical relations. Two tables were employed to summarize the findings.

11.3.4 The profiles of the interviewees

The Chinese general managers: the interviewees of this study had an average service of between 18 to 30 years in their respective companies. Of the 64 general managers 34 had bachelor degrees in engineering or applied sciences, 15 had masters degrees, none possessed doctoral degrees, and 15 elder general managers had college or university certificates (equivalent to BA). None did not have any higher education.

Organizations: every Chinese organization is a society and the only difference is that some are big and others are small, or some are profitable and others are not. The 64 organizations headed by the interviewed general managers comprised a broad cross-section of state-owned enterprises. There were 20 traditional manufacturing organizations, 18 service companies, 15 high-technology manufacturing companies, and 11 others such as university, hospital, retail chain, and local government. Among the 64 organization, there were 6 joint ventures. When the interviews were conducted, a typical Chinese organization such as WPS had an extremely wide horizon of businesses ranging from hospitals, kindergartens, schools, sports clubs, a broadcasting station, a sports stadium, own TV channels, cloth-manufacturing plants, farms, chemical plants, soft-drink plants, beer breweries, wine plants, fruit farms, domestic supply plants and industrial supply plants. Thus, the typical organization in this study was a service or manufacturing company employing about 5000 people and generating annual sales of ¥1 billion RMB with total operating assets of double the magnitude. Given the fact that Chinese organizations in this study were extremely diversified at the time when the study was conducted, it appeared that to test a generic set of strategic control factors across such a broad range of organizations with such a diversified business horizon can be extremely difficult. Bearing this in mind, this researcher tried to sharpen the focus by categorizing the organizations headed by the interviewees, by employment (big for more than 100000 employees, medium for between 5000 and 10000, and small for less than 5000), by ownership (single or multi-partnership), by strategy (visionary or operational), by purpose (profit or non-profit), by intensity (capital or labour), and by position (mainline or peripheral). None of these categorizations exhibited any statistically significant variances among the enterprise types in this study for any one of the strategic control
factors depicted in Figure 11-2 or enumerated in Table 11-2. This suggests that the diversity of the organizations in this study tends to support the broad applicability of the results.

11.4 Analysis and interpretation of the research results

The factors of strategic control presented and the relationships inferred from this research are derived from the directly written verbal descriptions regarding the perceptions of the 64 Chinese general managers from a cross-section of large and small Chinese state-owned service and manufacturing enterprises. However, they were selected from a geographically limited area and were the so-called excellent companies. Hence this researcher realizes that attempts to generalize these findings to other Chinese enterprises such as those in the private sector or collective sector have to be approached with caution and that even for the state-owned enterprises the application of the findings of this research can only be tentative.

Strategic control factors: Table 11-2 summarizes an array of strategic control factors which corresponds to the process model of strategic control depicted in Figure 11-2. First, the Chinese general managers being interviewed ascribed a much higher level of importance to the factors constituting the idealization phase (i.e. factors 14 to 16) of the strategic control process. Second, the ratings of the Chinese general managers for the conceptualization phase (i.e. factors 1 to 4) tend to be relatively low and suggest a definite need for a greater appreciation of the importance of identifying potential opportunities and articulating the workable strategies. Third, the ratings for the operationalization phase (i.e. factors 5 to 8) implies that Chinese general managers appear to look up to the prioritized rationalities, perhaps thanks to their scientific logic acquired at higher educational institutions or the pressures from both internal and external environment, but tend to look down on practicality, collectivity and individualism. Fourth, the ratings for the actualization phase (i.e. factors 9 to 12) depict a mixed picture: on the one hand, the Chinese general managers being interviewed highlighted the importance of authorization from the perspective of anchored contractual assignments including responsibility, and accountability and that of implementation from the perspective of efficiency and effectiveness; on the other hand, they tended to ignore the role of authorization as a stretch and neglect that implementation should be performance-oriented rather than being treated as joy-riding as one of the Chinese general manager being interviewed seriously proposed during the interview.

Put together, it seems reasonable to infer from Table 11-2 that the Chinese general managers being interviewed find it much easier to set the stage for strategic control of investments (i.e. A&B in Table 11-2) than to actually achieve the strategic intention (i.e. C&D in Table 11-2) through continuous follow-up (i.e. from a to h in Table 11-2). In general, it can be tentatively held that the Chinese general managers tended to place a high rating (i.e. with an average point
of from 3.53 to 4.249 out of 5) for all the 16 strategic control factors as depicted in Table 11-2, thus suggesting a promising role of strategic control in investment management.

### Table 11-2: Strategic control factors perceived by Chinese general managers

<table>
<thead>
<tr>
<th>No.</th>
<th>No.</th>
<th>Strategic control factors</th>
<th>Rank</th>
<th>Mean</th>
<th>Median</th>
<th>Standard Error</th>
<th>Skewness</th>
<th>Standard Deviation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>1</td>
<td>Intensive SWOT analysis</td>
<td>10</td>
<td>3.854</td>
<td>3.829</td>
<td>0.102</td>
<td>0.033</td>
<td>0.687</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Pertinent articulation of strategic intentions</td>
<td>11</td>
<td>3.779</td>
<td>3.690</td>
<td>0.109</td>
<td>0.049</td>
<td>0.872</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Availability of resources</td>
<td>8</td>
<td>3.865</td>
<td>3.823</td>
<td>0.087</td>
<td>0.029</td>
<td>0.785</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Criteria for performance</td>
<td>9</td>
<td>3.860</td>
<td>3.799</td>
<td>0.065</td>
<td>0.011</td>
<td>0.802</td>
<td>3</td>
</tr>
<tr>
<td>b</td>
<td>5</td>
<td>Individual creativity at the generation of ideas</td>
<td>14</td>
<td>3.598</td>
<td>3.613</td>
<td>0.089</td>
<td>0.044</td>
<td>0.759</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Collectivity in the development of options</td>
<td>12</td>
<td>3.665</td>
<td>3.571</td>
<td>0.099</td>
<td>0.043</td>
<td>0.755</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Clearly prioritized rationalities</td>
<td>3</td>
<td>4.093</td>
<td>4.000</td>
<td>0.090</td>
<td>0.035</td>
<td>0.712</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Careful consideration of practicality</td>
<td>13</td>
<td>3.643</td>
<td>3.601</td>
<td>0.098</td>
<td>0.037</td>
<td>0.659</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Stretch or budgetary allocation</td>
<td>16</td>
<td>3.530</td>
<td>3.546</td>
<td>0.084</td>
<td>0.055</td>
<td>0.784</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Anchored contractual assignments</td>
<td>6</td>
<td>3.893</td>
<td>3.843</td>
<td>0.058</td>
<td>0.034</td>
<td>0.599</td>
<td>3</td>
</tr>
<tr>
<td>c</td>
<td>11</td>
<td>The balance between efficiency and effectiveness</td>
<td>7</td>
<td>3.878</td>
<td>3.767</td>
<td>0.085</td>
<td>0.045</td>
<td>0.803</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Performance oriented execution</td>
<td>15</td>
<td>3.546</td>
<td>3.453</td>
<td>0.082</td>
<td>0.022</td>
<td>0.892</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>Change-detection-orientation for surveillance</td>
<td>5</td>
<td>3.902</td>
<td>3.891</td>
<td>0.094</td>
<td>0.028</td>
<td>0.781</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Wide-angle auditing</td>
<td>4</td>
<td>3.974</td>
<td>3.903</td>
<td>0.096</td>
<td>0.056</td>
<td>0.790</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>Progress-orientation for preventive refinement</td>
<td>2</td>
<td>4.128</td>
<td>4.089</td>
<td>0.091</td>
<td>0.038</td>
<td>0.659</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>16</td>
<td>Timeliness for corrective surgery</td>
<td>1</td>
<td>4.249</td>
<td>4.181</td>
<td>0.069</td>
<td>0.032</td>
<td>0.719</td>
<td>3</td>
</tr>
</tbody>
</table>

**Note**

- **N=64, Mode for the 16 factors = 2.000. 1 = very low, 2 = low, 3 = neither high nor low, 4 = high, 5 = very high.**
- **A, B, C and D represents the conceptualization, operationalization, actualization, and idealization phase of strategic control, respectively; while a, b, c, d, e, f, g, and h represent the stage of identifying the potential, defining the workable, searching for the possible, choosing the optimum, authorising the chosen, implementing the approved, monitoring the on-going, and improving for tomorrow, respectively.**
- **$ The majority of Chinese general managers being interviewed viewed competent people, advanced technology, abundant funds and good governmental policy as the key resources.**
- *** The majority of the Chinese general managers being interviewed quoted that objectives, measurement and standards often failed to be explicit.**
- **# Many Chinese general managers being interviewed indicated profit and job opportunity should be the dual rationalities being prioritized.**

However, there are apparent weaknesses in the practice of strategic control in organizations as revealed by the perceptions of the Chinese general managers being interviewed. First, it begins with a lack of sufficient emphasis on conceptualization of strategic control featuring identifying the potential and defining the workable through such mechanisms as SWOT analysis, strategic intention-setting, and a match between what is available and what is wanted, and criteria setting for performance. Second, it continues with a dilatory approach towards the operationalization of strategic control featuring searching for the possible and choosing the optimum via careful considerations of a string of things such as individual imagination, collective thinking, operating practicality and integrative rationality, although the last of which provides a totally different picture with the Chinese general managers being interviewed giving a high rating for economic and societal rationalities but neglecting all other rationalities surrounding investment decision-
making such as operational, psychological, and environmental. Third, it culminates in a marked
tendency toward procrastination in stretching for budgetary allocation for and undertaking
performance-oriented execution of the investment, thus providing a sophisticated picture for the
actualization of strategic control featuring the authorization and implementation of the
investment.

Strategic control correlates: It seems logical that for any strategic control process to be
effective, all of the components of strategic control (e.g. from a to h in Table 11-2) should be
accorded roughly equal emphasis so that the organization can accomplish the synergistic
benefits of the total process. From the study of this researcher, it becomes apparent that, as can
been seen in Table 11-2, the Chinese general managers being interviewed have established a
solid foundation of strategic control only to fall short in the use of the system (please see the
Range, Standard Error, Standard Deviation, Skewness as well as the Ranking of Mean in Table
11-2), and clearly this situation is a correctable situation in which, from the perspective of the
strategic control process conceptualized in Figure 11-2, an improving for tomorrow strategy
needs to be adopted by means of progress-oriented preventive refinement and/or timely
corrective surgery so as to encourage organizational learning in terms of knowledge creation,
knowledge utilization and abandonment, and knowledge accumulation.

Table 11-3 presents a correlation matrix of the 16 strategic control factors (please see Table 11-2)
which can be used to help formulate the improving for tomorrow strategy. Of the 120 statistical
possibilities in Table 11-3, there exist 95 statistically significant positive relations. That is, 79%
or nearly four out of every five relationships in Table 11-3 tend to confirm the process model of
strategic control conceptualized in Figure 11-2. Apparently, the preponderance of statistically
significant positive correlations in Table 11-3 has offered a high level of credibility to the
process flow depicted in Figure 11-2, given that, although correlations per se do not necessarily
validate the precise relationships roughly depicted in Figure 11-2, correlations can be used both
to confirm the existence of positive linkages among the strategic control factors and to justify,
partially though, the conceptualization of the resultant process of strategic control.

Moreover, further analysis in the similar vein, which bridges the links between the articulated
phases of the strategic control process (i.e. A to D in Table 11-2) and the links among the
identified components of the strategic control process (i.e. a to h in Table 11-2), further
strengthens the tentative confirmation of the strategic process depicted in Figure 11-2, especially
when most of those links are statistically validated by the perceptions of the 64 general
managers. For example, as can been seen from the correlation matrix of strategic control phases
(Table 11-4) and the correlation matrix of strategic control components (Table 11-5)
respectively, of the 26 statistical possibilities there are 22 (nearly 86%) statistically significant positive relations which tend to support the conceptualized components of strategic control (i.e. a to h) and, of six statistical possibilities there are five (nearly 83%) statistically significant position relations which tend to support the conceptualized phases of strategic control (i.e. A to D).

<table>
<thead>
<tr>
<th>Table 11-3: Correlation matrix of strategic control factors at the general manager level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factors</strong></td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
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<tr>
<td>5</td>
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<td>7</td>
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<td>8</td>
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<td>9</td>
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<td>10</td>
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<td>11</td>
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<td>12</td>
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<td>13</td>
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<tr>
<td>14</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>16</td>
</tr>
</tbody>
</table>

Note: $n=64$ Chinese general managers, $n.s.$ = not statistically significant, or not below $p<0.05$ where the probability of error is not greater than 5 chances in 100.

<table>
<thead>
<tr>
<th>Table 11-4: Correlation matrix of strategic control components at the general manager level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic control components</strong></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>a</td>
</tr>
<tr>
<td>b</td>
</tr>
<tr>
<td>c</td>
</tr>
<tr>
<td>d</td>
</tr>
<tr>
<td>e</td>
</tr>
<tr>
<td>f</td>
</tr>
<tr>
<td>g</td>
</tr>
<tr>
<td>h</td>
</tr>
</tbody>
</table>

Note: $n=64$ Chinese general managers, $n.s.$ = not statistically significant, or not below $p<0.05$, where the probability of error is not greater than 5 chances in 100.

<table>
<thead>
<tr>
<th>Table 11-5: Correlation matrix of strategic control phases at the general manager level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic control phases</strong></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
</tbody>
</table>

Note: $n=64$ Chinese general managers, $n.s.$ = not statistically significant, or not below $p<0.05$ where the probability of error is not greater than 5 chances in 100.
A final note: To go beyond the current research theme, further analysis and interpretation of the research results aimed to achieve the reappearance incarnate of different strategic control mechanisms vis-à-vis the practical management of investments, reveal, that conventional strategic control mechanisms remain necessary but not sufficient for organizations to excel in the competitive marketplace. The majority of the informants had called for "spiritual control", a higher level of strategic control which can serve as the ultimate mechanism, complementary to "material control" which are most likely to be conceivable-results-oriented, on which organizations can principally rely so as to effectively manage their yesterday's, today's or tomorrow's investments. In addition, discrete results also reveal that several tactical approaches had been employed by the Chinese general managers to exercise the strategic control of investments, and they include, *inter alia*, publicizing investment evaluation, periodic progress assessment, empowering shop floor management, setting explicit responsibility and power for top managers, encouraging criticism and self-criticism among managers, and reviving audit for business assumptions, strategies, and operations.

### 11.5 Conclusion and recommendation

This study of 87 Chinese organizations in which 64 Chinese general managers were involved in a semi-structured interview to rate the role of strategic control upon investment management provides a statistical confirmation of the relationship among the 16 factors and of the relevance of the four phases and eight components of the process model of strategic control depicted in Figure 11-2. It reveals that the Chinese general managers being interviewed ascribed a higher level of importance to the idealization phase of strategic control and exposed some discernible weaknesses in the process of strategic control (e.g. lack of emphasis on the conceptualization phase, neglecting the operationalization phase, and messing about the actualization phase). It also reveals that, in order to achieve optimal results, it is not enough to just have a strategic control process in place, as each of the organizations headed by the general managers interviewed has experienced, all of the strategic control factors in the process need to be given appropriate emphasis at different times. The proposed strategic control process, backed up by three real world applications of the strategic control factors, provides a useful paradigm of strategic control which deserves both wider practical attention and further empirical research. Thus strategic control, if practiced effectively as in the three most successful Chinese state-owned enterprises, can lead to a cyclical generation of success including the identification of potential investments, definition of the workable investments, search for options, selection of the optimal investments, authorization of the chosen strategy coupled with accountability, responsibility and authority, implementation of the financed investment, monitoring of the ongoing investment, and improvement of the investment.
To recommend, it seems plausible to undertake more empirical work such as longitudinal studies relating to effective strategic control practices. Besides, as Q6-3 and Q1-2 dictate, more theoretical work on the theme of strategic control is needed so that both academics' and practitioners' understanding of strategic control of investments can be enhanced. For example, it can be profitable to employ, *inter alia*, new methods and new procedures to conduct further tests to examine the same factors of strategic control practices (please see Q4-24); and it can also be profitable to construct a covering model or meta-principle of strategic control which is based upon first principles to bridge observations and theories (please see Q4-25). (Research in the theory-advancing line is to be dealt with in Chapter 14 entitled "On Strategic Control Of Investments").
12. On Investment And Investment Decision-Making

12.1 Introduction

This part of the thesis aims to incorporate various mechanisms explaining and/or guiding investment decision-making in an organizational context and to conceptualise methods which can be used to help practitioners to better understand and play the real trick of investment decision-making. In terms of structure, this part of the thesis first looks at various theories of investment and discusses the nature of organizational decision-making, and then specialises in investment decision-making in organizations, and finally presents an integrated model of investment decision-making in the full organizational context and a control mechanism for practitioners to memorise valuable information as well as offering some 15 recommendations for future practice-or research-oriented investigations.

12.2 The world of investment decision-making

Investment remains a major component of spending and plays two roles in any economy. First, sharp changes in investment which are large and volatile can result in a major impact on aggregate demand which in turn affects employment and output in the short run. Second, that capital accumulation resulted from the creation of real capital adds to the stock of productive assets such as workshops and equipment; it can increase an organization’s potential output and consequently promote its economic growth in the long run.

Investment, by definition, is the time rate of change in a stock of durable assets (Carsberg, 1974). Issues on investment are normally complex and involve many magnitudes, each with a variety of dimensions. From an economist’s point of view investment means the production of durable capital goods (Carr, 1969), and therefore investment refers to the sacrifice of current consumption to increase future consumption (Samuelson and Nordhaus, 1995). This is in contrast to the common usage of investment referring to buying security, purchasing a piece of land in central England or northern China, or opening a savings account at Barclays Bank, in all of which, loosely speaking, only financial transactions or portfolio changes take place.

Major types of investment: economists (e.g. Samuelson and Nordhaus, 1995) tend to break investment down into three general categories: (A) additions to inventory, (B) purchases of residential structures, and (C) investment in business fixed plant and equipment. Evidence shows that only a small amount of total investments belong to changes in inventories, that about a quarter of all investments belong to residential housing, and that the majority (as high as three quarters in recent years) of total investments pertain to those in business plant and equipment.¹

In the line of investment in business plant and equipment, however, investment theorists and practitioners tend to break it further down into four types (e.g. Derkinderen and Crum, 1981)², namely, (a) the replacement of existing assets with like assets, (b) the substitution of cost-reducing assets for existing assets, (c), the expansion of productive capacity, and (d) strategic
investments. To explain further, the expansion investments include additional real assets for current production lines or extensions to existing production lines as well as working capital projects which may facilitate the promotion of sales; strategic investments include those which take an organization in new directions or yield (typically financial) benefits external to the investments themselves to the organization undertaking them.

It seems quite obvious, to compare and contrast the four types of investment, that investment opportunities for categories (a), (b) and (c) are likely to be first perceived from the lower levels of the organization and can be comfortably dealt with by adequate techniques which with which most financial managers are familiar (Carr, 1969; Parkinson, 1997), and that possibilities for strategic investments - i.e. category (d) - such as investment in new technology or overseas ventures are most likely to emerge from non-routine or strategic thinking at the most senior levels and can be difficult to evaluate in conventional ways (Pike and Neal, 1996).

The determinants of investment: managerial economists (e.g. Gough and Hill, 1979; Baumol, 1972) often state that the reason why businesses invest lies in that businesses purchase capital assets when they expect that their course of action will earn them a wealth of cash flow, viz., the revenues to be generated will be greater than the costs of the investment. This highlights three determining elements essential to any investments: revenues, costs and expectations.

An investment will generate additional revenue for an organization if it helps the organization to produce more and sell more. In general, investment depends on the revenues which will be generated by the state of overall economic activity (Begg, 1991), and fluctuations in the overall level of output dominate the movement of investment over the business cycle (Baker, 1978).

The costs of investing are also important, especially when an investment involves borrowing capital, say, through mortgage, in the bond market, from banks, or even from governments. When purchased assets last many years it becomes necessary to calculate the cost of capital in terms of the interest rate on borrowings (Emery and Finnerty, 1997). The cost of investment can also include taxes imposed by governments in that governments do sometimes use fiscal policies to affect investment in specific industries. The tax treatment in varying industries or even in different countries also has a profound effect upon the investment behaviour of profit-seeking organisations (Carsberg, 1974).

Investment remains above all a gamble on the future (Parkinson, 1997) that the revenue to be generated from an investment will exceed the costs to be incurred, and thus, investment is often hung by a thread on expectations (and forecasts) about future events (Lucas and Thomas, 1981). It becomes quite common now that organisations spend a lot of time and energy analyzing investments and trying to narrow the uncertainties about their investments despite the fact that predicting can be very fuzzy, difficult or even hazardous.

Seemingly, investment remains very volatile and consequently very risky in that its determinants can be highly unpredictable, and major sources of risk can be political, economic, technological, and even behavioural. For example, it is not surprising for investment decision-
makers to discover that investment can behave very unpredictably depending upon such uncertain factors as the success or failure of new and untried products, changes in tax rates or interest rates, political attitudes or approaches to stabilising the economy, and similar changeable events of macro- and micro-economic importance.

12.2.1 Modern theories of investment

The literature on investment reports a number of different theoretical approaches to investment, many of which remain complementary but not a few contradictory, depending upon different interpretations of entrepreneurial motives and different emphases given to alternative constraints. However, all theories of investment address the same question: how should decision makers decide whether to invest in a project new or old in the face of uncertainty over market conditions? At the firm or enterprise level of investment and regardless of the complications arising from macro-economic relations such as constructed cycle theories, there are at least eight categories of investment theory, namely, (A) the marginal or profit maximization theories, (B) the technically-oriented acceleration hypotheses, (C) institutional and empirical generalizations, (D) residual funds theory, (E) the diversification theory, (F) the options theory, (G) the agency theory, plus (H) the cross boundary dimensions.

The marginal theories: marginal theories hold that investment decision-makers are singularly single-purposed individuals who seek nothing but maximum possible profits or utility from the conduct of business affairs (e.g. Baumol, 1972; Weber, 1976). The neo-classical profit-maximizationism dating back to the 19th century posits that the volume of investment is determined by the cost of capital equipment and the market rate of interest (Weber, 1976; Gough and Hill, 1979).

Partial recognition of institutional changes has given rise to a shift of the theory of the firm and consequently of investment from a profit orientation to that of utility maximization, with the latter seeking to explain a much wider range of behavioural responses such as investment decision-makers’ desire for flexibility. The utility maximizationism places a premium on investment decision-makers’ being able to adapt to the changing circumstances resulting from the uncertainty about future events (Lutz and Lutz, 1951). In essence, however, both profits and utility maximization theories contain some theory of expectations but in terms of the parameters of a probability distribution (Weckstein, 1953).

Another description of investment decision-makers’ response in the face of uncertainty lies in the minimax solution derived from the theory of Games (von Neumann and Morganstern, 1947). The minimax solution posits (Friedman, 1990) that maximum pleasure is realized when investment decision-makers pursue a course of action which minimizes his maximum possible loss.

Although it has become tautological that, especially in a free enterprise society, the prospect of increased profit remains an important ingredient of investment decisions, most marginal theories remain too general to be practically useful because unfortunately ignored are numerous features
of the investors’ milieu which are likely to be important to the investment decision-makers.

The accelerator hypotheses: there are actually three theories of investment emerging from the accelerator analyses, and they are (a) the original theory based upon change in sales, (b) a capacity oriented theory involving the ratio of absolute sales or output to capital stock, and (c) a profit model. In essence, accelerator hypotheses concentrate on the dynamic aspects of investment and emphasize the importance of growth as a determinant of investment.

The original acceleration principle (Clark, 1917) asserts that the change in the capital stock per unit of time is a linear function of the rate of change in output. This implies that investment can be high when output is growing or low when output is falling, and that the typical investment decision-maker behaves somewhat like a magnified thermostat, noting when capacity is technically overtaxed and then initiating steps to remedy this deficiency. This approach remains simple and direct but has little or no motivational content.

One of the most critical assumptions of the acceleration principle is that there must be no excess capacity prior to an increase in output (Clark, 1917), but this becomes troublesome in that excess capacity has been frequently observed in actuality. To solve this problem, investment theorists (e.g. Goodwin, 1951) tend to view excess capacity mainly as a cyclical phenomenon. This leads to the suggestion that secular excess capacity is often needed for profit maximization for businesses with increasing returns to scale and growing output (Chenery, 1952). This means that the level of output and the firms’ capital stock, rather than the change in output alone, become the relevant variables when there exists secular overcapacity.

Another assumption which is not always convincing of the simple acceleration principle is that investment decision-makers or the investing organization can obtain funds with little or no difficulty. In actuality, however, unlimited financial availability does not always exist, or at least not for all firms. In fact, it has become quite common nowadays (Parkinson, 1997) that investment decision-makers are frequently financially constricted. This echoes the practitioners’ assertion that profits are generally and truly the major source of investment and facilitates the incorporation of profits into the acceleration theory. Indeed, it has been accepted (e.g. Tsiang, 1951; Samuelson and Nordhaus, 1995) that, although the basic accelerator notion that more productive capacity is normally desired when demanded, this motivation can be obscured or even modified by other factors such as financial availability and constraints.

The institutional and empirical generalizations: numerous empirical studies (e.g. Meyer and Kuh, 1959; Butler et al, 1977) have been undertaken to examine investment with little or even without reference to a specific theoretical model. The most outstanding finding lies in that internal liquidity considerations and a strong preference for internal financing remain principal factors in determining the volume of investment (Hoover, 1954). Another important finding is that practitioners can be very sensitive to their organization’s ‘trade position’ (Mack, 1941) or oligopolistic rivalry from economists’ viewpoints. The notion of trade position asserts that investment decision-makers are driven by the desire to keep pace with rivals and investment is
undertaken when and if needed to keep the organization's strategic standing in the industrial hierarchy (Fellner, 1949). Briefly speaking, however, the institutional or empirical generalizations are seriously lacking in theoretical framework for explaining the investment process. Prior to more precise qualification, neither can trade position nor can liquidity restraints serve as a satisfactory theory of investment.

The residual funds theory: the residual funds theory results from empirical studies which emphasize the process of investment, and is actually compounded from many sources. The residual funds theory (Meyer and Kuh, 1959) posits that, in the light of the modern economy characterized by oligopolistic markets, large corporations distinctly separated in ownership and management, and largely imperfect equity and monetary markets, the investment outlay on fixed and working capital appears, in the short run, to be most suitably regarded as a residual, which remains the difference between the total net flow of funds captured from current operations less the established or conventional dividend payments.

Although the residual funds theory has not received as much attention as have the others (notably, the marginal theories or the accelerator principle), it does provide a theoretical framework (set up in the framework of conventional price theory) which serves to explain the varying impacts on investment arising from varying sources such as technological advance, the market structure, the size of the demand shift, and capital intensity. Another distinction of the residual funds theory is that it places a great emphasis on the investment process (embodying costs, price policy, market structure, dividend, inventory, debt and equity).

The diversification theory: the diversification theory (Markowitz, 1959) forms a strategic device for investment decision makers to deal with risk and derives from the principles of diversification that diversification is beneficial, a financial principle which has long been used for security investment (Markowitz, 1952). Putting it in common sense terms, the diversification theory highlights the relationships between investments and well reflects an old proverb about not keeping all one's eggs (i.e. investments) in one basket. It posits (Markowitz, 1991) that risk can be reduced through diversification. This implies that investing organisations, being discouraged by the risk that investment in a single operation or industry might fail, deliberately spread their capital over a wide set (i.e. a portfolio) of investments (Emery and Finnerty, 1997).

Seemingly, portfolio risk can easily be reduced by pursuing less risky investments, although the portfolio expected return will also be reduced, but the beauty of portfolio diversification lies in the fact that portfolio risk is reduced without a consequent reduction in expected return. The practical implications of the diversification theory include that organisations will invest in a set of projects, selecting the portfolio which produces the highest total reward (e.g. NPV) addition to wealth. In practice, however, not many investment decision makers are incorporating portfolio concepts into their analytical procedures and not many investments are admittedly undertaken to reduce portfolio risk (Petty and Scott, 1981; Carter, 1981).

The options theory: the options theory which factors real world uncertainties into investment
decisions derives from financial options the principle of which is that options (i.e. the rights but not obligations to take some action in the future) are valuable (Emery and Finnerty, 1997; Cox and Rubinstein, 1985; Hull, 1989). The options theory of investing (Dixit and Pindyck, 1995) posits that firms invest in order to keep their options open by intelligently creating and preserving options. The options theory essentially relates to irreversibility, uncertainty, and the choice of timing by challenging the conventional business premise that investment decisions can be either reversed or now-or-never propositions (Dixit and Pindyck, 1994). It has been claimed that, on the one hand, to invest is to exercise the call option and the lost option value is an opportunity cost (Dixit and Pindyck, 1995); and, on the other hand, organisations can be enticed by the uncertainty over future market conditions to invest if the investments undertaken create additional options which in turn give the organisations the ability (although not the obligation) to do additional future investing, viz., investment may create options and options may create flexibility (Stoll and Whaley, 1993).11

Although the options theory of investing is just recently developed, its application to real world investments is ever increasing, and its implications for modern organisations are imperative (Paddock, 1988). It simply requires that investment decision makers should look beyond conventional investment evaluation techniques such as Net Present Value to assess and account for risk due to the volatile and unpredictable nature of investments (Hayes and Garvin, 1982).12

The agency theory: the agency theory (Jensen and Meckling, 1976) analyzes conflicts of interest and behaviour in a principal-agent relationship, a relationship in which the ownership and the management are separate. It posits (Jensen and Meckling, 1976) that decision makers as agents can make decisions which can affect the principals (i.e. shareholders). That is, investments can be made in favour of investment decision makers' self-interest especially when the decision makers have information that the principal does not have (Myers and Nicholas, 1984). The agency theory remains a direct application of the principle of self-interested behaviour (Emery and Finnerty, 1997) which dictates that, since people act in their own self-interest, competing desirable actions can be taken which are most advantageous to themselves. This self-interest problem can give rise to what is called managerialism which can include investing in low-risk or 'satisfying' projects. In fact, investment decision makers have been observed to possess as many self-interests (such as physical well-being, social acceptance or prominence, and ideological satisfaction) as any other groups do (e.g. Wright, 1964; Crutchley and Hansen, 1989).

The cross boundary dimensions:13 in the past 30 years, an immense body of literature has emerged explaining the rapid growth of multinational businesses, and foreign direct investment (FDI) remains the most prominent.14 Among the most influential theories explaining FDI are: (a) the business administrative approach, (b) industrial organization approach, (c) product cycle theory, (d) the MacDougall-Kemp model, (e) a specific factor model, (f) Kojima hypothesis, (g) internalization theory, and (h) the eclectic paradigm.

The business administrative approach (Penrose, 1959) views the activities of FDI as a natural
consequence of the growth of a firm. It claims that the decision-making of the firm changes from the traditional domestic market to a world market orientation, and its organization goes through changes, first with the strengthening of its export section, then to the independence of the international business section, next to the establishment of a foreign subsidiary, and finally to the central control of subsidiaries all over the world.

*The industrial organization approach* (Caves, 1971, Hymer, 1972) proposes that FDI is typical of an oligopolistic firm, which has some sort of superiority, searching for control in an imperfect market so as to maximise profits. This theory suggests that firms venture into FDI because of their oligopolistic characters and that their investment and operation abroad enable them to survive by strengthening and expanding oligopolistic systems (Hymer, 1972).

*The product cycle approach* (Vernon, 1966, 1979) suggests that FDI is a natural stage in the life cycle of a new product from its inception to its maturity and eventual decline. It has been advocated (Buckley and Casson, 1985) that the names of the stages tell the story of the competitive devices used to construct and maintain oligopoly (i.e. innovation-based oligopoly, mature oligopoly such as price competition and scale economies, and senescent oligopoly such as cartels, product differentiation and the essential breakdown of entry barriers).

*The MacDougall-Kemp approach* (MacDougall and Kemp, 1964) remains a macro-economic analysis of effects of foreign investment in the 1960s. It is claimed (MacDougall and Kemp, 1964) that direct foreign investment firstly increases total world output, secondly helps the spread of new technologies and brings the benefits of labour training, scale economy and external economies to the host country, and thirdly enables the investing country to enjoy a greater national income than before the foreign investment.

*A specific factor model* (Caves and Jones, 1971) suggests that, in each industry FDI is induced from the low-profit-rate country to the high-profit rate country, and that international movement of the managerial resources (i.e. a specific factor) or their construction, continues until the rates of profit are equalised in the same industry of both country.

*The Kojima hypothesis* (Kojima, 1978, 1982) posits that much Japanese FDI has been 'trade-oriented' and much US FDI 'anti-trade oriented', and prescribes that a home country should invest abroad in sectors which require intermediate (but internationally mobile) products which it is comparatively well suited to supply; but which need to be combined with non-transferable inputs in which the host country is relatively well endowed.

*The internalization theory* (Buckley and Casson, 1976) attempts to synthesize and extend those theories of FDI which are based on market imperfections. It is argued (Buckley and Casson, 1976) that firms will find it beneficial to internalize factors other than the direct manufacturing process to gain the benefits from them. That is, firms resort to backward and forward integration to overcome market imperfections, and the internalization of markets across national boundaries results in FDI. It is argued (Buckley, 1985) that the concept of internalization
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embodies two aspects: the internalization of an externality where a market is created where none existed before and the internalization of a market where an arm's length contractual relationship is replaced by unified ownership.

The eclectic paradigm (Dunning, 1985) explains FDI in terms of ownership, location, and internalization effects.23 Effort has been made (e.g. Dunning, 1972, 1988) to bring together both aspects of trade theory and the theory of multinational companies within an integrated framework incorporating all forms of international business involvement.24 In essence, what the eclectic paradigm is proposing is the use of different theories to explain different forms of international business involvement.

In summary, investment decisions remain not only subject to a multiplicity of influences, but also confined to different behaviour under varying milieus and in varying time frames. Not one of the existing theories of investment can be considered as completely adequate or inadequate: they each claim a certain amount of empirical truth but none can claim unique superiority above others.25

12.2.2 The nature of decision-making

Decision remains a basic factor in human knowledge (Drucker, 1992). Decision, by definition, has been viewed as, a product which comes of choice, a certain kind of choice, the process of choice itself, the processes leading up to the actual choice process, and more (Lundberg, 1962). To winnow all this, decision is referring to the judgmental process along a course of action to serve a purpose. It has long been considered as the art of human actions (Suntzi, 1992) in that decision deals over time with people who want things (Lundberg, 1962). However, decision-making has also been proposed (e.g. Kaufmann, 1968) as a science, although it still needs more advanced processes of analysis and more means of calculation. By nature, decision-making relates to the possibility of making a rational choice in given circumstances which may demand sense making in the face of uncertainty, ambiguity, risk, and rules (March, 1994).

Decision-making elements: there are six common but essential decision elements which vividly depict choice situations, namely, (a) the state of nature, (b) the decision maker(s), viz., an individual or a group, (c) the goals or ends to be served, (d) the relevant alternatives as well as the set of actions from which a choice is to be made, (e) a relation which yields an ordering of alternatives in some arrangement, and (f) the choice itself, viz., the selection of one or some combination of alternatives (Gore and Dyson, 1964). Furthermore, these six elements have been extended (Ackoff and Emery, 1972) into four components (namely, the individual, the choice environment, the available courses of actions, and the possible outcomes) and four parameters measured by probabilities (namely, the probability of choice of action, the efficiency of an action for an outcome, the relative value of outcomes, and the probability of outcomes).

Fundamental frameworks for decision-making: there are two fundamental frameworks for the making of decisions, namely, the ‘closed’ and ‘open’ decision-making framework (Arrow,
Seemingly, the ‘closed’ framework dominates the managerial (and especially the investment) circle, but is becoming increasingly disenchanted because practical decision-making becomes less likely to be recurring and more constrained by the bounds of some preferred solutions (Arrow, 1957). The ‘open’ framework remains more flexible and dynamic and becomes highly promising especially when the decision-maker(s), along with his (their) aspirations on the making of decisions as well as what constitutes acceptable decision-making, are all ‘growing’ (Simon, 1957a).

Apparently, from the perspective of ‘closed’ decision-making, decision-makers are viewed as logical and methodical (i.e. rational) maximizers (Miller and Starr, 1960), and hence, the ‘closed’ framework is designed to enhance the planning, problem-solving and decision-making abilities of decision-maker(s) in pursuit of common goals (Gore and Dyson, 1964). As exemplified by linear programming problems and games of strategy (game theory), it is crystallised by the concept of rationality rooted in the consciousness of the decision-makers’ individual choice behaviour, largely due to the scarcity of resources which serve as ultimate restraints in actual decision-making as well as such determining factors as action-outcome relations, preference ordering, and decision (sub)optimisation (Wilson and Alexis, 1962).

The ‘open’ decision-making framework, in contrast to the ‘closed’, views decision makers as a complex mixture of many elements such as culture, personality, and aspiration (Gore and Dyson, 1964). The ‘open’ framework acknowledges decision makers’ inability to recognize all goals and feasible alternatives due to the limitations of human cognition and the complexity of the milieu of interest. It enjoys a solid behavioural foundations in that decision-makers are believed to act on the basis of what Boulding (1956) calls the images (which include more than the objective facets of the decision situation) such as perceptions of people, roles, and organisations, plus individual values and emotions. Apparently, the ‘open’ decision-making framework brings to bear the totality of forces (i.e. both internal and external) to the making of decisions in practice, and offers a richer view about the dynamics of decision-making processes in real settings.

Decision-making in actuality: decision-making in actuality has been looked at from various perspectives (e.g. Jannis, 1977), and one effective way of doing this is to examine decision-making from the vantage points of varying decision elements (Wilson and Alexis, 1962): it can be programmed or non-programmed (Simon, 65), short term or long term (Kaufmann, 1968), strategic or operational (Mintzberg, 1976), to name just a few. From the decision maker’s perspective, however, there are three kinds of decision-making in organizations: (a) individual decision-making, (b) group decision-making, and (c) organizational decision-making.

Speaking from the angle of applicability, individual decision-making can be effectively applied to decision problems which have several tightly coupled parts (Huber, 1980; March and Simon, 1958), group decision-making is suited to ill-defined decision situations consisting of loosely coupled parts (Vroom and Jago, 1988), and organizational decision-making is suited to decision problems involving complex sub-systems or a mixture of many disciplines each of which covers
a lot of dimensions (Simon, 1958). Moreover, organizational decision-making has been considered (e.g. Shapira, 1997; Drucker, 1992; Thompson, 1967; Cyert and March, 1963; March, 1994) as dramatically different from individual or group decision-making, although the three overlap greatly in that many decisions in organisations are made by individual managers (Simon, 1958; Thompson, 1967; March, 1994).

12.2.3 Organizational decision-making

The characteristics of organizational decision-making: it is argued that organizational decision-making boasts some characteristics which differentiate itself from others. Among those distinctive are: (a) ambiguity is more pervasive in organisations in terms not only of information but also of preferences as well as the interpretation of the history of decisions (Shapira, 1997), (b) organizational decision-making involves a longitudinal context with decision makers as a part of the ongoing process (Simon, 1958), (c) organizational decision-making can be too iterative that self-built rules of thumb can take over scientific methods (Taylor, 1967), (d) organizational decision-making highlights the role of incentives because incentives, penalties and their ramifications are real and can produce long-lasting effects (Herzberg, 1966), (e) organizational decision-making values individuals' commitment towards the ongoing decision processes more than their judgmental accuracy with respect to the role they, are playing (Salancik, 1977), (f) organizational decision-making highlights the role of sense making in that most decisions have to be made in non-artificial and complex settings (Weick, 1994), (g) conflict can be so pervasive in organizational decision-making that decisions can be considerably influenced or biased by power considerations rather than economic calculations (Follett, 1973), and (h), organizational decision-making can be so hierarchical that decision-making can be seriously affected by the nature of authority relations (Weber, 1964).

International aspects of organizational decision-making: decision-making can vary depending upon the culture in which the decision process happens, and sometimes it can become frustrating for decision makers from different cultures to interact to reach decisions if difficulty exists in understanding such behavioural things as perceptions in relation to the problem identification, ways to develop alternatives from which to choose, and orientations to the evaluation and choice of alternatives (Champoux, 1996).

Decision-making in some cultures such as the American tends to be problem-solving oriented, while that in other cultures, such as the Malaysian, the Thai, and the Indonesian, it is likely to favour adjustment to the problem (Adler, 1986); decision-making in some cultures such as the North American can rely on new ideas from which alternatives are generated, while that in other cultures such as the British may largely turn to the past to find solutions to present problems (Hofstede, 1984); the making of decision in some cultures such as the Chinese may happen only when all alternatives have been considered; while that in other cultures such as the German can happen progressively by rejecting alternatives along the way to a final choice (Adler, 1986; Hofstede, 1984).
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12.2.4 The processes of organizational decision-making

The organizational decision-making process refers to the phenomenon of organizational decisioning, a series of activities which include all those behaviours applicable to choices effecting organizational participants in organizational goal achievement (Lundberg, 1962). Literature on the organizational decision-making process suggests (e.g. Butler et al, 1993; Champoux, 1996; Simon, 1960) that there are seven approaches (Figure 12-1) to appreciating organizational decision-making processes, namely, (a) the rational process, (b) the bounded rational process, (c) the unstructured process, (d) the political process, (f) the garbage-can process, (g) the humble process, and (h) the contingency process.

The rational process portrays organizational decision-makers who optimise utilities or profits. It finds its roots in the classical economic theory of the firm and statistical decision-making (Champoux, 1996). It echoes the ‘hill climbing’ technique of practical problem solving (Newell and Simon, 1972) in that it does not possess dynamic properties such as revising the goal or extending the search for new alternatives (March and Simon, 1958). It features a number of distinct stages of decision-making normally featuring (a) a goal to maximise, (b) complete knowledge about all alternatives and their result, (c) some known function to give a preference ordering to the alternatives, and (d) the application of the preference ordering function to generate the utility maximising choice (Simon, 1957b).

The bounded rational process exhibits sympathies to organizational decision-makers who manage under pressure or with incomplete information. It posits that decision makers select an alternative which is good enough to reach the goal as opposed to considering all possible alternatives and to choose the alternative which maximizes a goal (Lindblom, 1959), and assumes that decision makers have limitations which constrain rationality in the decision-making process (March and Simon, 1958). Those constraints (or limits) include a problemistic search rather than complete alertness (Hickson et al, 1986), cognitive limits in comprehension (Lindblom, 1959), time pressures against incomplete information (Butler et al, 1993),

Figure 12-1: Approaches to appreciating organizational decision-making process
discontinuity between initial and sequential decisions (Kaufmann, 1968), intuitive rather than computational judgement (Simon, 1987), and satisfying rather than optimal solutions (Simon, 1957).

The political process describes decision-makers who potentially compete for resources and attention (Butler et al, 1977) or submerge individual differences to form coalition or alliances (Cyert and March, 1963). It assumes that organizational decision makers pursue their self-interests and try to reach decisions which serve their interests (Pfeffer, 1982). It posits that power (i.e. the ability or capacity of an individual or group to overcome opponents) is the axis of the organizational decision-making process (Chamboux, 1996). It is believed (e.g. Chamboux, 1996) that political forces are most likely to affect investment decisions (say, resource allocations), taking the form of bargaining (Butler et al, 1977), guile (Pettigrew, 1973), coalition building (Cyert and March, 1963), and /or biasing (Pfeffer, 1981).

The garbage-can process (Marsh and Olsen, 1986) well depicts decision situations filled with ambiguity. It characterises decision makers who encounter rapid change or 'organized anarchy' featuring problematic preferences, ambiguous technology, and fluid participation (Cohen et al, 1972). Typically, in ambiguous decision situations, decision makers may not know all the alternatives and the results of each alternative, nor do they have a clear set of rules to guide choices from alternatives (Champoux, 1996). Thus, organisations are seen as a time-sensitive garbage-can through which independent streams of activities (i.e. problems, solutions, participants and choice) flow with possible connecting (Butler, 1991) and with certain circumstances. In this sense, the garbage-can model views organizational decision-making as chaotic with solutions looking for problems to solve (Marsh and Olsen, 1986).

The humble process describes complex decision situations in which decision makers have extensive information available to them and the decision-making itself features many or discrete aspects. It assumes that decision makers cannot possibly absorb and process the information the quantity and the complexity of which have both exceeded the decision makers' ability to use it effectively (Etzioni, 1989). It further posits that, once recognising they cannot have all information needed for an optimal decision, decision makers make trial and error decisions and check the results along the way (Etzioni, 1989). Seemingly, humble decision makers revise a decision whenever new information dictates so, but the possible delays due to waiting for new information are perceived as part of the process rather than a negative development. In short, this adaptive and dynamic trial and error nature (Newell and Simon, 1972) sets the humble decision-making apart from other processes, but, unfortunately, it does not remain a rigid approach to appreciating organizational decision-making.

The unstructured process describes decision situations in which there is not a structure which permits orderly progression from identifying decision problems to winnowing decision alternatives (Newell and Simon, 1972). The process is characterized by complexity, novelty, and openendedness (Mintzberg et al, 1976), and essentially pertains to satisfying rather than optimizing (March and Simon, 1958). It assumes that decision makers in organisations usually
start with little understanding of the decision situation, including the route to the solution, or perhaps with a vague idea of what constitutes the solution and how it can be evaluated and, normally, end with a final choice by groping through a recursive, discontinuous process which involves many difficult steps as well as many dynamic factors over a considerable period of time (Mintzberg et al, 1976). The unstructured process largely accents the decomposition and localization strategy (Simon, 1969; Bechtel and Richardson, 1993) in that the unstructured, unprecedented, complex and ambiguous decision has to be broken into manageable sub-decisions which do not defy programme-like decision processes. Typical activities to incur in the unstructured decision-making process can involve (a) simultaneous assessment of many alternatives using a series of cycles for finding and assessing them, (b) identification of implicitly preferred alternatives during (instead of at the end of) the decision process, and (c) the inclusion of both new and old acceptable alternatives and the rejection of the unacceptable along the ongoing process (Soelberg, 1967). It has been noticed that unstructured decision-making can be disturbed by political forces, misled by inadequate information, or driven onto a dead lane if the ‘satisfying’ alternative fails to solve the problem (Mintzberg et al, 1976).

The contingency process provides decision-makers with varying decision-making processes with regard to particular situations in the light of the uncertainties relating to decision-making (i.e. the uncertainty about ends resultant from the politicality of the decision topic, and the uncertainty about means resultant from incompleteness of knowledge, dynamic object, and the unpredictability of the behaviour of, say, rivals, customers, suppliers or regulators). The contingency process (Tompson and Tuden, 1976) posits that a different decision strategy (i.e. computational, judgmental, bargaining, and inspirational) is needed to cope with different decision conditions. That is, the computational strategy is best suited to decisions involving certain ends and certain means, the judgmental strategy to those involving certain ends and uncertain means, the bargaining strategy to uncertain ends and certain means, and the inspirational strategy uncertain ends and uncertain means. Comparatively speaking, the ‘computational strategy’ (Thompson and Tuden, 1976) proceeds with assumptions similar to the rational model, such as the ‘sample budgeting system’ (Neale and Holmes, 1991) but essentially corresponds to the ‘hill climbing’ method (e.g. Newell and Simon, 1972; Mayer 1993); the ‘judgmental strategy’ (Thompson and Tuden, 1976) is essentially in parallel to the processes of the bounded rational model of decision-making, such as the ‘successive limited comparisons’ (e.g. Lindblom, 1959); the ‘bargaining strategy’ (Thompson and Tuden, 1976) captures the political model of decision-making, such as ‘bargaining’ (e.g. Butler, 1977); the ‘inspirational strategy’ (Thompson and Tuden, 1976) corresponds to the ‘random trial and error’ method (e.g. Newell and Simon, 1972; Mayer, 1993) or the ‘garbage-can’ or the ‘humble’ model (e.g. Cohen et al, 1972).

In short, it seems clear that each decision-making process applies to different decision conditions in that each process offers a different perspective on decision-making in organisations. The rational and bounded rational processes are suited to well-structured decision situations. The unstructured or the garbage-can processes help describe ill-structured decision
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situations more accurately than the rationality processes. The political process accents the role of power and self-interests in organizational decision-making. The humble process emphasizes the sense of humility about how much information decision makers can process and advocates trial and error moves. The contingency process highlights the dynamics of decision-making in organisations and advocates that particular techniques or strategies should be employed which are best suited to the particular decision conditions feathered by uncertainty.

To decide which decision-making process best suits an investment decision, one needs to borrow the 'open' decision framework and link the decision-making process to the decision situation, viz., all decision-making elements (Gore and Dyson, 1964) or components (Ackoff and Emery, 1972) need to be consulted. Figure 12-2 provides a tentative summary, from the open system theory vantage point, of decision-making processes using a means-end schema to crystallize the four decision components into a functional matrix featuring the interaction of likely outcomes of possible courses of action, decision makers, choice environment, and decision-making processes. Seemingly, the selection of decision-making processes depends upon how related the system will be to the decision situation in terms of (a) the degree of freedom the system can have on decision processes as well as (b) the magnitude of the influence decision outcomes can have on the system. By this logic decision makers will have a perceived choice base from which they can choose a decision-making process which best reflects the organizational reality.

12.3 Investment decision-making in organizations

One important step to begin one's discourse is, as normally practised by Socrates, to clarify the definitions of the subject of interest or, as usually followed by Aristotle, to list or discuss all possible alternatives which are feasible at hand. This can be particularly beneficial when one is exploring things like investment which are complex, subjective, and heavily dependent upon so many variables derived from varying disciplines over time.

12.3.1 Investment decision-making in organizations: the context

Obviously, it remains impossible to summarize (especially when one may not know) all the
circumstances which surround every investment decision in practice. However, it can be very fruitful to set down some headings for the organizational context of investment, the common threads of the investment which in each case have a significant influence on investment decisions.

The organizational context of investment decision-making refers to the circumstances in which organisations realise the making of investment decisions. The organizational context of investment decision-making can be conceived as embodying at least four dimensions (i.e. phenomenological, psychological, physical, and operational)34, and this borrowed framework is assumed to correspond with Mayer's (1992) tried practical contexts of problem-solving (i.e. psychological, historical, empirical, practical, and social).

First, an investment decision can be strongly dependent on both the actual and the expected external environment over which the firm has little or no control. This phenomenological sub-context can involve, inter alia, changes in market growth rates, changes due to competitor's actions and reactions, changes in technical progress, and changes in terms of relationships with suppliers and customers.

Second, an investment decision can be greatly influenced by the attitudes of the firm's stakeholders or the psychology of its decision-makers (at any moment in its history) which may ultimately determine the firm's policy on investment. This psychological sub-context can involve, inter alia, perceptions on the sort of business in which the firm will take part, the extent to which the firm will diversify or concentrate its activities, the rate at which the firm should seek to grow, the standard of performance which the management seek to achieve, and the criteria upon which the measurement of performance is based.

Third, an investment decision draws on the resources of the firm, and the optimal combination of the resources determines the success of investment. This physical sub-context can involve, inter alia, capital assets, human resources, time, technical skills, financial expertise, economic expertise, management expertise, experience in certain trades or industry, know-how in particular types of investment, reputation with suppliers and customers.

Fourth, an investment decision bears some relationship to the firm's existing operations which can exert influence upon new ventures. This operational sub-context can involve, inter alia, the siphoning of existing operations into the new venture and this can cover staff, strategy, assets, cultures, pricing tactics, products, promotion channel, procedures, and nearly obsolete technology.

Realistically speaking, an investment project normally remains ongoing over a period of time, and the importance of varying sub-context can be very changeable and situation dependent, dependent upon the firm's opportunities, threats, strengths, and weaknesses (Porter, 1980), or, to put it broadly, the nature of the investment.35 Further, these dynamics of investment can also promote some emergent sub-contexts which may, under certain circumstances, appear to be more significant than some of the above mentioned. It seems that these emergent sub-contexts
can involve, inter alia, the hybridisation of two or more sub-contexts (e.g. phenomenological plus psychological), practical considerations which may be perceived or framed differently from established disciplines, and specific considerations which may or may not become universal but remain important or at least nontrivial to certain investments.

### 12.3.2 Investment decision-making in organizations: the international dimension

With respect to the globalisation of modern corporate operations, investment decision-making can be catalogued into three subgroups in the light of the state of the nature of decisions: domestic, foreign direct investment, and strategic alliances (i.e. joint ventures), and one of the effective ways to address it is through the perspective of cultural differences. It seems, in this sense, that organizational investment decision-making can vary in structures, contexts, and processes from culture to culture (Trice and Beyer, 1993; Deal and Kennedy, 1982; Martin, 1992; Buckley, 1983). For example, overseas investment decision-making can face tremendous challenges originating from cultural differences (Dunning, 1972; Buckley and Casson, 1985).

However, research evidence has shown (Neale and Buckley, 1992; Wilson, 1990; Robbins and Stobaugh, 1973) that decision-making in certain overseas investments such as foreign direct investment by multinational corporations may not produce a huge difference between the home and the host country, although the differing political structures, economic policies and value systems can result in certain analytical problems (Pike and Neale, 1996). For instance, it has been found (Wilson, 1990) that most multinational corporations employ essentially similar methods of evaluating and control of capital investment projects for both foreign and domestic operations (with the application of different discount rates; though).

### 12.3.3 Investment decision-making in organizations: the process

Basically there are two generally preferable types of decision-making process in literatures concerning investments in practice: (a) the ‘rational selection’ process which corresponds to the ‘normal’ or ‘closed’ decision-making model (e.g. Simon, 1954), and (b) the ‘incremental’ (or ‘adaptive’) process which corresponds to an ‘open’ decision-making model (e.g. Arrow, 1958). The ‘rational’ process prevails in most investment decision-making activities such as resource allocation (e.g. Lumby, 1991; Carsberg, 1974; Pike and Neale, 1996; Masse, 1962), despite the belief (including this researcher’s) that the investment decision-making process in practice (e.g. resource allocation) can remain inseparable, fuzzy, less rational, or even organisationally irrational. The ‘incremental’ process has gained much acceptance most recently, partly due to the fact that practical investment decision-making involves many people up or down the organization hierarchy over an extended period of time in an ever-changing environment (e.g. Wright, 1964; Simon, 1965; Butler, 1993; Mintzberg, 1976), and partly due to the awareness that many investment decision-makers use time in order to gain knowledge and commitment through a prolonged but loosely structured process of exploration and learning (Lindbolm, 1959; Quinn, 1980; Hickson et al, 1986; Johnson, 1988).
In fact there have been numerous attempts (e.g. Bower, 1971; Butler, 1993; King, 1975; Lindblom, 1959; Mintzberg et al, 1976; Neale and Holmes, 1991; Northcott, 1995; Pike and Neale, 1996; Pinches, 1982; Quinn, 1980; Wright, 1964) at describing investment decision-making process along these two lines, although the usefulness of each decision-making process can depend upon the dynamics of the decision situations as well as users' methodological preferences.

For example, Pinches (1982) describes a four phase capital investment decision-making process (i.e. identification, development, selection, and control), which is essentially based upon Mintzberg et al’s (1976) three phase model of decision process (i.e. identification, development, and selection). Lindblom (1959) proposes that the investment decision path takes the form of rational comprehension as can be exercised through the ‘root’ approach, or the form of successive limited comparisons as can be exercised by ‘branch’ approach (Figure 12-3), both of which accent the lengthiness rather than the stages of the making of investment decision. Neale and Holmes (1991) suggests a sample capital budgeting system (Figure 12-4) which involves 5 phases (i.e. determination of the budget, search, evaluation, monitoring, and post-auditing). Quinn (1980) suggests that the investment decision takes the form of a series of actions which explore and develop the solution while building a greater commitment of resources and a consensus to support the development, and that the decision process is primarily concerned with solution development, which is achieved through the phased implementation and testing of the solutions.

![Figure 12-3: Investment decision-making as successive limited comparisons](image)

In summary, it seems that the ‘rational process’ offers more analytical convenience and the ‘incremental’ process provides a richer context, with the operational distinction between them being whether evaluation and choice are explicit or implicit in the ‘development of the solutions’ (Mintzberg et al, 1976) in the full organizational context. However, other organizational decision-making processes have also to be employed to depict the investment decision-making process in practice. Depending on the structure, context, culture, and time frame within which an investment decision is made, approaches such as the political process, the garbage-can process, the humble process, and the unstructured process can be equally as good as the rational or bounded rational process in appreciating organizational investment decision-making.

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making in practice. (Please see Figure 12-2).

12.4 Investment decision-making in the full organizational context: an integrated model

Research onto the decision-making process within the organizational context has mushroomed since Follet’s (1987) study on organizational control, Sheldon’s (1936) study on organizational principles, Barnard’s (1938) study on organizational functions, and Simon’s (1947) study on theories of organizational decision-making. The dynamics of existing wisdom on organizational decision-making suggest that one effective way of solving a complex problem is to view it as a process with a number of distinct and separable steps (Barnard, 1938; Newell and Simon, 1972, Kahney, 1993), although it has been noticed that functional separation of problem-solving can be operationally difficult and methodologically hazardous (Bechtel and Richardson, 1993). Seemingly, it has become axiomatic to approximate investment decision-making to a ‘normal’ one the process of which can be seen as similar to the Hempelian inquiry system (see Hempel, 1965). One good example of this goes to Bransford and Stein’s (1984) IDEAL model (please see Figure 0-2-5) which remains, in essence, a typical ‘normal’ decision-making process for finding a solution for any class of problems. However, effort has also been made to approximate investment decision-making to a ‘revolutionary’ one, the process of which can be seen as parallel with Kuhn’s (1970) or Feyerabend’s (1975) ‘revolutionary’ inquiry system (e.g. Cohen et al, 1972; Mayer, 1993; Thompson and Tuden, 1976).

Figure 12-4. A sample capital budgeting system (Source: Neale and Holmes (1991))

All models of investment decision-making (be they the ‘rational’, the ‘bounded rational’, the ‘political’, the ‘garbage-can’, the ‘humble’, the ‘unstructured’, or the ‘contingency’) reflect a sense of perspective but, inevitably, they share some similar characteristics. Thus, it can seem
plausible to provide a balance by adding a pinch of people, contextual rationality, structural 'reality' and operational 'objectivity' to the abstract world of investment analysis theory.

Thus, in the light of the Chinese boxes game\textsuperscript{41} as well as the findings of empirical research\textsuperscript{42} reflecting the dynamics of investment decision-making in modern organizations, an integrated model of investment decision-making process is constructed as depicted in Figure 12-5,\textsuperscript{43} and the elements of this model will later form a basis for considering the economic, operational, behavioural tools which have been developed since the 19\textsuperscript{th} century to assist investment decision-making in real world settings.

Figure 12-5: Investing as an unbounded knowledge accumulation process in the full organizational context

Whereas G stands for Goal, P for Plan, E for Execution, and M for Measure

To a great extent, the integrated approach differs from other models in that well recognised are not only the image (teleological rather than simply mechanistic as what the word process connotes) of investment decision-making in organisations, but also the dynamics of investment decision-making activities which are framed from the control perspective, as well as the kinetics of human actions with respect to investment decisions. Seemingly, the integrated model accents other models such as the 'rational' and the 'bounded rational' but only uses them as analytical tools rather than as constructive frameworks; it turns the structural simplicity of other models such as the 'humble' and the 'unstructured' into less-fuzzy and more workable functions; it acknowledges the beauty of other models such as the 'political' but extends into other contextual considerations; it corresponds to other models such as the 'garbage-can' in the face of ambiguity but overcomes the latter's lack of structure; it agrees with other models such as the 'contingency' on operational objectivity but also emphasizes the importance of good structure as a guideline but not an obligation; it looks 'normal' for it incorporates positivists' rationality but it also looks 'revolutionary' in that it ignores established rules of procedures as well as
encouraging creative responses; it looks ‘micro’ for it is concerned with specific investment decision-making processes in practice but it also looks ‘intermediate’ in that it looks beyond specific investments and focuses on it being part of the organizational knowledge accumulation process, as well as looking ‘macro’ in that it goes beyond the milieu in which organisations exist and reflects the ultimate desires of human beings who create organisations and investment. In essence, it remains an unbounded rationality approach (please see Figure 12-2) reflective of an experimentalist worldview which, in this context, incorporates a nonrelativistic synthesis of modern rationalism and logical positivism.44

This integrated model reckons that investments can be carried out in order to achieve hierarchies of ends by means of planning and participation. Among the most distinguishable ends are (Figure 12-6): (a) ideals, (b) objectives, and (c) goals. Ideals are referred to the long term or ultimate ends the desirability as well as the closeness of which magnetizes organizations to invest. Objectives are referred to the immediate term ends the attainment of which leads to the success of the organizations which undertake the investment. Goals are referred to the short term ends the attainment of which prepares for the success of the investments.

Hence, this integrated model can also be represented by three cyclical processes (Figure 12-7, please also see Figure 12-5): the ‘macro’ process featuring progress in terms of ideal pursuit, the ‘intermediate’ process featuring development in terms of attainment of objectives (i.e. knowledge accumulation), and the micro process featuring performance in terms of goal achievement. Obviously, the macro process pinpoints the ultimate desires of organisations mastered by humans who desire their ability to achieve their desires; the intermediate process emphasizes the long term developmental benefits of the organization and of its people; the micro process has a sharp focus on the short term achievements of the organization and of its people.
Specifically speaking, the three processes supplement one another: the high level process relies on the competence of the lower level process, while the lower level process benefits from the nurturance dedicated by the high level process; the lower level processes vectorially constitute the highest level process (please see Figure 12-7); and each level per se involves a compromise between ideal and reality, viz., humans' quest for knowledge as being formulated as a pursuit of an ideal named truth, with an ideal being an outcome or end-state which can never be attained but can be approached without limit, and reality stands for an ideal or ideals to be pursued.

12.4.1 The macro process of investment decision-making: a progress orientation

The macro process is represented by four identifiable elements which jointly lead to the human pursuit of ideals (Figure 12-8): (A) conceptualization, (B) operationalization, (C) actualization, and (D) idealization. It refers to the organizational progress, which can be defined, in the light of an experimentalist worldview, as an infinite sequence of sets of facts (e.g. resources and market information) and laws (e.g. knowledge), with each set more closely approximating the truth or ideal (which is functionally a limit which can be indefinitely approached by responses but not obtained), and with facts and laws in each set being revised during the progress to the ideal. Such a progress remains virtually a process of 'learning more and more' (Singer, 1959) or an inquiry the original questions of which become 'more and more complicated, not simpler and simpler' (Churchman, 1981).

To illustrate the manner in which such a progress takes place (Figure 12-8), investment decision makers firstly, conceptualize the decision by formulating an image of nature according to some facts and laws (e.g. information, knowledge, and understanding); secondly, operationalize the decision by defining the image via the use of formal scientific principles (e.g. logic, economic, and methodological); thirdly, actualize the decision by taking both mental and physical actions through communicable structure and coordinating procedures while bearing in mind the image of nature; and fourthly, idealize the decision cooperatively after a set of actions either by adjusting the adjustable actions to the image of nature until adjustment is no longer possible, or by revising the image of nature in the face of nonadjustable actions and hence repeating the process..., and this process repeats indefinitely, moving towards the truth to be pursued, an ideal which is ultimately unattainable but always approachable.45

(A) Conceptualization refers to which ideals to pursue and how to pursue them. That is, in order to make progress, investment decision makers need to (a) determine what ideals there are to pursue, (b) construct or reconstruct a system which most suits the pursuit of the ideals, and (c) have a source from which strength can be built so as to facilitate the selection of ideals and the construction of an appropriate system. At this stage, an image of nature has to be assumed by processing some facts and some laws, and thus, information concerning desires, resources, opportunities and threats, remains the key to the success of conceptualization. It is through the emergency and disappearance of conflicts among varying rationalities with respect to ends and means that conceptualization can be achieved.
It has been argued (e.g. Ackoff and Emery, 1972) that there are basically four sub-ideals after which individuals, groups, or organizations can chase: (a) the politicoeconomic state of plenty (Ackoff and Emery, 1972; Emery, 1981) or homonomy (Emery, 1981)\(^\text{46}\), (b) the scientific state of truth (Ackoff and Emery, 1972) or nurturance (Emery, 1981)\(^\text{47}\), (c) the ethicomoral state of good (Ackoff and Emery, 1972) or humanity (Emery, 1981)\(^\text{48}\), and (d) the aesthetic state of beauty (Ackoff and Emery, 1972; Emery, 1981). To relate this to investment decisions in organizations big and small, for example, investment decision makers can be motivated to invest to reconstruct the environment in order that more efficient means are available and that the mode of production can be improved (viz., the ideal state of plenty). They can also be motivated to invest to reconstruct themselves so that the right persons will select the right (i.e. the most efficient) means available (viz., the ideal state of truth). They may be motivated to increasingly intensify their interest in an end which is desired by all stakeholders (viz., the ideal state of good). They may also feel obligated to integrate their interest in the ethical end in order that the interest is to be continuously, if not perpetually, pursued under changing conditions (viz., the ideal state of beauty). Although investment decision makers can be encompassed by conflicts in an infinite sequence, the pursuit of these ideals can necessarily, as well as sufficiently, facilitate organizations' progress toward the ideal state of omnicompetence.

From the systems point of view, organizations can have varying systems set up for varying ends (Ackoff, 1971). The simple system can be the passive functional system in which objects simply act in only one way in all environments and thus pertain to an extrinsic functional class. A slightly complex one goes to the reactive functional system which acts in only one way in any
given environment and acts in different ways in different environments. A complex system is
the goal-seeking system which enjoys one intrinsic function (i.e. goal) and can act in different
ways in any one environment and in varying environments, with the selection of the different
ways of acting being coproduced by the environment and the system. The more complex system
remains the multi-goal-seeking system which enjoys more intrinsic functions (i.e. two or more
goals) and can act in different ways in any one environment and in varying environments, with
the selection of goals (but one goal in any one environment) being produced by the environment.
The most complex system is a purposeful system which seeks two or more goals in any one
environment and in different environments, with the selection of goals caused by itself.

In terms of to whom could investment decision makers turn in order to gain strength to pursue
ideals as well as to modify or set up anew a workable system, it has been argued (Singer, 1948)
that the source of strength comes from humans themselves rather than an ultimate authority such
as God (in the West) or Heaven (in the Far East). For example, investment decision makers can
acquire strength (a) from within themselves, (b) from contemporaries, (c) from past generations,
and (d) from future generations. In fact investment decision makers gain more and more
knowledge via learning or experience, and the knowledge accumulation itself paves the way for
them to pursue the ideal state of truth or nurturance. It also seems possible that investment
decision makers can be fostered by their contemporaries such as subordinates, superiors, or even
rivals by means of selection of those objectives the attainment of which will help each other
achieve individual objectives and this relates to the ideal state of plenty or homonomy. Besides
the fact that past decision makers can pass down emotional experiences which can generate a
heroic mood of satisfaction with the progress made so far, investment decision makers can be
aided by the wisdom and lessons generated by past decision makers to overcome adversities as
well as to prevent vacillation of ends along their pursuit toward the ideal state of beauty.
Furthermore, investment decision makers can be assisted by future decision makers in the
pursuit toward the ideal ethical state of good by exhibiting, through actions, the fundamental
good in human nature and by encouraging, through modelling, future decision makers to
remember as well as to emulate.

(B) Operationalization refers to the measurable processing of the image of nature by
employing formal sciences (such as logic, mathematics, philosophy, and economics) and the
related disciplines (such as IT, finance, accounting, and methodology). The reason why this
processing has to be aided by sciences lie in the procedural sophistication caused by conflicts
existing or emerging among varying rationalities concerning means and ends. However, given
that all facts depend on theories and all theories depend on facts, sciences are not used in any
order of hierarchical preference, but are incorporated to cross check on each other. This suggests
that, methodologically, operationalization can only be regarded as having been achieved when
all of its aspects have been explicitly designed as well as being open to revision if the design
fails to meet the criteria of acceptability.

Efficient operationalization demands teleological measurement. To operationalize the image of

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nature is to specify the ideals (or sub-ideals) so that measurement can be taken. Investment decisions can be very complex as far as decision situation (e.g. volatile outcomes, and changeable processes) is concerned, thus, measurements, which are pieces of information having application in varying places and times, have to cover a wide variety of contexts (e.g. physical such as economic, phenomenological, psychological, and operational such as technical or strategic). This requires the use of both scientific framework (e.g. the 'lattice' and the 'preference graph') and non-scientific framework (e.g. the 'holistic') so that any part of the conceptualized image can be viewed and possibly understood from as many different viewpoints as possible. Standards, which are another feature of teleological measurement, are also required so that costs of measurement can be reduced and later adjustments can be made accordingly. Predictions can also be teleologically used to predict investment decision makers' future behaviour by measuring their values (e.g. ethics).

Teleological measurement demands an optimal methodology. Teleological measurement dictates the use of an optimal problem solving technique (e.g. means-ends schema, hill-climbing, or random trial and error) depending on the balance between conflicting rationalities, although it may vary in practice. For instance, means-ends analysis can be employed as the optimal (i.e. most economical or efficient) technique to investigate psychological phenomena such as escalating commitment.

Optimal methodology demands interactive planning. Optimal methodology requires an optimal design covering all stages of the decision-making process, and this can be achieved by the interactive planning (Ackoff, 1981) – in the light of the optimal methodology - under which each phase of the decision-making process remain a continuous activity and interacts with other phases, insofar as the planning process facilitates effective judgement (in order to measure the participative decision makers' value, the planning incorporates all stakeholders' points of view, the planning involves all hierarchical levels of the organization, planning aims at encourage organizational learning (Ackoff, 1981).

(C) Actualization refers to the implementation of the operationalized image of nature. Resources are coordinated within the organization so that performance criteria are met. It demands good interpersonal, inter-group, and inter-organizational communicational skills, competent technology, optimal strategy, responsive information processing systems, and an adaptive structure. Consider implementing strategy, for example, one can stick to one normal techniques (e.g. breaking the actualization into parts, working backward, or using a specific case); one could also employ non-scientific strategies (e.g. artistic, moral or political).

In terms of organizational structure, for another example, an adaptive organizational structure is required to ensure the actualization of the interactive planning. This adaptive structure needs to be flexible so that accountabilities can be assigned, integrated and coordinated; it needs to be circular so that hierarchical command can be effectively utilised to facilitate the integration of different views, participative planning and decision-making; it also needs to be responsive so that the implementation of decisions can be effectively controlled and the information can be

(D) Idealization refers to the adjustment of the decision situation after actualization to the image of nature. If the actualization is successful as to the standards, then improvement is aimed at, providing that it is adjustable, by achieving better results through re-actualization; if the actualization is unsuccessful as to the standards, improvement is aimed at, providing that it is adjustable, by improving the results through re-actualization; if the actualization is nonadjustable or nearly nonadjustable, improvement is aimed at through re-conceptualization, providing that the actualization is successful, by setting higher standards; if the actualization is nonadjustable or nearly nonadjustable, improvement is aimed at through re-conceptualization, providing that the actualization is unsuccessful, by modifying the assumptions underlying the standards. This stage requires an efficient intelligence system, an adaptive structure, an optimal strategy, the most practical tactics, improved understanding and knowledge, and, above all, the cooperation spiritual and material through out the organization and its environment.

It can be argued, in the light of an experimentalist view that progress towards the ideal brings forth satisfaction (Ackoff, 1981), that investment decisions can remain a means by which organizations pursue ideals so that they can keep being progressive. It is in part because that ideal-pursuing remains one of the very few common characteristics possessed by humans who may make investment decisions to serve human purposes. Besides, humans are desiring beings who must desire, above all, the ability to achieve their desires. Hence, all people or organizations of all times must desire this unlimited ability to achieve their desires.

On the one hand, the difference in organizational progress framed by idealization (i.e. pursuit of ideals) and by actualization (i.e. pursuit of purposefulness of lower level) can be huge. For organizations filled with decision makers who are ideal seeking, investment decision-making involves formulating and selecting organizational (or even individual) ends, goals, or objectives by determinedly plotting the ideal as a long term target to be approached as well as willingly sacrificing short-and medium-term gains if the sacrifice is believed to facilitate progress toward the ideal at some later time even if this later time may come after the life span of a specific investment or beyond the service of the current management. For organizations filled with decision makers who prefer not to seek ideals, investment decision-making involves a selection of ends, goals, or objectives which serve the short-and medium-term satisfactions which are hoped to be gained at a relatively less dearly cost.

On the other hand, as being historically considered and debated (e.g. Pigors, 1935), the ability to achieve desires refers to either omnipotence which means power over (viz., the ability of one person or a small group, but not other people, to achieve his or her desires) or omnicompetence which means power to (viz., the ability of all people to achieve their desires). Since 'power over' cannot be an ideal for every person or every organization (Follet, 1973) and 'power to' enables every individual or every organization to pursue ideals (Pigors, 1935), the major hurdle for an ideal-seeking organization, thus, is to overcome the will to compete to overpower others but to cooperate instead to co-prosper in the long run (Singer, 1948).
Practically speaking, organizations' progress toward ideals remains a dialectical process full of conflicts which occur in an infinite sequence (please see Figure 12-6). For example, it can be argued that it is the involvement of choice inherent in decisions that provokes conflicts among varying rationalities (i.e. economical, operational, technological, psychological, and strategic, to name just a few), that it is conflicting rationalities between means and ends which calls for changes of behaviours in organizations, and that, while one conflict disappears, another arises, and so forth. In this sense, investment decision-making can be regarded as being driven by 'divergence' (Sunzi, 1992; Churchman, 1961) along the course of organizational progress: investment decision makers 'rationalize' in order to 'irrationalize'; investment decision-making can also be regarded as being driven by 'convergence' (Sunzi, 1992; Ackoff, 1967) along the course of organizational progress: investment decision makers work through conflicting rationalities concerning ends and means in order to achieve what this researcher calls meta-rationality. Thus, the progress per se is a never-ending series of conflicting interactions between 'rationality' and 'irrationality' from any given vantage-points at any time, begetting that no specific rationality (i.e. phenomenological, psychological, operational, physical, and the like) will (and should) always matter more than others or be employed more frequently than others because the ideal can only be approximated but never reached, given the fact that desire is an essential characteristic of being human and that a being without desire is not human.

Seemingly, this macro process featuring organizational progress in terms of ideal pursuit has some significant aspects worthy of notice. First, since there is no fundamental truth from which investment decision makers could develop further truths, no science (not economics, not psychology, not even mathematics, and not even logic) remains more fundamental or more important than another, and these sciences are simply required (or assumed) in order to learn along the progress toward the truth. Second, since the notion of ideal drags attention away from what investment decision makers actually do relative to what they ought to do, this progress has to be judged from an ethical point of view rather than being judged relative to specific decision makers or the organizations. Thirdly, since all knowledge of fact implies knowledge of law, any phenomena which take place along the route of progress have to be measured by considering sets of varying natural mechanical images and by assuming a teleological view of the world (see Table 1-2-2) since investment decision makers constitute a system involving intrinsic functions, be it a goal-seeking, multi-goal-seeking or a purposeful system. Finally, it seems that actualization and idealization are the core elements along the progress toward ideals, and that other elements (i.e. conceptualization, and operationalization) are merely functionally supplements; besides, since conflict is an essential feature of the pursuit of ideals, the investment decision-making process itself can be framed as continuous sets of conflicts between idealization and actualization: investment decision makers actualize in order to idealize and idealize in order to actualize, while organizational progress as a whole is a non-stopping series of actualization and idealization.

In short, investment decision-making can serve for organizations' ideal-seeking, and investment decision-making can become a cyclical process of actualization and idealization along an
organization's progress toward ideals, a process which is essentially characterized by conflicts in terms of varying rationalities concerning ends and means.

12.4.2 The intermediate process of investment decision-making: a development orientation

There are eight identifiable elements which jointly lead to the intermediate process of knowledge accumulation: (A) identification, (B) definition, (C) search, (D) choice, (E) authorisation, (F) implementation, (G) monitoring, and (H) improvement. As can be seen in Figure 12-4, the process of investment decision-making is much more than choosing one from alternative courses of action and implementing it, it involves several identifiable interrelated phases only two of which are choice and implementation.

Seemingly, investment decision-making can include a great range of possible mental and physical activities during the period of identification, definition, search, choice, authorization, implementation, monitoring, and improvement; and these activities can be directed towards the satisfaction of a wide variety of objectives. Among the most important objectives for which investment decision-making may serve are (Drucker, 1954; Dean, 1951; Wright, '1964): (a) profitability, (b) innovation, (c) productivity, (d) physical and financial resources, (e) market standing, (f) public responsibility, (g) desire for security, (h) avoidance of conflicts with associates.

Apparently, all of these possibilities are subject to the milieu in which specific investments take place and the evolution to which they lead. Some of the objectives are interdependent, not in a consistent way, though; the relationship between varying objectives can be complementary, competitive, or even exclusive (viz., one objective may act as a restraint preventing the excess fulfilment of another). In the intermediate run it all inevitably comes back to one abiding necessity which is of developmental nature: improved knowledge for the investment specific business unit, the organization, and, possibly, the geographical economy. To survive and to prosper, organisations heavily rely on their ability to create and improve knowledge rather than on their exercises of individual investment activities of rather short duration: knowledge accumulation remains the end and investment activities are merely the means for achieving the end.

The intermediate process of investment decision-making (Figure 12-9) can be so dynamic that, it can unfold linearly or be restarted at any earlier phase, it can completely repeat or restart itself due to its cyclical nature, it can even stop at one phase for an extended time and restart later on, and it can move backwards through knowledge accumulation although the latter of which normally follows a logical sequence as shown in Figure 12-9 (which can be viewed as, to a great extent, an unfolding version of Figure 12-5 or Figure 3-1).

(A) Identification of potential investments: identification of potential investments refers to the recognition of problems or the creation of investment opportunities which firms can possibly define and further explore. It remains a 'triggering' phase of investment decisions in that in most cases 'normal' investment opportunities exist and simply need to be identified and
exploited (King, 1975); it also remains an ‘innovating’ phase of investment decisions in that many ‘revolutionary’ investment opportunities need to be created. The identification of investment opportunities remains crucial in that it is the starting point to secure successful outcomes (Pike and Dobbins, 1986)\textsuperscript{54}.

It is often held that most investment ideas come from people who work in technical positions (e.g. Northcott, 1995), that lower organizational levels collectively account for more investment ideas than do higher levels (e.g. Petty et al 1975), that ideas for new product lines are more likely to come from higher levels, and that ideas for strategic investments are more likely to come from executive levels (e.g. Pike and Neal, 1996). It is also held (Northcott, 1995) that an important rule for generating more investment ideas is to create an environment in which individuals or groups feel free to present or develop ideas, and that an important mechanism to facilitate this is perhaps to finance both premature and mature investment ideas.

In addition, there may not be a continuous flow of investment ideas, in contrast to economists’ beliefs that investment remains the interaction of the supply of capital and the flow of investment opportunities (Begg, 1991). This means that ideas for investment may have to be rigorously generated in a structured way, say, by cultivating a corporate culture which encourages people to search for, identify, and sponsor investment ideas (Butler et al, 1993). This cultivation may have to be clearly purpose-oriented, planned, executed, and measured if it is going to be continuously successful. For instance, ideas can be planned by means of collective thinking through, say, quality circles, or by means of putting varying emphases on the organizational levels; it can also be periodically evaluated and both materially and spiritually awarded. A firm can easily bypass existing investment opportunities if it does not set explicit objectives, plan for idea-seeking activities, conduct the search effectively, and measure the ideas generated as well as the effort involved.

In practice, however, research evidence shows that there is no clear indication of the nature or
extent of deliberate investment idea generation (Northcott, 1995). It has been observed that firms are increasingly active in searching for investment ideas (Pike, 1983; Klammer, 1972) but it is in strong contrast to the findings of others including Istvan (1961), and McIntyre & Coulthurst (1987). There has been little agreement on the organizational levels from which investment ideas arise (Northcott, 1995, Petty et al, 1975; Mao, 1970; McIntyre and Coulthurst, 1987). However, there is evidence suggesting that firms control ideas via the capital expenditure budget to ensure the ideas which emerge are in line with group objectives (Scapen and Sale, 1981). In short, limited research evidence provides a fuzzy picture of the identification of potential investments although it appears that the stimulus for active searches can include a short supply of profitable investment opportunities, that most ‘normal’ investment ideas emanate from lower hierarchical levels in large firms, and that ideal generation on higher hierarchical levels incurs more frequently in smaller firms or with ‘revolutionary’ investments.

(B) Definition of workable investments: the definition of workable investments refers to turning ideas into operational formulations of spending requirements, implementation practicalities, and criteria for performance measurements, by both of which firms can develop investment alternatives and optimize their use of resources. It involves the detailed specification of a proposal, together with its technical and economic characteristics (Butler et al, 1993). It is important in that these formulations or criteria are directly tied to the last phase which in turn dictates the success of the investment. The more explicit and the more measurable the formulations or criteria, the more easily investment decision makers can determine the success or failure of the decision.

It is commonly believed (Pike, 1983; Northcott, 1995) that it remains nearly impossible or normally costly to obtain the information required for a full investment definition. For instance, the definition may need varying expertise of technical staff as well as marketing information before an investment can eventually take a workable shape and form. In this sense, the definition phase itself needs to be purposefully disciplined, to be corporately planned, to be perhaps executed by a small host of people playing the role of investment initiators, and to be continuously measured by assessments against certain established criteria. This cyclical process embodying goal, plan, execution, and measure leads to further investigation and further definition so that the feasibility of investment can be convinced to colleagues before further resources are committed. The goal, plan, execution, and measure may have to be re-addressed or re-start anew in the process of definition in that some options may have been consciously or unconsciously but prematurely exercised simply due to the established goal and plan. In short, the more commitment an investment achieves at this phase, the more likely it is to be eventually realized; the more explicit and quantifiable the definition is, the more likely it is to be ultimately approved.55

Industrial evidence suggests that investment initiators remain an economic vehicle for defining investment prior to the search for alternatives. Limited research evidence shows that, in practice, investing organisations have employed standardized documentation and procedures (e.g. Pike,
1983) and central management committees as the formal organizational structure (Gitman and Forrester, 1977), although the delegation of much of authority, such as spending limits, has been assigned to different hierarchical levels (Scapens and Sale, 1981).

(C) **Search for possible investments:** the search for possible investments refers to the development of alternatives from which firms can choose and further exploit. This involves the search for both the alternatives and the information about the alternatives, although it remains neither feasible nor desirable to conduct a full-scale evaluation of each investment ideas. The search can be formal by taking the form of market surveys, or informal by taking the form of telephone calls for advice, addressing fundamental questions about investment viability.

However, the search needs to fall in line with the definition of workable investments. Thus, commitment towards the search for alternatives needs to be purposefully focused and this can be done by roughly sticking to the goal (i.e. the definition of workable investments), planning screening activities, effectively conducting the investigations, and measuring them against the previously set criteria (i.e. the definition). Although the generation of investment alternatives can be more ‘emergent’ than ‘deliberate’ (Mintzberg and Waters, 1995), preparedness can lead to the proliferation of ‘normal’ (if not ‘revolutionary’) investment alternatives.

(D) **Choice for promising investment(s):** the choice for progressive investment refers to the most rigorous assessment of investment alternatives in the feasible set from which the choice investment can be hierarchically authorised to enable further and massive corporate commitment. This phase involves evaluation of alternatives, analysis of risks on outcomes (e.g. acceptance, rejection, and request for further information), and the selection among available alternatives (e.g. one, two, or more preferences).

Seemingly, the making of choice requires more cyclical commitment involving goal, plan, execution, and measure. For instance, besides information (e.g. in terms of cash flow), firms need quantifiable goals such as the criteria for investment so that more meaningful evaluation can be conducted. Firms also need to determine, via planning, which evaluation models (sophisticated or simpler) to use. A number of preferences need to be selected accordingly. The risks involved in each outcome need to be appropriately measured.

In addition, the cyclical process of making a choice from a number of alternatives becomes even more vital in that the investment appraisers can face a series of dilemmas which include: (a) there are two or more equally good investment alternatives, (b) no prompt investment alternative looks truly promising, (c) no investment alternative has offered enough positive results (societal) to offset expected negative effects (e.g. environmental), (d) many investment alternatives are perceived as being acceptable according to the pre-set criteria, (e) there is a better investment alternative but it is based upon a set of performance criteria which seems to be obsolete and requires refinement, and (f) there is not a convincingly good investment alternative but the assumptions on which the conclusion is drawn also seems shaky. These dilemmas can easily lead to a waste of resources or missed opportunities if there is not an effective control
mechanism covering goal, plan, execution, and measure to guide, co-ordinate, and monitor the practice. For instance, the investment appraiser can intentionally or unintentionally choose a personally favourable alternative when encountering many acceptable alternatives, and this gives rise to the need to measure (or evaluate) the evaluation.

To evaluate investment alternatives demands the use of particular investment appraisal methods which include financial appraisal techniques (e.g. payback, average accounting rate of return, internal rate of return, and net present value, options theory), risk analysis techniques (e.g. sensitivity analysis, analysis under different assumptions, reduced payback periods, increased hurdle rates, probability analysis, beta analysis) and management science techniques (e.g. mathematical programming, computer simulation, decision theory, and critical path analysis).

Recent research evidence has shown that practitioners prefer to employ a combination of sophisticated or naïve appraisal methods (e.g. Pike, 1988), although some naïve methods such as payback remain the most popular for smaller firms (e.g. Scott et al, 1972), while the discounted cash flow (DCF) techniques consisting of the internal rate of return (IRR) and net present value (NPV) have become standard techniques for the large firms (e.g. McIntyre and Coulthurst, 1986). There is also evidence (Pike, 1988) showing that, although the techniques being used vary considerably from investment to investment, assessing the risks involved in making investment decisions, becomes increasingly popular, with the testing of the sensitivity of critical investment outcomes and underlying business assumptions being the most popular.

(E) Authorization of the chosen investment(s): the authorization of the chosen investment(s) refers to the approval of the chosen investment(s) so that massive commitment in coordination with organizational objectives can be geared up to the implementation of the chosen investment(s). Industrial evidence shows that in many cases the final decision on an investment (especially if it is organizationally significant) is made at much higher hierarchical levels in the organization, and the process of approval is usually politically economic. In fact, there are relatively very few investments in modern organisations which receive rejection at the final approval stage, partly because the rejection may imply a lack of confidence in junior managers' decision-making judgement (King, 1975), and partly because more and more top management are seen involved in the earlier if not the whole stages of the investment decision-making process (Marsh et al, 1988).

Seemingly, it becomes necessary for an organization to have a control mechanism to guide and monitor the exercise of investment approval at higher hierarchical levels. For instance, it can be plausible if the organization has a set of explicit criteria as well as planned quantifiable methods for evaluating investment decisions made at the final stage, by, say, publicizing the process of the final approval or evaluating decision-making in reference to the specific context based upon which the decision is approved.

(F) Implementation of the decided investment(s): the implementation of the decided investment(s) refers to carrying out the investment decision so that the investment(s) can be monitored towards success. Since carrying out the investment decision can be as complicated as
making the decision, organisations in pursuit of successful implementation of an investment need to look beyond the quality of the investment decision. That is, managerial behaviour starts to play a significant role in the investment decision-making at this phase, prior to which the investment decision-making process has been mainly based upon information and ideas. In fact, only through implementation, with the organization deploying and developing both capital, physical and human assets, does the investment decision become a part of the organization’s operations.

Seemingly, successful implementation demands an appropriate control mechanism. This also accents the conservatism literature on capital budgeting which frequently assumes that control occurs after an investment is eventually selected (e.g. Wright, 1964). It is argued that investing organisations need to design certain control mechanisms, which correspond to what Scapen et al (1982) call pre-decision controls, to influence managerial behaviour. This involves setting goals for the investment-related staff, planning authorization levels and procedures to be followed during the implementation, conducting specific tasks such as obtaining quotations for equipment or construction requirements to achieve the goals, and measuring both the financial and physical activities undertaken to ensure task performance (e.g. how much has been spent).

In addition, the information generated via this control mechanism by means of checking actual spending against budgets or benchmark performance against pre-set criteria, can actually help signal the need for reviewing the investment or identify problems emerging during the implementation phase while there is still time to make improvement.

**Monitoring the ongoing investment(s):** Monitoring the ongoing investment(s) refers to post completion audit in order that improvements on the on-going investment(s) can be made to ensure the success of the investments and of the organization. By nature, post completion audit pertains to what Scapens et al (1982) call ‘post-decision’ controls. To monitor an investment is to assess the effects of the decision against the performance criteria as well as looking for problems which need immediate or remote solutions. This is often done by measuring the progress of the investment after, say, a year’s operation, and comparing them with the performance criteria, say, the forecast made at the time of authorization.

In essence, monitoring remains an otherwise impossible means for either correcting ineffective decisions or promoting effective decisions, by continually comparing the performance which is being achieved with the pre-set performance. It has been argued (Horngren and Foster, 1987) that monitoring (especially post audit) enjoys a number of potential desirabilities which include:

(a) a clearer picture about realized spending and specifications vis-à-vis the plan as approved,
(b) increased likelihood that capital-spending requests are sharply conceived and fairly estimated, and (c) improved budgetary estimation on future investments.

Seemingly, to conduct an effective post audit, organisations need to have explicit goals (e.g. performance criteria), workable plans (e.g. resources and methods), efficient executions (e.g. collecting information) and effective measurement (e.g. continuous comparison between achieved and predicted performance). A typical post completion audit review should address
those influential aspects of an investment which are particularly sensitive or critical to the success of the investment and of the organization as a whole (Klammer, 1972). For example, research evidence (e.g. Pike, 1983) suggests that major justifications for the use of post completion audit include managers' desire both to learn from the investment experience in the hope of improving the quality of future decisions and to ensure accountability in an attempt to deter over-optimistic forecasts.

In practice, however, due to its time-consuming and costly nature, post completion audit is not widespread in all countries, nor does it prevail in all organisations within a country in which it remains comparatively most popular, nor is it being employed for all investments in an organization which does favour it. In fact, research evidence suggests that post audited are those investments which require the greatest expenditure or remain most risky or strategically important (e.g. Pike, 1983; Northcott, 1995; Scapens, and Sale, 1981), although the use of post completion audits does not seem related to firm size (Pike, 1983). Furthermore, since monitoring occurs after the investment has run a significant part of its life, many firms have been reported as refusing to use post-decision control methods such as post audit due to their operational difficulties (Scapens and Sales, 1981: Pike and Neale, 1992).

(II) Improvement on investments and investment decision-making: improvement on investments and investment decision-making refers to the betterment of an organisations' investment decision-making, and this betterment can have four meanings: (a) the pursuit of continuous improvement if past decisions are proved to be effective, (b) a provision of corrective actions if past decisions are proved ineffective, (c) conducting further analyses if the current review has not shown a clear picture, and (d) encouraging organizational learning in terms of knowledge creation and accumulation. This shows that the investment decision-making process will probably repeat its later phases by assessing and improving past decisions, or simply restart again from the very beginning by identifying new opportunities and new threats and analysing new strengths and weaknesses. However, this has to be assisted with modified or new control mechanisms which are purposely goal oriented, methodically scheduled, skilfully executed, and accordingly measured.

In actuality, however, the phases of the intermediate investment decision-making process (i.e. identification, definition, search, choice, authorization, implementation, monitoring, and improvement), can be performed by different people throughout the organization. They may overlap and iteration between phases can occur frequently. Nonetheless, the intermediate decision-making process should aim to enhance the effectiveness of investment decision-making, viz., the effectiveness of the present investments as well as the effectiveness of future investments.

12.4.3 The micro process of investment decision-making: a performance orientation

There are four identifiable elements which jointly form a cyclical as well as interdependent micro process which itself functions as a control mechanism (Figure 12-10): (A) goal, (B) plan,
Chapter 12 On Investment And Investment Decision-making

(C) execution, and (D) measure. This micro process is relatively short-term focused in that it, by means of means-ends schema, sharply focuses on investment decision makers' performance and responsibility. It is normally concerned with operational issues and is usually dominated by some explicit rationality (e.g. economical, methodological, operational, or strategic). All in all, it is a process with the concept of control as the main thread linking the four interdependent elements to a control mechanism.

However, this micro process can be very dynamic, although its time frame can be relatively much shorter than other processes and its space frame can be relatively much smaller than other processes: for example, all four sub-elements can be executed almost simultaneously and possibly by an individual or a small interest group. The process can unfold linearly or to be restarted at any earlier phase; it can completely repeat or restart itself due to its cyclical nature; it can even stop at one phase for an extended time and restart later on; it can, broadly speaking, move backwards through the control mechanisms (such as management information systems), or, otherwise, it normally follows a logical sequence as shown in Figure 12-10.

![Figure 12-10: The micro process of investment decision-making: a performance orientation](image)

**Goal** refers to an explicit and overwhelming set of specific tasks for the investment decision makers to achieve, the attainment of which will satisfy the major motives of the activities associated with the specific task. Such goals like quality, quantity and time, stand for the acceptable and measurable performance, normally associated with responsibilities, the zone of which can be represented by a finite space bounded by a series of conflicting rationalities or by a series of intersecting contextual planes. Therefore, goals in this context are an input to the control mechanism as well as an output of the planning process in that they represent the standards of performance for comparison with actual results. It has to be measurable, realistic, and explicit, or otherwise, the comparison of desired and actual performance can be problematic, improbable, or ambiguous.

**Plan** refers to the planning of the decision: its elements, its sub-process, its output, and the control mechanisms which warrants its success. In practice, it may unnecessarily be separable
from the control mechanism (Anthony and Dearden (1980). It is normally based upon an assessment of the present, expectations of the future, and reflections of the past. It remains a necessary extension of the goals and a useful guideline for the execution of the task. In essence, it reflects an explicit, compromised balance between conflicting rationalities concerning the ends and the means of the specific task. This plan, as its short term nature dictates, remains a participative activity which requires investment decision makers’ direct involvement. Since it consequently leads to its execution and the measurement of the execution, it inevitably requires that such a plan must be designed to facilitate effective judgement by the investment decision-makers.

Execution refers to the carrying out of the established plan. It demands both psychological and political commitment. It requires a powerful structure and efficient problem solving techniques as well as being contextually rational and focused. It also needs a large degree of flexibility so that investment decision makers can effectively cope with change. For example, investment decision makers may need to establish a power plus responsibility centre so as to sharpen a large number of relevant variables into a very limited number as well as imposing rational assumptions on the operating procedures during the execution. To carry out the task some contextual rationality (e.g. profitability or market standing) may overpower the operation temporarily. The sharp focus on the task may require the means-ends (or, sometimes, the hill-climbing, but, certainly not the random trial and error) technique to enable the investment decision makers to discipline themselves in order to ultimately achieve the goal.

Measure refers to assessing the task performance against its pre-set criteria vis-à-vis both the outcomes and the processes of the investment decision so that actions can be accordingly taken either to correct the deviation where the actual deviates from the standard or to repeat the process indefinitely. First, it involves why this task in terms of decision choices in association with their possible decision outcomes (e.g. C1, C2, E1, E2, see Figure 1-1-2); industrial experience tells that most investment decisions are ‘programmed’ in a way that performance is measured as it is and that the link between performance and responsibility is often ‘tunnelled’. Second, it involves what to measure in terms of decision-making responsibility such as profit and growth, the quantification (e.g. in terms of probability) of which may seem preferable. Third, it involves by which to measure in terms of standards of performance which are pre-established in previous stages. Fourth, it involves how, when, and by whom to measure in terms of what evaluation mechanisms (e.g. post completion audit, self-assessment, self-criticism, or periodic review) are to be used. Fifth, it involves what to do next in terms of post-measure actions so that the continuation of investment decision-making activities can be ensured toward the achievement of the decision goals.

The control mechanism refer to designs which put all elements of the decision-making process together in order to monitor functional performance in a co-ordinate way as well as to effectively achieve what is desired. Such a mechanism assumes that investment related activities are controllable: goals can be identified and pre-set as well as incorporated into plans which are
then implemented and measured; the comparison between the actual and the desired results helps facilitate (a) further planning by means of feedforward which leads to the amendment of plans in the light of experience, (b) further participation by means of feedback which leads to reaction, or (c) both further planning and further participation by means of what this researcher calls feedinward which leads to learning in terms of memory, which refers to the total accumulation of prior learning experiences, and consists of two interrelated components: (a) short-term or working memory and (b) long-term memory.

Feedinward refers to the flow of information which is made memorable by storing it in a retrievable memory ‘chip’ so that organizational learning is fostered whenever the memory is needed. Seemly, feedinward accents organizations’ long term memory featured by an unlimited, permanent storage which stores numerous types of information such as processes, decision rules, concepts, affective states, participants, decision alternatives, and so forth. The use of the long term memory can be much plausible for investment decision makers to improve the effectiveness of their decisions. For instance, schematic memory, which is the stored representations of the organizations’ generalized knowledge about what the business individuals or groups are doing can help organizations avoid mistakes similar to those they had made before, perhaps, under previous leadership, structure, and norms; episodic memory, which depicts an action sequence, can help facilitate investment decision makers to make more efficient decisions.

It is not surprising that in practice many organizations do not have this kind of mechanism to memorize their valuable information. What they normally do is to acquire the information acquired at a specific stage of the decision-making process and then make short term use of it via feedback or feedforward but keep no long term memory of it. Feedforward and feedback remain, in essence, a form of what this researcher calls feedoutward in that the flow of information becomes chronically diffused and remains only temporarily usable but permanently irretrievable. Feedoutward accents short term memory which is currently exploitable but needs to be processed by means of maintenance rehearsal or elaborative activities so that it can be transferred to long term memory. It seems evidential that most organizations make less effort to facilitate continual repetition of a piece of information in order to hold it for current use in decision-making or transfer it to long-term memory, nor do they employ previously stored investment - decision - specific experiences, values, attitudes, beliefs, feelings and the like to interpret and evaluate information in working memory as well as to redefine or add new elements to memory.

Apparently, memory is necessary for organizational learning in that without memory learning can be either impossible or meaningless, although memory per se is not sufficient for organizational learning in that memory remains merely a stock of data, and cannot facilitate learning without, inter alia, the processing of the data, a framework to be used to process the data, and an operator / user. Therefore, it appears very beneficial for organizations to have some mechanisms which enable them to strengthen the memorization of their valuable information. Table 12-1 provides such a control mechanism in the form of a decision file which is designed...
to facilitate both feedoutward and feedinward control. It aims to incorporate both the decision outcomes (the chosen course as compared to its alternatives) and the decision process so as to foster organizational learning by making retrievable the memory of useful information concerning all decision components and their parameters. The retrievable decision file should contain at least the following information (words in italic are sample answers provided by this researcher).

**Table 12-1: A sample retrievable investment decision file**

<table>
<thead>
<tr>
<th>0. Decision situation</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 Decision name</td>
<td>FDI in China</td>
</tr>
<tr>
<td>0.2 Decision type</td>
<td>Strategic investment, overseas operations, expectations as major determinant, originally driven by internalization and invested for options</td>
</tr>
<tr>
<td>0.3 Decision date</td>
<td>1 January 1997</td>
</tr>
<tr>
<td>0.4 Decision background</td>
<td>medium sized, industrial products specialized in telecommunication, strategic standing, huge market potential, growing indigenous competition, governmental protection. Similar investment into Thailand seems potentially profitable. The existing project in China has been operated for a few years. It suffered losses due to local economic recession. Research reveals that economy is booming and an expansion is proposed to increase productivity</td>
</tr>
<tr>
<td>0.5 Decision situation involving choice</td>
<td>To decide whether to withdraw, allocate more resources, or to play a waiting game, given that the pioneering operation has been suffering losses in the last five years</td>
</tr>
</tbody>
</table>

1. **Goal**

1.1 Current situation

1.1.1 Discussion

<table>
<thead>
<tr>
<th>Argument for</th>
<th>Non-ever competition, options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argument against</td>
<td>Bigger loss, Publicity, Lost initiative</td>
</tr>
</tbody>
</table>

1.1.2 Agreement

<table>
<thead>
<tr>
<th>Voted to continue</th>
<th>50% (by A, B, C, D, E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20% (by F, G)</td>
<td></td>
</tr>
<tr>
<td>30% (by H, J)</td>
<td></td>
</tr>
</tbody>
</table>

1.2 Goal no. 1

<table>
<thead>
<tr>
<th>Market share = 20% by the year of 2000, (break even at 2005, a net profit of £220m by 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market share = 40% by the year of 2000, (break even at 2005, a net profit of £210m by 2010)</td>
</tr>
</tbody>
</table>

1.2.1 (Associated ideals)

Plenty

1.2.2 (Associated objectives)

Innovation, market standing in Asia, understanding business in China

1.2.3 Possible outcomes

<table>
<thead>
<tr>
<th>Unsuccessful continuation E2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful continuation C1</td>
</tr>
<tr>
<td>Error of omission E1 (Thai project)</td>
</tr>
<tr>
<td>Successful withdrawal C2</td>
</tr>
</tbody>
</table>

1.2.4 Expected consequences

- 20% x £20m |
- 20% x £110m |
- 20% x 80% x £120m - 20% x £120m |

1.2.5 Available information

| 90% |
| 90% |
| 60% |
| 70% |

1.2.6 Information still needed

Local bankruptcy policies |
Indigenous product |
Thailand's new taxation policy |
Other competitors' performance in PRC |

2. **Plan**

2.1 Critical assumptions for expected consequences

1. China is to double its demand for telecommunication equipment; 2. China enjoys lower labour costs; 3. indigenous firms are technically incapable of producing high-end products in the next 7 years.

2.2 Critical assumptions for dumping Thai project

1. Thailand's economy is less stable than the Chinese; 2. Indigenous competition is intensive in Thailand; 3. The Thailand project won't lead to a prominent market standing in Asia as big as will the Chinese one.

2.3 Who votes or anti-votes the Thai project?

Mr G and Mr F support the Thailand project; Ms D, Ms B, Mr C, Dr A, and Dr H anti-vote the Thailand project; Miss J and Dr I want the committee to hold the option until next year.

2.4 By when 2.2 and 2.2.4 can be expected?

2002 |
2000/2005/2010 |
2005 |
2010

2.5 Investment criteria

<table>
<thead>
<tr>
<th>Total loss &gt; £7m by 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market share &gt;= 20% by 2000</td>
</tr>
<tr>
<td>Market share &gt;= 40%</td>
</tr>
<tr>
<td>A net profit of £125m</td>
</tr>
</tbody>
</table>

3. **Execution**

3.1 When to finish the implementation?

By the end of 1998.

3.2 Who is responsible for the implementation?

Dr A and Ms D

3.3 Who are taking part in the project?

International business division, Marketing division, Operation division, plus a special working committee chaired by Mr K.

3.4 Who is responsible for major decisions?

Ms is going to be in full charge when it is implemented, and is responsible for the market share and profitability

4. **Measure**

4.1 What to monitor?

Job satisfaction, goal attainment, implementation, cost incurred as compared to standards, and business assumptions.

4.2 Who takes part in monitoring?

A group of outsider consultants led by group chief accountant. Auditing results report to Ms D

4.3 When to monitor?

Auditing quarterly before implementation and annually after implementation

4.4 Whom to notify in case of deviation

Small deviation is reported to Ms D; large deviation is reported to Dr K; and significant deviation is reported to HQ decision committee.

4.5 After monitoring adjustments or corrective actions being proposed, accepted, or implemented by whom?

In April, Mr L suggested that construction materials be substituted by local materials in order to cut costs. The proposal was denied by Ms D in the fear of delaying implementation. In July, Miss M and Mr N proposed that strategic alliances with raw material suppliers in Northern China be established. It was approved by Dr A and implemented by Miss M. In the beginning of the second year, a post completion audit conducted by Mr R revealed that the total expenditure has far exceeded the anticipated figure and suggested that inventory be corrected actions being proposed, that construction materials proposed that strategic completion audit conducted by Mr R revealed that...
Chapter 12

In summary, the three processes of investment decision-making are simultaneously supporting one another. The phases of identification, definition, and search in the intermediate process functionally mirror the Conceptualization stage in the macro process; the phases of search, choice, and authorization in the intermediate process functionally mirror the Operationalization stage in the macro process; the phases of authorization, implementation, and identification in the intermediate process functionally mirror the Actualization stage in the macro process; the phases of monitoring, improvement, and identification in the intermediate process functionally mirror the Idealization stage in the macro process. Each stage in the intermediate process contains one micro process which features goal, plan, execution, and measure. The micro process reflects the essence of the macro process in decomposing the task into identifiable parts. However, the three processes enjoy differing focuses. The macro process emphasizes ideal pursuit, it admits variances, it favours borderless cooperation, it advocates organizational progress, and it holds no discrimination against any sciences. The immediate process emphasizes objective attainment, it tolerates mistakes, it encourages divisional development, it supports organizational coordination, and it aims at maximum knowledge accumulation. The micro process emphasizes short term goal achievement, it encourages corrective actions, it favours tight control mechanisms throughout all managerial functions, it highlights business unit performance, and it aims at desirable outcomes.

12.5 Conclusion and recommendation

Explorations of investment and investment decision-making lead to the conclusion that practices of, or research into, investment decision-making needs not only to address questions in relation to not only the inputs, the outputs, and the process of an investment decision (Figure 12-1), but also to explore the relationships between the inputs, outputs, and the process of the decision (Figure 12-2). It is compelling that practice- or research- related investigation into the investment decision-making process should reflect what investment decision makers are actually doing, but it remains more plausible to compare what they are actually doing with what they ought to do so as to provide a more meaningful measurement and more constructive findings. To realize this, an integrated investment decision model (Figure 12-5) is developed involving three purposive decision-making processes (Figure 12-6; Figure 12-7) - i.e. progress orientation in terms of ideal pursuit (Figure 12-8), development orientation in terms of knowledge accumulation (Figure 12-9), and performance orientation in terms of goal attainment (Figure 12-10). A sample decision file (Table 12-1) is also developed to facilitate organizational learning in practice or shed lights on research into the control perspective of investment decisions.

In addition, the above explorations have also discussed in detail some of the most important aspects regarding investment decision-making, and among the most plausible, operation- or research-directional considerations are:

Q12-1. Does the investment decision to be studied fall into any of the following categories concerning both the determinants of investment and the type of investment?
Table 12-2: The nature of investment

<table>
<thead>
<tr>
<th>Expansion</th>
<th>Replacement</th>
<th>Substitution</th>
<th>Strategic considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expectations</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q12-2. What are the major motives underlying the investment decision to be studied, and do they pertain to any of the existing investment theories as depicted as follows? If not, what else emerges as the most prominent?

Table 12-3: The motives of investment

<table>
<thead>
<tr>
<th>Marginal theory</th>
<th>Acceleration theory</th>
<th>Institutional and empirical generations</th>
<th>Residual funds</th>
<th>Diversification</th>
<th>Options theory</th>
<th>Agency theory</th>
<th>Cross-boundary dimensions</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

Q12-3. Which decision-making elements remain most critical in practice? How do investment decision makers perceive decision-making elements (or decision components and their parameters)? How are these decision-making elements actually judged and measured?

Table 12-4: Investment decision-making elements

<table>
<thead>
<tr>
<th>Decision component</th>
<th>Decision parameters</th>
<th>Choice environment</th>
<th>The available courses of action</th>
<th>Possible outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choice environment</td>
<td></td>
<td>The efficiency of an action</td>
<td>Probability of choice of action</td>
<td>The relative value of outcomes</td>
</tr>
</tbody>
</table>

Q12-4. What remains the most critical characteristics which distinguish organizational decision-making from individual or group decision-making? Which characteristics are more related to the research or the operations?

Table 12-5: Characteristics of organizational decision-making

<table>
<thead>
<tr>
<th>More ambiguity</th>
<th>Longitudinal context</th>
<th>Heuristic methods</th>
<th>Focus on incentives</th>
<th>Request for commitment</th>
<th>More sense making</th>
<th>More conflicts</th>
<th>Hierarchical relations</th>
</tr>
</thead>
<tbody>
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<td></td>
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</tr>
</tbody>
</table>

Q12-5. Which decision-making process best matches what was actually followed in the investment decision-making process to be studied? Are there any cultural differences in selecting investment decision-making processes?

Table 12-6: The organizational decision-making process

<table>
<thead>
<tr>
<th>Humble</th>
<th>Rational</th>
<th>Bounded rational</th>
<th>Political</th>
<th>Unstructured</th>
<th>Garbage-can</th>
<th>Contingency</th>
<th>Unbounded rational</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Q12-6. Which sub-contexts can be more indicative relating to the study of investment decision-making in the full organizational context? Which sub-contexts have emerged as the most critical sub-contexts in the investment decision-making process to be studied?

Table 12-7: The organizational decision-making contexts

<table>
<thead>
<tr>
<th>Major sub-context</th>
<th>Contents (some examples)</th>
<th>Emergent sub-context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenomenological</td>
<td>Market growth rates, Uncertainty, Politics, Market competition, Relationship with customers, Relationship with suppliers, Technical progress</td>
<td>Political?</td>
</tr>
<tr>
<td>Physical</td>
<td>Market structure, Time, HRM, Economics, Finance, Technology, Expertise</td>
<td>Economic?</td>
</tr>
<tr>
<td>Psychologi cal</td>
<td>Standard of performance, Values, Cultures, Perceptions, Self-Interests, Criteria for performance, Relationship with associates</td>
<td>Perceptual?</td>
</tr>
<tr>
<td>Operational</td>
<td>Marketing tactics, Staff, Choice, Strategy, Procedures, Obsolete technology, Assets, Strategic?</td>
<td></td>
</tr>
</tbody>
</table>

Q12-7. Do organizations have hierarchical levels of ends associated with investment decision-making? What kinds of sub-ideals, objectives, and goals were/are they pursuing?

Table 12-8: Hierarchical levels of ends associated with investment decision-making

<table>
<thead>
<tr>
<th>Contents (some examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideals</td>
</tr>
</tbody>
</table>

12-39
Q12.8. How useful is the integrated decision-making process in making investment decisions? What are its strengths and weaknesses from the practical point of view?

Q12.9. Are idealization, knowledge accumulation and goal attainment all perceived as important in the organizational context? If so, how are decision-makers actually dealing with them? If not, what is the deviation, and why?

Q12.10. Have investment decision makers felt that they were/are encountering continuous conflicts between actualization and idealization when making investment decisions? How do they deal with them? And what should they do? Do they go through a process composed of a series of identifiable steps?

Q12.11. Does investment decision-making contribute to knowledge accumulation? How do investment decision makers actually deal with it? And what should they do? Do they follow a process which is essentially similar to the 8 step procedure in their pursuit of organizational development?

Q12.12. Do organizational investment decision makers have a performance orientation? How do they actually deal with it? And what do they feel that they ought to do? Do they follow any specific control mechanism to ensure the effectiveness of investment decisions?

Q12.13. How do practitioners perceive control mechanisms in the investment decision-making process? Do investing organizations have feedinward control mechanism to facilitate organizational learning?

Q12.14. Do organizations have long term memory of their investment decisions? If yes, how do they actually deal with it, and how effective it is? If no, what do they think they ought to do?

Q12.15. Do they have any investment decision files, or the like, which can be retrieved when they are needed? If so, do the files cover all important aspects of an investment decision?

1 Source: The Economist, October 14th, 1995.

2 Strictly speaking, these four types of investment can also be applied to the other categories of investments (i.e. residential housing and changes in inventory).

3 However, Shackle (1949) denies the possibility of assigning probabilities in that the uniqueness of the typical entrepreneurial decisions and hence the inapplicability of probability theory. Instead, Shackle (1949) views utility as a function of "potential surprise" which in turn is a function of various outcomes, an unfavourable and a favourable outcome evoking the greatest surprise.

4 For example, the profit-maximization theories involve a few assumed conditions about the investment milieu which can immediately determine the usefulness of the theories. Among them are (Meyer and Kuh, 1959): (a) all future product or factor prices as well as outputs are known so that future revenues accruing to a particular investment are known, (b) current costs are known once investment takes place all at once, or future costs are known when outlays are incurred over a period of time, (c) technology is consistent, and (d) the supply of funds remains either unlimited at the going rate of interest or at least reflected in a certain known way by the interest rate structure.

5 This can be justified by, say, the disadvantages arising from extending a firm's external debt position, the difficulties in obtaining outside finance due to institutional adjustments or historical events, the hierarchical obstacles from the corporate management due to the risk inherent with outside financing. For example, the increased professionalization of corporate management as well as the greater divorce of ownership and control increases the tendency for investment decision-makers to eschew debt financing of risky or even remotely risky ventures (Gordon, 1945).

6 Consider relative market shares as a form of oligopoly behaviour, one can prove that individual firm profit maximization does not accord with the group-oriented behaviour of joint profit maximization or maintenance of relative market shares when a stable market situation is upset by some mavericks or in an industry which is young, dynamic, and/or without a stable market pattern.

7 For example, the residual funds theory echoes that technological relationship, which is central to the acceleration principle, articulates the long-term objectives of investment policy. It admits that considerations of financial conservatism, which is central to the motivational patterns emerging in an economy the control and ownership of which are separated, to a great extent determine the timing as well as the short-run patterns by which the long run objectives are attained. It also agrees with the institutional and empirical generalizations that profit motive, which is tightly linked to the long run retention of market share and trade position in a world of oligopolistic markets, maintains the principal wellbeing of investment decisions.

8 Large technical alterations such as innovation effect the degree of which is to only reduce cost can call for outside funds, but the outsourcing can be largely influenced by the size of the demand shift plus the rate at which the shift continues (viz., the larger the size, the higher the marginal efficiency of capital, the more likely a firm is to seek outside funds to finance the most profitable investment), by the market structure (viz., the more competitive the market, the greater the freedom of entry, the higher the speed a firm needs to work at in order to make long-run adjustments), and by the capital intensity (viz., current asset requirements can also influence outside capital fund requirement as can be seen in most high technology manufacturing firms as opposed to most traditional textile firms).
9 For instance, consider the cost and price relationship for investment, economists will agree that, an increase in demand can push firms beyond the minimum cost capacity point and induce them to expand so as to operate again in the minimum average variable cost range and consequently encourage those with a long term view to accelerate investment in conformity with, viz., that the maintenance of a reasonably stable capital output ratio becomes the most profitable long term behaviour, particularly in oligopolistic markets. Managerial economists will agree that the converse of the above also hold true in that the short run superiority of profits (rather than accelerator variables) is necessitated by the relative flexibility of cash requirements for other major demands for funds, inventories and dividends. Corporate financial considerations, appropriately so represent the importance of long term external funds especially when they have experienced the lagged reaction in supply of funds from capital markets and the tight corporate demand for funds, because access to the capital markets is frequently sought on occasion, at irregular intervals and during prosperous periods; however the access can be largely affected by, inter alia, the extent of lucrative opportunities foregone by not taking, the strength of the internal equity position which a firm has achieved through the retention of earnings, administrative procedures, the significance of the action, the regulation on the period of time required to float a security issue, and the availability of credit sources.

10 Technically speaking, the risk of the portfolio which is measured by its standard deviation of returns remains less than the weighted average risk of the individual constituent investments, although the expected return of the investment portfolio is simply a weighted average of the expected returns on the individual investments (Lumb 1991).

11 For example, investment in R&D can lead to patents or yield information and thereby state competitive positions or reduce uncertainty.

12 According to Dixit and Pindyck (1994), for example, investment decisions which enhance a firm’s flexibility by creating and preserving options such as R&D and test marketing should be valued more than a naïve calculation of NPV; and choices which reduce flexibility by exercising options and committing resources to irreversible uses such as the construction of specific plants need to be valued less than their conventional NPV.

13 Subject to the length requirement, only theories explaining foreign direct investment are included here. However, there are also others forms of investment such as joint ventures which are both theoretically and practically important.

14 The essence of FDI, which can involve three distinctive types (Grzymwade, 1989), namely, horizontal FDI, vertical FDI, and conglomerate FDI, is that it is a package of capital, technology and managerial skills (Francks 1982). FDI has been defined as the cell of capital movements which aims mainly at the control over management and profits of the enterprise abroad (Kojima 1978).

15 For example, Caves (1982) has argued that the FDI tends to be oligopolistic in their nature and product differentiation, and sale of underground resources such as oil are suited to vertical integrating, which strengthens the oligopoly.

16 To demonstrate, new products created in UK first enjoy a monopolistic position; exports increase when mass production is introduced and the cost reduced; but threats to this export position, including tariffs & import quotas, arise and export decrease; thus direct foreign investment made before the mature stage is a monopolistic defense of the market.

17 In this theory (MacDougall-Kemp, 1964), the law of diminishing marginal productivity is assumed for capital, also assumed are a world composed of an investing country and a host country, and that within each country perfect competition prevails and the price of capital is determined equal to the marginal productivity of capital.

18 However, for the host country direct foreign investment works as a double-edged knife: it may destroy domestic capital by superior technology and managerial skills on the one hand, or it may exert spillover effects on the other. It will be received, therefore, with Ambivalence.

19 Caves (1971, 1982) defines a specific factor as 'the factor of production which does not move to other industries', and maintains that managerial resources (a bundle of capital, technology and managerial skills, etc.) are a factor specific to the individual industries and cannot move between industries but can move not only domestically but also internationally within the same industry, in sharp contrast to labour which is considered as a general factor that can move freely between industries within the country but cannot move abroad.

20 But between different industries there still remain differences in the rates of profits.

21 In this case, FDI acts both as a catalyst to trade, and as an arbitrager for improving the international allocation of economic activity.

22 According to the theory of internalization, the key ingredients for maintaining a firm-specific competitive advantage are possession of proprietary information and control of the human capital that can generate new information through expertise in research, management, marketing, and technology (Eiteman et al 1992:436).

23 Dunning (1985) argues that explanations of both trade and production can be linked together into a general paradigm which has its basis in 'the disposition of factor endowments and the extent and characteristics of market failure'.

24 The main elements of the Dunning (1972, 1988) approach include: 1) there is the need to appreciate that international business involvement can take a wide variety of different forms; 2) there is the need to appreciate that all these different kinds of transactions take place in different kinds of markets; and 3) it follows that any theory of international business needs to be able to explain all these different forms of transaction.

25 For example, Each existing theory on FDI explains typically why FDI exists in a specific firm or industry or country. None of them can fully explain all FDI, although the eclectic paradigm attempts to explain in a broad and robust general framework for explaining and analyzing the economic rationale of FDI and many organizational and impact issues relating to FDI.

26 Many of the well established decision models in the domain of management assume a kind of administrative rationality similar to that of Meehl's (1954) analysis of clinical judgement, Luce and Raiffa's (1957) description of game theory, has produced a remarkable set of findings which aims mainly at the control over management and profits of the enterprise abroad (Kojima 1978).

27 The justification of this is similar to that of Figure 0-3-1.

28 Consider role behaviour, for instance, to the extent that it is able to plant a dominating operation, the investing organization is able to control and monitor the behaviour of participants through the role systems provided by the organization's structures in that individual behaviour is normally structured by premises reflective of experience and expectations associated with roles (Simon, 1957b).

29 Over the years behavioural decision theory (Kahneman, 1991), the roots of which include Edwards's (1954) studies on probability revision, Meehl's (1954) analysis of clinical judgement, Luce and Raiffa's (1957) description of game theory, has produced a remarkable set of findings on individual decision-making, albeit by neglecting the effects of social and emotional factors (Kahneman, 1991).

30 Group decision-making has received much attention (e.g. Earley, 1991; Gersick, 1988) since Shaw's (1976) and Janis's (1972) classic studies on groups. In general, group decision-making is regarded as having such assets with respect to the making of decisions like (a) increased information and knowledge, (b) increased acceptance of the decision, (c) enhanced understanding, (d) improved job satisfaction, and extensive personal development, as well as having such liabilities like (a) pressure for conformity, (b) more formalised decision making, (c) greater time to reach decision (Vroom and Jago, 1988; Champoux, 1996; Maier, 1967; Kelley and Thibaut, 1969).

31 As argued by Butler et al (1993), the garbage-can model accents an important notion that organizational decision-making process may not follow a sequence of steps beginning with a problem and ending with a solution in that problem-identification and problem-solution structures may not be connected to each other. This disconnection supports that decisions can be resulted from varying independent streams of events within the organization (Butler, 1991).

32 By means of computer simulation, Cohen et al (1972) suggest that garbage-can model has demonstrated that solutions can be proposed in absence of problems, choices can be made without solving problems, problems can persist without being solved, and some problems connecting with choices can be solved.

33 The essence of FDI, which can involve three distinctive types (Grzymwade, 1989), namely, horizontal FDI, vertical FDI, and conglomerate FDI, is that it is a package of capital, technology and managerial skills (Francks 1982). FDI has been defined as the cell of capital movements which aims mainly at the control over management and profits of the enterprise abroad (Kojima 1978).

34 The justification of this is similar to that of Figure 0-3-1.
For example, the nature of the investment can be addressed in the light of (a) the specific type of the investment, (b) the dominant determinants of investment, and (c) the underlying principle of the investment.

However, pinches includes post audits in the final phase (i.e. control of projects).

Minzberg et al.'s (1976) model is derived from a study of 25 strategic decision processes and actually embodies (a) recognition, (b) diagnosis, (c) search, (d) design, (e) screen, (f) evaluation/choice, and (g) authorization. It seems echoes the CSA model (see Table 1-2-2) and remains in essence the simplest replication of the Hempelian inquiry system (see Hempel, 1965).

The 'root' approach approximates the normative model of decision-making, except that decision makers are assumed (Lindbom, 1959) to have an extensive knowledge of a range of (instead of all) alternative solutions which are relevant to decision situation. The 'branch' approach assumes that decision makers have limited ability to identify and evaluate a wide range of alternatives.

In general, Neel and Holmes' 5 phase capital budgeting system largely echoes Bransford and Stein's (1984) IDEAL model (Please see Figure 0-2-5) and remains in essence a simple replication of the Hempelian inquiry system (see Hempel, 1965).

Decision makers are believed (Quinn, 1980) to use time to refine his understanding of the proposed development and to gain acceptance for the solution due to the lack of information with respect to the precise form and viability of the development and the need to establish political acceptance.

Especially Figure 1-1 and Figure 1-3 in Chapter 1 and COAI framework in Chapter 6.

For example, findings generated from Chapter 9, Chapter 10, and especially the four-stage-and-eight-component process model of strategic control in Chapter 11.

The justification of this can be similar to that of Figure 3-1.

In essence, the experimentalism distinguishes itself from others (i.e. criticism, rationalism and empiricism) by opposing what others claim that there are simple truths from which one could develop further truths. It absorbs others' essence to further claim that all knowledge of law implies knowledge of fact and vice versa. Thus, it indicates that facts and laws are inextricably intertwined and that truth is not the starting point of inquiry but is the end point.

To a great extent, ideal-seeking is like an ever-lasting car racing among championship-bidders or an endless economic rivalry among competing countries with all contenders seeking for one ultimate goal (i.e. the superior championship title or economic power). From time to time, contenders come to a roundabout (Please see Figure 12-6), where it virtually a T-junction for they can never actually go straight forward except that they can see the ideals more clearly each time, permitting themselves by turning right or repairing themselves by turning left, each with the hope of either being the only one left in the circle, taking the far-reaching lead within the circle, or enjoying the time being. However, the focus for the ideal-seekers lies in driving the car or the economy via dominantly looking ahead through the front windscreen while cooperatively avoiding the blind spots, and that for those who become the lower-level-purposefulness-seekers can be driving via looking through windscreen but, perhaps even more intentionally, frequently looking at rear mirrors.

Emery (1981) employs homonomy in stead of plenty to accent that improvement of choice depends more on the relating among fellow contemporaries (e.g. suppliers, customers, and competitors) than it does on material plenty (e.g. resources).

Emery (1981) argues that the turbulent environments of today have entangled the pursuit of truth in that it remains nearly impossible for organizations or individuals to know what the most effective means are, and have much encouraged the maintenance and improvement of the global resource pool by means of cultivation so that future generations can make better or ample use of it.

GOOD has been defined as the reduction of conflicts within individuals themselves or within groups (Ackoff and Emery, 1972). Emery reformulated the ethicomoral state of the good by suggesting the ideal of humanity in that the ultimate frame of reference must be each individual human being.

It has been argued (Ackoff, 1981) that both people and social systems can seek ideals. For example, Ackoff (1981) speaks highly of the stakeholder viewpoint of social systems. Furthermore, evidence shows that the ideals of organizations have been expressed in mission statement which defines how organizations will relate to their stakeholders and embrace their stakeholders' ideals. However, evidence also shows that the pursuit of ideals in organizations can lead to the defication of the organizations and consequently give rise to the exploitation of the defication by one or a handful of stakeholders to the detriment of the rest.

However, not all organizations pursue ideals given that it is the most rational way for humanized organizations to live. In fact, to invest is to sacrifice consumption and it can be great in cost. Since the current society is structured on the basis of zero-sum (i.e. win-lose) competition (Mumford, 1971; Kohn, 1985; Walton, 1992), the image of Nietzschean 'Man of Might' still looms large (Singer, 1948), and the same type of 'will to power' can be found anywhere in the world so that any persons in any organization whose ambition is such has to stand in direct or 'indirect' competition with people having the same ambition. This suggests that investment decision makers need to have all the qualities of a hero in order to be progressive, and this partly justifies why few organizations attempt to seek ideals and tend to operate at a lower level of purposefulness in that to or not to seek ideals is largely an individual choice.

If these objectives must necessarily follow any hierarchical order of priority. For example, investment decision-making can be generally regarded as profit-maximization orientated, but investment decisions can also be directed, as suggested by Dean (1951), at a limited amount of profit as to, inter alia, discourage potential competition, restrain the zeal of anti-trusters, and maintain customer good will.

This becomes more visible when capitals, technology, information , labours and the like enjoy free movement.

In most investments and investment activities in modern society won't last for long. Typically, it can be a matter of a few months, a few years, to at most a few decades.

For example, Pike and Dobbins (1986) argue that the 'prosperity of a business depends more on its ability to create profitable investment opportunities than on its ability to appraise them'.

However, there is also a possibility that over-explicitness and over-quantification can lead to the defying of investment opportunities which do not satisfy the established criteria but can create more options for future investments or become profitable if market conditions change.

However, there are controversies about the use of non-DCF or DCF techniques. For example, low use of DCF is found in New Zealand (Bailes and McNally, 1994); there is a widespread primary use of non-DCF methods in U.S.-based multinational corporations (Bavishi, 1981).

Beyond the organization.

In literature, however, post audit and monitoring have been interchangeably discussed (e.g. Scappens and Sale, 1981; Klammer, 1972; Pike, 1983).

However, it has also been empirically argued (e.g. McIntyre and Coulthurst, 1987) that more medium-sized firms consider post audit important, while large firms do not.

For example, Pike and Neal (1992) identify several operational difficulties which may explain organizations' initial reluctance to use post audits: (a) biased selection, the disentanglement problem (due to, say, shared overhead or facilities), (c) prohibitive cost (due to, say, possible interference with present management information systems), (d) investments' uniqueness, (e) lack of cooperation, (f) environmental changes, and (g) risk aversion among analysts.

Decision-making performance refers to the actions in terms of achievement in relation to how successful they are, possibly being compared with past results. Decision-making responsibility refers to the requirements from the specific decision situation to which organizations should stick when making investment decisions. It inevitably relates to organizations' criteria for the investments and shareholders' desires in relation to the investments.

For example, in a number of firms this author has worked for, investment performance was assessed purely within a frame obsessed by the chase of short-term, with little attention paid horizontally to other decision alternative which had been rejected.

Although extensive rehearsal does not remain essential for a long term memory, it generally strengthens retention in long term memory.

However, answers can be much longer. Thick description will be acceptable although probability can be much preferred. The contents can be bigger and smaller depending on the decision situation.
13. On Organizational Commitment

13.1 Introduction

This part of the thesis aims to extract insights from sense-data to form a paradigmatic framework of organizational commitment in investment decision-making in order to provide both academics and practitioners in the domain of investments with both awareness and methods of commitment management. In terms of structure, this part of the thesis first looks at the nature of commitment, then discusses the foundations, conceptualization, development, impact and management of organizational commitment, and consequently explores the definition, manifestation and dynamics of organizational commitment in the investment decision-making context before it finally offers some 20 recommendations for future practice- or research-related investigations.

13.2 The nature of commitment

Commitment, by definition, generally refers to the state of being willing to give a lot of time, work, energy, and the like to something (Hornby, 1995). Research into the theme of commitment has mushroomed since Whyte's (1956) major treatise on the dangers of over-commitment entitled The Organization Man, in which individuals are described as the organization men who not only work for the organization, but also belong to it. It has been commonly noted that consensus over the definition of commitment does not exist, and, as Morrow (1983) points out, there are over 25 commitment-related concepts and measures prevalent among commitment related researchers (e.g. Mead, 1970; Buchanan, 1974; Porter et al, 1974; Staw, 1976; Gould 1979; Mowday et al, 1982; Wiener, 1982; Randall, 1987; Ghemawat, 1991, Meyer and Allen, 1997).

Analytically speaking, the term commitment has been widely used to refer to antecedents (e.g. Becker, 1960) and consequences (e.g. Sheldon, 1971) as well as the process (e.g. Staw and Ross, 1978) of becoming attached and the state of attachment itself (O'Reilly and Chatman, 1986), although the central theme, underlying numerous differences in the approach to commitment research in the domain of work organizations, lies in individuals' psychological attachment – the psychological bond which links individuals and the organizations in which they are staying (Salancik, 1977).

Commitment, by its nature, involves beliefs which may turn out to be true or false (Salancik, 1977), and the beliefs have a truth which is not only relative to the organization, but also, according to the 'open' systems theory, external to the organization of interest. Individuals could not be committed to an organization because of their beliefs in something which is only true relative to the organization; the only alternative, in fact, is to admit that commitment to an organization must be regarded as 'ultimate' in some sense, which, although remaining in principle unjustifiable, has become attractive to many including the experimentalists.

Conceivably, commitment enjoys two common distinctive elements: it presupposes certain
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beliefs and involves a personal dedication to the actions implied by the beliefs (Salancik, 1977). Believably, each element can occur without the presence of the other; but it remains necessary that, if individuals are truly committed, both elements must be jointly present. For example, purely intellectual assent to Marx’s doctrine does not make individuals committed Marxists.

Commitment cannot be ‘free-floating’ like a leaf of duckweed and there must be a propositional element lurking behind every commitment. This indicates that individuals can never become just ‘committed’, and they must always be committed to some conception of what they are committed to - something or somebody. For example, nobody can be a truly committed Marxist if he or she believes that Marx was basically mistaken. The fact that somebody commits himself or herself to some cause implies that he or she sincerely believes that the cause is good, worth supporting or important, viz., there is an ‘evaluative’ element in commitment (Wittgenstein, 1958).

Commitment logically entails certain beliefs and preclude certain others (Trig, 1973). This implies that individuals must believe in the truth of what they are committed to. Advocates of capitalism, for example, if they are committed capitalists, must believe that capitalism is desirable and that it remains important and beneficial to have a system to put their view forward. Individuals who live in or give support to such a system without really believing that capitalism is desirable can hardly be committed capitalists.

Commitment changes as soon as individuals’ beliefs change (Becker, 1960). This indicates that individuals’ beliefs may play a more important role than reality does in shaping commitment and that the nature of commitment functionally relies on what individuals are committed to. People who do not believe in socialism may sincerely repudiate the socialist principles by strongly supporting welfare programmes, but they cannot be solidly called committed socialists even if, at least for a time, their actions remained indistinguishable from those of genuine socialists.

Commitment could also be declared by what manner individuals have actually behaved in because what people do is a more reliable guide than what they say to determine what propositions they actually accept (Bartley, 1964). This echoes what economists call “revealed performance” and indicates that actions speak louder than words. In this sense, individuals who behave in the same way consistently over a period of time can be regarded as showing the same commitment even if they each claim differing beliefs and consequently differing commitment.

13.3 Organizational commitment: its foundations, conceptualization, development, impact and management

Organizational commitment can be briefly referred to as the unforced psychological or sociological attachment which bond individuals in an organization to some perceived or real conception in the full organizational context. In this sense, organizational commitment becomes perceptively richer in its nature and contextually broader in its focus than do other forms of commitment. However, organizational commitment, per se, has never grown out of the first
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principles or foundations of commitment.

13.3.1 Organizational commitment: the foundations

Beliefs and organizational commitment: it seems clear that the propositional element is of importance in any organizational commitment because, if not, reasoned argument becomes impossible (Wittgenstein, 1958). That is, if an organizational commitment cannot be distinguished from beliefs of the individuals who commit, any questioning of their beliefs turns out to be a direct onslaught on their commitment to the organization, although questioning their beliefs and even doubting their truth need not necessarily weaken their commitment. In fact, organizational commitment can logically precede the entertainment of varying stories or pictures (e.g. religious or ethical) of any specific organization, which can be true or false. Thus, individuals may have different kinds of organizational commitment not all of which can be right or wrong, or, at least, many of which can conflict with each other.

Meanings and organizational commitment: it appears evident that there is little consensus on what the term organizational commitment means and that the meaning of organizational commitment varies as much or more in everyday use of the term (Mowday et al, 1982). Purportedly, organizational commitment can take varying forms (e.g. Angle and Perry, 1981; Meyer and Allen, 1991; O'Reilly and Chatman, 1986; Mayer and Schoorman, 1992): for example, organizational commitment can take place because the individuals (a) want to commit, (b) have to commit, or (c) ought to commit. Organizational commitment can also have different foci (Reichers, 1986): for example, organizational commitment can relate to specific constituencies such as investment projects, business units, and stakeholders such as top management, work teams, team leaders, suppliers and customers. It also seems evident that organizational commitment can be difficult to track down in that the meaning of (and especially the magnitude of) each organizational commitment can be depreciated or even inflated over time. It may become true that one cannot wholly appreciate what the then organizational commitment really involved or exactly meant. What meant a lot decades ago can become senseless or even meaningless to the modern generation. For example, it is possible for modern golfers to understand a full description of a game of tennis and still see no point in playing the game. This can give rise to the possible rejection of the idea, shared by many philosophers including the teleologists, that an organizational commitment is right or wrong, justified or unjustified, in that the conventional criteria of logic remain only intelligible in the context of modes of social life but inadequate to be applied to modes of social life (e.g. Wittgenstein, 1966).

Reasons and organizational commitment: the view that many a commitment remains unjustifiiable and that a justification presupposes a previous commitment becomes influential in many areas of inquiry. This view implies that there must be some reasons prior to any organizational commitment and that such reasons become relative to a particular commitment (e.g. Wittgenstein, 1966). However, what counts as a strong or good reason in one organizational commitment can be regarded as a poor or bad one in the second, or even no reason at all in the third. This dictates that individuals can differ from each other not only in the
reasons they each hold for their beliefs and actions but also what they each are willing to count as a reason, viz., individuals may themselves decide what counts as an explanation for an organization commitment and what does not count as an explanation. It has been put forward that individuals' attitude (Hare, 1955) determines what will count as reasons for organizational commitment, because organizational commitment is 'not the kind of thing which could itself be rationally justified' (Kuhn, 1970) and thus the reasons for it become a matter of psychology, concerned with, say, personality, education, experience, as well as such values as accuracy, simplicity, and scope.

Concepts and organizational commitment: it has also been proposed (Wittgenstein, 1966) that the conceptual system determines what will count as reasons for commitment. This implies that questions about organizational commitment in any organization are closely linked to questions concerning such concepts as employee-group cohesion, management-group cohesion, motivation, empowerment, involvement and behavioural intention (e.g. Huselid and Day, 1991; O'Reilly and Chatman, 1986). To investigate organizational commitment-related phenomena, therefore, one needs not only to consider what concepts he or she has, but also to understand whether the concepts available properly reflect organizational reality. It can be possible, for example, that the concepts being employed remain adequate in one society or organization but inadequate in another because of, say, ideological or even linguistic differences.

Freedom and organizational commitment: for individuals in an organization to determine what count as reasons for organizational commitment requires that they must be in possession of very considerable freedom the choice of which is not restricted by the demands of rationality. That is, there is always a subjective element in any organizational commitment, and individuals' decisions about what they are going to commit themselves to do belong to the individuals. In this sense, decision-making involves nothing more than a stress on the fact that decision makers cannot shelve their responsibility for deciding which principles to adopt. Even if decision makers adopt a principle unthinkingly so that an irrational choice is made, it is still a choice through which decision makers exercise their freedom; even if there are in principle some reasons for or against an organizational commitment, decision makers' freedom in deciding whether to make that commitment is still not restricted in that no reason can have any influence until it is regarded as a reason, let alone that decision makers can still be free to assess such reasons as they wish and to ignore what is in fact a perfectly or nearly perfectly good reason for commitment.

Rationality and organizational commitment: to justify any commitment apparently comes down in the end to the question whether commitment to rationality itself can be justified because rationalists can be as irrational as can irrationalists (Ayer, 1950). However, it seems logically impossible to justify being rational, because of an inherent circularity that any justification which does more than arguing what is to be deemed rational must provide reasons for rationality which are themselves confined to rational scrutiny. It has been suggested (Bartley, 1964) that such a circularity problem can be arguably solved by an openness of mind involving the
justifiers’ readiness to expose everything, including their rationality, to criticism and continued
test, although whether there is an objective standard of criticism itself is subject to criticism.
This suggests that any specific rationality can be limited so that dogmatic and irrational actions
will inevitably occur in the course of any organizational commitment. With limited rationality,
however, it seems wrong to think that an organizational commitment made outside its scope is
irrational for just because it is non-rational does not mean that it is positively irrational.

To commit themselves individuals need a firm basis which serves as a first step towards
deciding what to commit themselves to. This calls for an arbitrary, or caused, if not an all-
embracing, rationality. If reasons cannot be given to justify individuals committing themselves
to one course of action rather than another, it is a fairly obvious step to say that one needs to
look for causes why organizational commitment is as it is. The notion of an ultimate arbitrary
rationality from which everything springs can be popular although it is in many ways an
unsatisfactory one; for instance, it has been noted that progress in many disciplines can in the
final analysis be psychological or sociological (Kuhn, 1970). It has been argued (e.g.
Wittgenstein, 1966; Toulmin, 1972) that one of the most plausible arbitrary rationalities has to
be the sincerity of the organizational commitment: if organizational commitment per se
determines what individuals regard as true, all that matters is whether the organizational
commitment is sincere, for sincerity, at least in many people’s eyes (including this researcher’s),
remains the only virtue and hypocrisy the only vice.

Perspectives and organizational commitment: it has been argued (e.g. Meyer and Allen, 1997;
Mowday et al, 1982; Salancik, 1977; Reichers, 1985) that the psychological bond (Salancik,
1977) which links individuals with organizations can be explored in two distinct perspectives,
namely, the prospective and the retrospective. This dimensional difference has hence given rise
to two distinct forms of commitment (Mowday et al, 1982; Staw, 1977; Scholl, 1981), namely
attitudinal commitment which focuses on the process whereby people in an organization come to
think about their relationship with something, somebody or some organization (Mowday et al,
1982), and behavioural commitment which relates to the process whereby people in an
organization become locked into some body or the organization as a whole, and into something
including the way by which they deal with this problem (Mowday et al, 1982).

The prospective development of this psychological state involves the measurement of an attitude
or mind-set, along with other variables presumed to be the antecedents to, or consequences of,
commitment (e.g. Buchanan, 1974); it has been aimed to demonstrate that strong organizational
commitment is associated with desirable organizational outcomes (e.g. productivity) and to
determine what personal characteristics and situational conditions contribute to the development
of high levels of organizational commitment. Meanwhile, the retrospective development of this
psychological state (such as justification for an ongoing course of action) is concerned with
people’s becoming committed to a particular course of action rather than to an entity (Kiesler,
1971); it has been aimed to unveil the conditions under which individuals become committed to
a course of action (Salancik, 1977).
13.3.2 Organizational commitment: the conceptualization

Research into commitment continues to grow, and much of the theoretical work on organizational commitment, within the organizational behaviour literature, has focused on commitment to the organization, although organizational commitment as a construct can be potentially redundant with other organizational commitment construct such as job involvement (Kanungo, 1982), work ethic (Buchholz, 1976), and career commitment (Blau, 1985), partly because the variables identified as potential antecedents and consequences of organizational commitment do not differ from the antecedents and consequences of these other organizational commitment variables (Morrow, 1983) and partly because organizational commitment can be best understood as a collection of multiple commitment (Reichers, 1985).

Organizational commitment has been defined (Porter et al, 1974), in an earlier conceptualization, as individuals’ (a) strong desire to maintain organizational membership, (b) belief in and acceptance of organizational goals and values, and (c) willingness to exert effort toward organizational goal accomplishment. This tripartite conceptualization has been restricted (e.g. Becker, 1992; O'Reilly and Chatman, 1986) to the attachment based upon employees’ compliance (i.e. conformity driven by rewards and punishments), identification (i.e. a desire for affiliation), and internalization (i.e. the congruence between individuals’ values and the organization’s goals and values).

A later conceptualization of organizational commitment, based upon the multiple commitment view (Reichers, 1985, 1986; Randall, 1990; Cohen, 1993), conceives commitment in organizations not as just a monolithic, undifferentiated entity which elicits an identification and attachment on the part of individuals, but as a coalition of various constituencies (Reichers, 1985) and, therefore, commitment in organization is portrayed to have a general (i.e. global) as well as a specific (i.e. commitment to one or more constituencies) construct (Reichers, 1986). The more recent conceptualization of organizational commitment reveals (Hunt and Morgan, 1994) that the general (i.e. global) commitment enjoys the role of a key mediator, best representing the relationships between constituency-specific commitment, global commitment and important organizational outcomes.

The most recent conceptualization of organizational commitment reports that, according to the general consensus, organizational commitment remains a multi-dimensional construct (Meyer and Allen, 1997) possessing three components (Meyer and Allen, 1991): (a) affective commitment which refers to individuals’ emotional attachment to, identification with, and involvement in an organization, (b) continuance commitment which refers to an awareness of the costs associated with leaving the organization, and (c) normative commitment which reflects a feeling of obligation or moral responsibility to continue to remain with an organization. It has been clearly observed (Meyer and Allen, 1997) that organizational commitment may take different forms and can be directed at varying constituencies within an organization, despite that there is an imbalance existing in the attention given to the different forms or foci of commitment.

Seemingly, none of the above conceptualization can be regarded as complete in that commitment remains multidimensional in, at least, both its form and focus, if its meaning is to be fully comprehended. Further, a comprehensive conceptualization of organizational commitment, risking the danger of being virtually impossible to test or use in its entirety, could serve no better than those simple conceptualizations except in raising the awareness of the complex nature of commitment in the workplace. Thus, for researchers and practitioners alike, the most important issue relating to organizational commitment, perhaps, lies in, the understanding of how commitment develops as well as whether its development can be utilized to directly facilitate desirable behaviour at work, rather than the establishment of the so-called comprehensive conceptualization which may eventually lead to futility.

13.3.3 Organizational commitment: the development

It becomes clear that organizational commitment can be best thought of as a psychological state which links individuals to whatever they are attached to (be it an organization, an investment project, a team leader, or top management). Apparently, most of the previous empirical research has focused on commitment to organizations (e.g. Mead, 1970; Buchanan, 1974; Porter et al, 1974; Gould 1979; Mowday et al, 1982; Wiener, 1982; Randall, 1987; Becker, 1992; Meyer and Allen, 1997). However, it seems likely that the development of as well as the process of commitment specific to organizations can apply to other domains (such as investments) to which individuals become committed (Meyer and Allen, 1997).

Thus, Meyer and Allen’s (1997) conceptualization is used hereafter to examine the development of organizational commitment, in order to ‘make use of the experience of a certain unit to promote work of the whole area’; although it can be envisaged that the exploration based upon a not-totally-relevant framework can at best serve as a somewhat simplified description of the complex nature of relationship between the two end parts linked by organizational commitment.

The antecedents of organizational commitment: it has been widely acknowledged (e.g. Mowday et al, 1982; Meyer and Allen, 1997) that there exists a wide range of variables which have been hypothesized to be the antecedents of commitment, and these hypothesized antecedents have been put into three categories, each under the line of a sub-commitment in the light of Meyer and Allen’s (1997) conceptualization of commitment (namely, affective, continuance, and normative).

Affective commitment refers to the ‘want to commit’ scenario. Among the proposed antecedents of affective commitment, normally under the research themes of either supportiveness / fairness or personal importance / competence, are: (a) organizational characteristics (e.g. Bateman and Strasser, 1984; Kim and Mauborgne, 1993) which include (i) size, (ii) structure, and (iii) climate; (b) person characteristics (e.g. Pierce and Dunham, 1987; Buchanan, 1974) which include (i) demographics, (ii) values, and (iii) expectations; and (c) work experience (e.g. Steers, 1977; Bycio et al, 1995) which include (i) job scope, (ii) relationships, (iii) participation, (iv) support and (v) justice.
Continuance commitment refers to the ‘have to commit’ scenario. Among the proposed antecedents of continuance commitment are: (a) investments (e.g. Whitener and Waltz, 1993; Allen and Meyer, 1990) which include (i) side bets, (ii) job security, and (iii) role status (i.e. overload, conflict, and ambiguity, etc.); (b) alternatives - coupled with environmental conditions such as unemployment rate, family responsibility, and union status (e.g. Allen and Meyer, 1990; Whitener and Waltz, 1993) - which include (i) attractiveness of alternatives, and (ii) perceptions of opportunities.

Normative commitment refers to the ‘ought to commit’ scenario, and among the acknowledged antecedents of normative commitment are (a) socialization experiences (e.g. Wiener, 1982) which include (i) cultural, (ii) familial, and (iii) organizational; (b) management practices (e.g. Scholl, 1981) which include (i) selection, (ii) training, and (iii) compensation; and (c) psychological contracts (e.g. Argris, 1960) which include (i) economic exchange and (ii) social exchange.

It seems that the antecedents of organizational commitment can be decomposed into separable components as demonstrated in most previous research. In practice, however, the antecedents of organizational commitment can hardly be isolated from each other, and commitment normally occurs in the face of complex driving forces which could cover differing contexts (say, operational, phenomenological, psychological, and physical) and/or differing scenarios (say, a combination of ‘want to commit’, ‘have to commit’ and ‘ought to commit’), with some commitment taking place very quietly and quickly, the process of which can be so subtle that it simply does not raise enough awareness for the concerned organizations or even the committer themselves.

The processes of organizational commitment: from the ‘open’ systems perspective, the process of organizational commitment has to bear the totality of forces (i.e. both internal and external) to the occurrence of organizational commitment. That is, the investigation of how a certain organizational commitment occurs and develops must satisfy a complex array of constraints (which are changing over time) covering psychological, operational, physical, and phenomenological (see Figure 0-3-1), although some of them can be very entity specific while others can be roughly generalized by use of any established conceptualizations of organizational commitment (say, Meyer and Allen’s affective, continuance, and normative commitment model, purely for the sake of compatibility).

The process through which affective commitment develops include: (a) retrospective rationalization or self-justification, which suggests (Kiesler, 1971; Salancik, 1977) that, subject to conditions such as irrevocability of the initial act, its publicness, or the volition associated with it, individuals are becoming ‘bound’ to commit by retrospectively justifying their actions and consequently developing emotional attachment to a conception relating to the organization; and (b) personal fulfilment (enriched by the role of conscious awareness, of causal attribution, and of the universality of the needs involved), which suggests (Gleitman, 1981), that individuals are considering as rewarding the development of affective commitment insofar as their
commitment satisfies their needs, meets their expectations, and allows them to achieve their goals.

The process through which continuance commitment develops lies in individuals' recognition or awareness that investments or the lack of alternatives have made it costly not to commit themselves to a conception relating to the organization. This process can be of an accumulative nature like an electrical relay being triggered by some time-based variables (e.g. age and tenure) or being triggered by some attention-catching cost-related variables such as family relocation (Meyer and Allen, 1991).

The process through which normative commitment develops include (a) pre-entry socialization, which suggests individuals develop their normative commitment to a conception relating to the organization on the ground of a cluster of pressures (from their families, friends, or cultures) which individuals feel about the concerned or any other entity (Wiener, 1982), and (b) post-entry socialization, which suggests that individuals can develop their normative commitment to a conception relating to the organization especially when the organization makes particular (if not totally irreciprocal) kinds of investment such as organization sponsored career development programmes (Scholl, 1981), or, somehow, engenders psychological contracts (between the individuals and the organization) consisting of the beliefs of the parties involved in a subjective exchange relationship regarding their reciprocal obligations (Argyris, 1960). The pre-and-post-entry socialization process in essence belongs to a process of internalization, by which individuals yield a belief about the appropriateness of being loyal to an entity.

It appears plausible to separately describe the processes of organizational commitment, but it will be unwise to presume that the processes of organizational commitment occur separately or become mutually exclusive (although conflicts can remain commonplace among them). Organizational experience demonstrates that many a process of organizational commitment occur largely in concert, and, in fact, the processes involved in the development of organizational commitment can be so complex that they can cover the full organizational context ranging from psychological, cultural, institutional, societal, environmental, situational, ..., to operational factors.

The consequences of organizational commitment: it can be expected that the consequences of varying forms of organizational commitment will differ because of the very differences in the psychological or sociological nature of each of the three forms of organizational commitment.

Briefly speaking, on the evidence of theoretical and empirical research (e.g., Meyer and Allen, 1991; Angle and Perry, 1981; Cascio, 1982; Ashforth and Saks, 1996), it seems that individuals with strong affective commitment tend to be motivated to perform better in the organization than those with weak affective commitment, thus contributing more to the organization, that individuals with continuance commitment as a primary link to an organization can remain apathetic about performance or contribution unless job retention becomes clearly contingent on performance, and that individuals with strong normative commitment can be motivated to
behave appropriately to do what is right for the organization and thus perform well in the organization. It also seems convincing (e.g. Morrison, 1994; Randall, 1987) that the variance in consequences between different forms of organizational commitment can also extend to other areas such as citizenship behaviour and individual well-being.

To sum up, organizational commitment occurs, and, consequently, inflates or deflates, in an affective way if what is going on around the concerned organization is perceived as supportive, fair, or competent, in a continuance way if it is perceived as much cost-related, and in a normative way if it is perceived as obligatory. The development of organizational commitment brings forth changes in individuals’ perceptions and behaviour, and undoubtedly exerts a tremendous impact on the organization’s competitiveness in the marketplace as well as on individuals’ competence and well-being in society.

13.3.4 Organizational commitment: the impact

The amount of empirical research conducted to examine the impact of organizational commitment on both the contributor and the receiver of the commitment is very limited though remaining progressive. Most earlier explorations of organizational commitment (e.g. Lawrence, 1958; Thompson, 1965; Katz and Kahn, 1966) have been based upon the assumption that high levels of commitment have a healthy impact. For example, it has been claimed (Lawrence, 1958) that ‘ideally, we would want one sentiment to be dominant in all employees from top to bottom, namely a complete loyalty to the organizational purpose.’

Not until recently have references to the possible dangers of high levels of organizational commitment surfaced (e.g. Salancik, 1977; Whyte, 1986; Brockner, 1979, 1985, 1986, 1992; Staw, 1976, 1977, 1978, 1987; Randall, 1987), and research about the dangers of high levels of commitment still remains sparse, sporadic and scattered throughout various disciplines (Randall, 1987). Findings from discrete literatures indicate that high commitment may be linked to a lack of creativity and resistance to change (Marsh et al, 1958; Thompson, 1965), excess stress and tension in nonwork relationships (Mowday et al, 1982), over-zealous conformity (Hoffer, 1963), a willingness to engage in corporate crime for the benefit of the organization (Clinard and Yeager, 1980), and an ineffective use of resources (Rowan, 1981; Staw, 1976).

Apparently, it can be summarised that organizational commitment has two facets of impact (e.g. Statman, 1987; Randall, 1987; Whyte, 1956). The first is a motivating face which helps generate the force needed to surmount obstacles which seem at least temporally insurmountable and accomplish goals which seem impossibly remote. The second face of organizational commitment is wasteful in that commitment can easily turn into entrapment where good money is thrown after bad in the pursuit of impossible goals.

Table 13-3 provides a summary of potential positive and (especially the overlooked) negative impact of varying (i.e. high, moderate, and low) levels of organizational commitment. It appears, at least in the literature as depicted in Table 13-3, that low levels of commitment remain largely dysfunctional for organizations, although there exists a ‘purging’ function which may rid the
organizations of misfits, that the advantages of moderate commitment generally outweigh the disadvantages in that the relationship between individuals’ needs and organizational needs can be balanced, and that, at high levels of commitment, the costs of commitment normally outweigh the advantages, in that organizations may lose flexibility and find themselves vulnerable to a variety of unethical and illegal behaviour, although the organizations’ production demands can be met with greater ease.

Table 13-1: Potential impact of organizational commitment (Source: Adapted from Randall, 1987)

<table>
<thead>
<tr>
<th>Item</th>
<th>Positive impact for individuals</th>
<th>Negative impact for individuals</th>
<th>Positive impact for the organization</th>
<th>Negative impact for the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low level of organizational commitment</strong></td>
<td></td>
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<tr>
<td>A source of individual creativity, innovation and originality (Thompson, 1965); An effective use of human resources (Angle and Perry, 1981); An improvement on firm-quitters’ mental healthiness (Mowday et al, 1982).</td>
<td>Slow career advancement and promotion (Kanter, 1977; Hacker, 1978); Heavy personal costs including loss of income, job security, harassment, isolation, and defamation of character as a result of whistle-blowing (Miceli and Near, 1984); Possible expulsion, exit, or effort to defeat organizational goals (Schein, 1968).</td>
<td>Limited damages done by disruptive or poor performers (Mowday et al, 1982); Improved morale of non-disruptive or good performers; (Mowday et al, 1982); Additional skills brought in by replacement (Mowday et al, 1982); Whistle-blowing effects including the avoidance of public outcry, expensive lawsuits and regulatory reform (Ewing, 1983).</td>
<td>Higher turnover (Steers, 1977), higher absenteeism (Steers, 1977), greater tardiness (Angle and Perry, 1981), a lack of intention to stay with the organization (Steers, 1977), low quantity of work (Steers, 1977), disloyalty to the organization (Schein, 1968), illegal activities against the organization (Climand and Yeager, 1980), limited extra-role behaviour to advance organizational interests (Mowday et al, 1982); Damaging role modelling (Walters, 1975) and possible threats to the organization’s authority structure (Weinstein, 1979) as a result of whistle-blowing; Limited organizational control (Gouldner, 1958) and damaged attitudes and performance of the whole organization (Mowday et al, 1982)</td>
<td></td>
</tr>
<tr>
<td>Greater feeling of loyalty and duty to the organization (Wiener and Yardi, 1980); Greater feeling of security, belongingness and efficacy (Mowday et al, 1982); Creative individualism (Schein, 1968); Maintenance of identity distinct from the organization (Katz and Kahn, 1966).</td>
<td>Slow and uncertain career advancement and promotion (Mowday et al, 1982); Possible uneasy compromises in many segmental commitment (Katz and Kahn, 1966).</td>
<td>Longer tenure (Mowday et al, 1982); Limited intention to quit (Steers, 1977); Limited subsequent turnover (Stumpf and Hartman, 1984); Greater job satisfaction (Porter et al, 1974).</td>
<td>Limited extra-role work for the organization (Scholl, 1981); Limited citizen behaviour including cooperation, helpfulness, suggestions, gestures of goodwill, and altruism (Smith et al, 1983); A tendency to balance the organization’s demands with those outside the workforce; A greater likelihood of pro-social behaviours such as risking harm to the organization in order to avoid harming others (Randall, 1987); Possible decrease in organizational effectiveness (Randall, 1987).</td>
<td></td>
</tr>
<tr>
<td>Enhanced probability of career advancement and promotion (Whyte, 1956); Increasing grants of power due to obedience (Biggart and Hamilton, 1984); Ardent dedication to the organization and passionate pursuit of goals (Hoffer, 1963).</td>
<td>Hampered individual growth and limited opportunities for mobility (Mowday et al, 1982); stifled creativity and innovation (Thompson, 1965); Bureaucratic resistance to change (March and Simon, 1958); insufficient individuation leading to altruistic suicide (Durkheim, 1951); Stress and tension in social and family relationships; decreasing sense of self and ability to relate to others (Korman and Korman, 1980); Lack of opportunities to learn patterns of peer solidarity (Whyte, 1956); Limited time and energy for nonwork and other organizations (Larson and Fukami, 1984).</td>
<td>A more secure and stable work force (Steers, 1977); Increased goal-attainability (Hoffer, 1963); Higher levels of performance and task completion (Mowday et al, 1974); Increased willingness of employees to accept the organization’s demands for greater production (Etzioni, 1975)</td>
<td>Ineffective use of human resources including wastes of talent and energy as a result of too much loyalty of the wrong kind (Rowan, 1981); Lack of organizational flexibility, innovation and adaptability in that over-commitment reduces the organization’s ability to carry out alternative lines of action (Coser, 1974); Inviolate trust in past policies and procedures and an entrenchment of traditional practices (Salancik, 1977); Problematic burdens to the organization such as irritation and antagonism from overzealous employees over people outside the organization (Mowday et al, 1982); Illegal / unethical acts committed on behalf of the organization (Climand and Yeager, 1980) which may lead to a tarnished corporate image, loss of present and future customers, stockholders, and suppliers, criminal liability for the acts of stringent employees, and the like (Climand and Yeager, 1980).</td>
<td></td>
</tr>
</tbody>
</table>

This complex diversity (full of complements and conflicts) of the impact of organizational...
commitment on individuals and organizations inevitably calls for the management of organizational commitment if a healthy development of commitment is what is desired for both individuals and organizations.

13.3.5 Organizational commitment: the management

It seems clear that it is the perceptions which individuals have upon the conception relating to the organization as well as the organization’s corporate practices that play an important role in the development of organizational commitment and trigger an immediate or shadow impact on the workforce. Thus, for organizations vying for competitiveness, to manage the impact of organizational commitment inevitably leads to influencing individuals’ perceptions and minding their corporate practices.

Among major themes which have been tentatively believed (e.g. Cameron, 1994; Meyer and Allen, 1997) to have significant impacts on organizational commitment are: (a) Human Resource Management which involves an organization’s day to day management of people in an organization, and (b) the management of change which involves an organization’s reorganization (and elimination) of jobs which affects its competitiveness.

The management of HRM practices: it has been strongly argued (e.g. Ogilvie, 1986; Gaertner and Nollen, 1989; Meyer and Allen, 1997) that individuals’ perceptions of the organization’s HRM practices, such as recruitment and selection, socialization and training, assessment and promotion, and compensation and benefits, significantly influence organizational commitment. For example, genuine recruiting strategies such as realistic job previews describing both positive and negative aspects of the post can generate healthier commitment than the traditional hard-sell approaches (Wanous, 1992). Organizations can actually ‘select’ for organizational commitment based upon individuals’ propensity (e.g. Pierce and Dunham, 1987), measured prior to entry into the organization, which can be determined by a set of variables including personal characteristics (e.g. self-efficacy), pre-entry expectations, and organizational choice (e.g. irrevocability).

The reinforcement of individuals’ sense of self-worth and the provision of a supportive environment can be a more effective socialization strategy for instilling a strong sense of commitment than breaking down or reshaping individuals’ self-image (van Maanen and Schein, 1979). Individuals’ perceptions gained through training fulfilment, satisfaction with the training experience and performance, can also correlatively influence the post-training organizational commitment (Tannenbum et al, 1991).

Organizations can adopt a to-be-regarded-as-adequate mid-career assessment strategy or remain careful about the feedback of early-career assessment so as to achieve a desired level of organization commitment (Robertson et al, 1991). Organizations can also facilitate promotion (especially promotion from within) so as to exercise positive impact on organizational commitment (Schwarzwald et al, 1992).
Organizational commitment can be considerably influenced by some compensation-relevant practices such as an employee share ownership plan (Klein, 1987). Organizations’ emphasis on individuals’ benefits by, say, making a plan financially meaningful, enhancing individuals’ opportunities to participate in decision-making, or providing ‘family-responsive benefits’ such as flexible hours, can increase organizational commitment if that is the organization’s objective (Pierce and Furo, 1990).

Empirical evidence has exhibited much support for individual HRM practice in possessing the potential to influence organizational commitment (Ogilvie, 1986; Gaertner and Nollen, 1989; Meyer and Allen, 1997; Wanous, 1992; Pierce and Furo, 1990; Klein, 1987; Schwarzwald et al, 1992; Tannenbum et al, 1991; van Maanen and Schein, 1979; Pierce and Dunham, 1987; Grover and Crooker, 1995). However, while these specific HRM practices each have advantages, they do not operate in isolation. Thus, organizations need to develop complex HRM systems (perhaps in the line of the ‘open’ systems framework) made up of component parts which, hopefully, operate in unison and are compatible with the overall organizational strategy for dealing with the ever-changing competition in the marketplace.

The management of change: it has also been strongly, perhaps over-optimistically, argued (e.g. Brockner et al, 1987, 1990; Cameron, 1994; Mone, 1994) that organizational commitment can be monitored by means of management of changes such as downsizing, mergers and acquisitions nowadays taking place in organizations.

It has been argued (e.g. Cascio, 1993) that organizations can potentially influence organizational commitment by means of downsizing, the benefits of which can include economic (e.g. increased productivity, reduced expenses, higher profits, increased return on investments, and increased stock prices) and organizational (e.g. lower overhead, smoother communication, and greater entrepreneurship). Organizations can hope to increase organizational commitment (e.g. Cascio, 1993) by propagating job enrichment (e.g. enhanced responsibility for decisions and increased participation in decision-making) or hinting at the potential costs (should the individuals fall as victims in the next round of cuts); organizations can also expect (e.g. Brockner et al, 1987) that downsizing may exert negative impacts on organizational commitment especially when survivors feel there has been a lack of fairness in layoff decisions or job insecurity. To healthily influence individuals’ perceptions of fairness of layoff decisions so as to shape the success of the initiative, downsizing organizations can themselves exercise an impact on the perceptions through their effective communications with individuals prior to, during, and after the downsizing efforts (e.g. Mellor, 1992).

It has been anticipated (e.g. Schweiger and DeNisi, 1991; Newman and Krzystofiak, 1993) that merger or acquisition tends to bring forth a decline in organizational commitment. To minimize the negative impact of mergers on organizational commitment, organizations can actually try to, say, minimize the misinformation (normally negative) propagandised in the absence of clear communication on the part of management about how the merger will affect individuals (Schweiger and DeNisi, 1991). To minimize the negative impact of acquisitions on
organizational commitment, organizations can try to promote, inter alia, effective communication so as to build commitment to the newly regrouped organization while smoothly eliminating individuals' dissatisfaction with the change in jobs and supervision (Newman and Krzystofiak, 1993).

Research findings have yielded strong support for the importance of accurate communication in the face of change (e.g. Cascio, 1993; Schweiger and DeNisi, 1991; Newman and Krzystofiak, 1993), although the nature of the change can preannounce certain limitations to how much information can or should be provided. If organizations are truly determined to strive for after-change success, they need to recognize the needs which individuals will inevitably have and the perceptions which individuals can have, and to solve the problems creatively by either promoting effective communication or trying other (if not more viable) optional strategies so as to achieve a desired level of organizational commitment.

In short, the management of organizational commitment calls for an complex but effective HRM systems plus viable business strategies dealing with change, and to manage organizational commitment is to manage individuals' perceptions through effective competence-building corporate practices. Moreover, prolific HRM systems and successful management of change per se do not necessarily guarantee the development or maintenance of a desired level of organizational commitment. There exist other concerns or themes, general or specific, which might remain sufficient if not totally necessary in forging healthier organizational commitment, complementary to or conflicting with the role played by HRM systems and strategies designed for change.

13.4 Organizational commitment in the investment decision-making process

It appears clear that most if not all of the commitment-related research has lain in the line of human resource management and have focused on commitment specific to the organization under the research theme of attitudinal commitment (e.g. Buchanan, 1974; Steers, 1977; Mowday et al, 1982; Meyer and Allen, 1991, 1997). As an aside, however, commitment research in the behavioural commitment tradition with differing forms or foci can have important implications for other aspects of organizational commitment.

13.4.1 Organizational commitment in the investment decision-making context

There is one subset (which is also one of the latest as well as, perhaps, the most interesting) of the two-faced commitment along the behavioural commitment tradition which seems very worthy of exploration but remains relatively much overlooked, viz., the work of entrapment / escalating commitment toward a failing course of action, viz., decision makers’ persisting in a course of action in a given context – e.g. the investment decision context which broadly refers to ‘situations in which resources are allocated to one decisional alternative over others, and in which the level of resources can be increased or decreased at the discretion of decision makers’ (Staw, 1976) - despite objective evidence suggesting that it is not prudent to do so (Staw and Ross, 1987; Brockner, 1992; Zhang, 1993; Wilson and Zhang, 1997).
13.4.2 Organizational commitment as organizational strategy persisting over time

It has been held (Commons, 1934) that it remains common that organizations often make strategic decisions without really looking at the difficulty of reversing them or at the constraints they impose on future options, and so, given that it remains impossible for organizations to base their overall strategy on all relevant strategic success factors at all times, it appears pleasant for decision-makers to focus on only one every time (Barnard, 1938). This tendency of organizations to impose past choices on present ones triggers organizations to persist with their strategy over time, and this persistency has been referred to as organizational commitment (Ghemawat, 1991). Research around persistence as a form of organizational commitment has been sparkling with excitement (e.g. Ghemawat, 1991; de Kare-Silver, 1997; Bartlett and Ghoshal, 1989; Zhang, 1993; Wilson and Zhang, 1997).11

13.4.3 The manifestation of organizational commitment in the investment decision-making context

In the light of the decision-making quadrants (please see Figure 1-1-2), it can be argued that there are at least four kinds of manifestations of organizational commitment which illustrate organizations' persistence in a particular strategy: the lock-in, lock-out, the time lag, and the mentality lag (Figure 13-1).

Professedly, the lock-in effect manifests a presumption in favour of persisting in a particular strategy even if it has not yet proved valuable, because, otherwise, the pre-commitment in terms of resources in the past, as can be reflected by Boeing’s pursuit of the 747 wide-bodied airframe which at some point the net investment of the company considerably exceeded its net worth, will become valueless at the present or in the future. As the mirror image of the lock-in, the lock-out effect simply manifests the persistence of particular strategy in that committing the organization to the particular strategy remains the most plausible way for the organization to avoid the possible misfortune due to the difficulty of future re-commitment in terms of reactivating, reacquiring or re-deploying specialized resources so as to exploit the lapsed opportunities to which the organization was once committed, as in the case of Euro Disney in the 20th century.

Figure 13-1: The manifestation of organizational commitment as persisting strategy over time
Chapter 13 On Organizational Commitment

The time lag effects manifests that time matters in deciding whether the expectation of a commitment towards a particular strategy can be fruitful, because the realization of the commitment can take up to a decade or even half a century as in the case of Euro-Channel project in which the pre-commitment started in the 19th century, commitment started in the 20th century and the re-commitment or de-commitment won’t manifest itself until, perhaps, the 21st century, because it might take a decade or two to develop suitable technology, even longer to accomplish major economic and/or environmental restructuring. The mentality lag manifests that mentality or culture or history matters in deciding on whether to commit to a particular strategy because the complex of political, psychological and sociological driving forces which might suggest re-commitment so as to preserve the strategic status quo might surpass economic or environmental constraints which might suggest de-commitment in that preservation can well lead to failing to maximize economic or environmental profits, as can be seen in the case of China’s Three Gauge Dam project in which the pre-commitment started in the 19th century, commitment started in the 20th century and the re-commitment or de-commitment won’t manifest itself until, perhaps, the 21st century, because it might take a decade or two to build the Dam, even longer to accomplish major economic and/or environmental restructuring.

13.4.4 The dynamics of organizational commitment in the investment decision-making process

It can be intuitively held that organizational decision makers are expected to change their commitment when their previous commitment (be it resources, funds, time, or effort) to a course of action (be it a strategy vis-à-vis expansion, replacement, substitution or strategic investment) has resulted in negative consequences. Yet, like prevailing in any competitive sports matches during which even world class players can remain stubborn enough to refuse to dump the initially tried strategy which has been proved ineffective until the match is literally over even if they had been well prepared with a list of calculated optional strategies beforehand, evidence shows that, in the investment decision-making context, the organizational commitment (say, of resources) can be enlarged regardless of consequences resulting from previous commitment (not even the negative consequences).

This high level of commitment towards a certain strategy or a certain course of action, may turn into a cyclical process in which a high level of commitment begets higher levels of commitment and negative consequences beget even more negative consequence (see Figure 13-2). Figure 13-2 has been depicted, in the light of Figures 1-2 & 5-1, to serve as a generalized but simplified description of the possible development of organizational commitment in the investment decision-making context. It is worth noting that the process of organizational commitment is depicted by the general flow of strategy over time (featuring pre-commitment, commitment, re-commitment, and de-commitment), and thus it does not fully reflect the specific evolution of specific organizational commitment over time, which should cover most areas mentioned under each of the four (or more if it is cyclical as can be reflected in Figure 13-2) stages of the development of organizational commitment in the investment decision-making context.
Obviously, many factors can influence investment decision-making in the commitment of resources to a course of action. Both established analyses of the development of organizational commitment and recipes for the effective management of organizational commitment can apply to the analysis as well as management of the organizational commitment work in the investment decision-making context. There has been some research undertaken on this theme since Staw's (1976) pioneering work assessing self-justification in investment decisions. However, most of the past studies have been based upon laboratory simulations of investment decisions and have focused mainly theoretically on specific constituencies of commitment such as psychological attachment; little work has been empirically undertaken to investigate investment decision-making related organizational commitment in a full organizational context; nor is there much effort directed to examining how organizational commitment develops in the investment decision-making processes.

13.5 Conclusion and recommendation

In brief, organizational commitment remains a double-edged weapon, and its benefits can outweigh its costs, or vice versa. Organizational commitment, by nature, must presuppose certain beliefs as well as involving organizational dedication to the actions implied by the beliefs. Further investigation into this scenario, thus, needs to place emphases on, inter alia, the propositional element in, the meanings of, the reasons prior to, the concepts realistically reflective of, the subjective element in, and the arbitrary (or caused) rationality of, the organizational commitment of interest. That is, research or operation related investigation into organizational commitment in the investment decision-making process needs to embrace relevant considerations of, inter alia, the theoretical conceptualization, the antecedents, consequences, the processes, the impact, and the management of the specific commitment of
interest, although it seems that the most interesting work on organizational commitment in the investment decision-making context still lies far ahead of academics and practitioners, and the systematic study of the flow or process of organizational commitment still remains in its early infancy.

Specific practical operation- or research-directional considerations on the management of organizational commitment can include the following:

Q13-1. Should and can the organizational commitment to be investigated be re-defined to better reflect its theme? Is it threaded through the following categories concerning investment decision makers’ psychological attachment to the organization?

<table>
<thead>
<tr>
<th>Organizational commitment</th>
<th>The core</th>
<th>Psychological attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Distinctive concerns</td>
<td>The state of attachment</td>
</tr>
</tbody>
</table>

Q13-2. Could the organizational commitment to be studied be regarded as ‘ultimate’, not only relative to but also external to the specific organization of interest? Does this general commitment play the role of a key mediator, or is it just one of many? How can the relationships be best represented between constituency-specific commitment, general commitment, and important organizational outcomes?

Q13-3. What counts for the ‘evaluative’ element lurking behind the organizational commitment to be studied? To what or to whom can the organizational commitment to be studied be referred to? What other beliefs do the commitment to be studied logically presuppose or preclude?

Q13-4. How to identify the organizational commitment to be studied? What is the logic (or the underlined first principles) behind the proposed identification? Is it both orally and wholeheartedly accepted among the involved investment decision makers, within or outside of the organization, or has it to be claimed by an analysis of what investment decision makers have actually done if it remains orally disputable?

Q13-5. What are the criteria for identifying organizational commitment in the investment decision-making context? What is the rationality for evaluating its development? What is the logic lurking behind the articulated criteria for the identification?

Q13-6. Can organizational commitment be studied through varying perspectives such as retrospectively and prospectively? What remains the distinction between them? Which perspective remains more relevant if it can be so claimed?

Q13-7. What are the reasons being considered prior to the commitment made? What were regarded as good reasons at the time? What were regarded as bad reasons at the time? What had been the criteria for deciding what accounts as reasons?

Q13-8. Do the concepts (relating to organizational commitment) employed to analyze the problems adequately reflect the specific organizational reality? Can they be extended into other cultures or societies? Are cross-cultural studies of organizational commitment comparable? Do they differ in terms of the meaning, concept, rationality and perspective of the organizational commitment?

Q13-9. What are the beliefs which investment decision makers are presupposing before organizational commitment takes place? What are the actions which are implied by the presupposed beliefs among the decision makers? To what extent have the investment decision makers dedicated themselves to the implied actions?

Q13-10. Does the commitment to be studied logically precede the entertainment of any aspects of
organizational culture, say, in terms of stories, ideologies, slogans, or pictures? What did the commitment exactly mean to the investment decision makers and to the organization at the time when it was made? Is Meyer and Allen’s (1997) or others’ conceptualization relevant to the concern to be studied?

Table 13-3: The meaning of commitment

<table>
<thead>
<tr>
<th>Foci of commitment</th>
<th>Relevant forms of commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Wanted to commit</td>
</tr>
<tr>
<td>Investment project</td>
<td>Ought to commit</td>
</tr>
<tr>
<td>Top management</td>
<td>Had to commit</td>
</tr>
<tr>
<td>Management team</td>
<td>Mixture</td>
</tr>
<tr>
<td>Business unit</td>
<td></td>
</tr>
</tbody>
</table>

Q13-11. How much freedom had the investment decision makers had in deciding whether to make a commitment on the organization’s behalf? Can individuals’ freedom to commit be influenced by some variables? To what extent do individuals concerned feel and use that freedom?

Q13-12. What makes organizational commitment in the investment decision-making process distinguishable from other forms of organizational commitment? How does organizational commitment develop or evolve? Is there a general framework which can be used to describe the development of organizational framework in the investment decision-making context?

Q13-13. What was the organizationally agreed basic rationality? What was the first step towards investment decision makers’ deciding to what they are going to commit, for the commitment before it actually took place? Was there any arbitrary or caused rationality from which actions spring?

Q13-14. Which factors are likely to influence organizational commitment in the investment decision-making process? What appears to be the true cause of organizational commitment in the investment decision-making context? What investment decision-making process fosters or hinders the development of organizational commitment? Why? What appears to be the managerial solution to the management of organizational commitment?

Q13-15. Are investment decision makers aware of the double-edgedness of commitment in organizations? What is the nature of the process through which organizational commitment develop resultant from high level of commitment under negative consequences? Is this kind of organizational commitment wrong or unhealthy?

Q13-16. What mechanisms appear to better describe the development of organizational commitment in the investment decision-making context? What are the major or most potential antecedents which trigger organizational commitment? What are major processes through which organizational commitment develops? Is it possible to identify or verify the consequences of organizational commitment?

Q13-17. How does commitment manifest itself within the investment decision-making context? Can organizational commitment be referred to the persistence of organizational strategy over time? What remains the major causes which effect organizational commitment in the investment decision-making context?

Table 13-4: The manifestation of commitment as form of persisting strategy over time

<table>
<thead>
<tr>
<th>Causes</th>
<th>Lock-in</th>
<th>Lock-out</th>
<th>Mentality lag</th>
<th>Time lag</th>
</tr>
</thead>
</table>

Q13-18. Does the impact of organizational commitment in the invest-decision-making context upon organizational competence differ a lot cross-culturally? What are the useful lessons, if there are any, which can be drawn from cross-boundary management practices?

Q13-19. Do the previously proposed themes regarding the management of commitment such as
HRM and management of change still play an important role in managing organizational commitment in the investment decision-making context? What accounts for a good HRM systems for the management of commitment in the investment decision-making context? How does management of change significantly contribute to management of organizational commitment in the investment decision-making context?

Q13-20. Which themes apart from HRM and change can be entailed in or can contribute to the management of organizational commitment? What role do corporate strategy, projectal factors, and other software and hardware factors such as IT and technology play in the development of organizational commitment? What else can be regarded as the best or most promising practices which can be employed to help manage organizational commitment and to contribute to organizations' sustainable success? How do organizations manage for commitment.

1 For example, Porter et al (1974) define commitment as 'the strength of an individuals' identification with and involvement in a particular organization'; Buchanan (1974) sees commitment as 'a partisan, affective attachment to the goals and values of an organization, to one's role in relation to the goals and values, and to the organization for its own sake'; a more explicit definition goes to Ghemawat's (1991) claim that commitment remains 'the tendency of strategies to persist over time.'

2 Although individuals can never just happen to become 'committed' in that they must be committed to some conception which can be either wordily expressible or inexpressible, it logically seems reasonable that the cause lurking behind organizational commitment could well be a combination of (a), (b), and (c).

3 For example, one may have something the concept of which may be distinct from it; one may also have the concept of something which does not exist; one may even have the concept of nothing, the thinking of which becomes totally different from thinking of nothing.

4 For example, no one can commit others to Communism, Socialism, or Capitalism.

5 Ayer (1950) says that scientific method 'could be irrational only if there were a standard of rationality which it failed to meet: whereas in fact it goes to set the standard; arguments are judged to be rational or irrational by reference to it.'

6 The all-embracing rationality must be completely abandoned simply because the diversity of nature dictates that what is true for some can be not true for others.

7 However, the explanations derived from sociological and psychological domain may only be valid within sociology or psychology given the fact that sociologist or psychologists may disagree among themselves about what count as an adequate explanation in their disciplines.

8 For example, a number of questionnaires including Mowday's (1979) Organizational Commitment Questionnaire (OCQ) have been developed to measure the various aspects or theories of commitment, but most measures have tended to concentrate on affective commitment (Arnold et al, 1993).

9 This is because (Klein, 1987), according to the intrinsic satisfaction model, commitment can derive directly from ownership and it should be proportional to the amount of stock individuals hold; commitment, according to the extrinsic satisfaction model, should also be proportional to the degree of financial gain an individual realizes or has the potential to realize as a function of holding stock in the company; commitment, according to the instrumental satisfaction model, is doomed to increase with the advent of individual ownership in that partial ownership increases the actual or perceived influence that an individual has in decision-making within the organization.

10 This is because individuals expect to benefit either financially or in terms of their ability to influence decisions or both.

11 In essence, research into persistence as a form of commitment coalesces around the idea that history matters, that an organization is conditioned and constrained by its past. Industrial economists, academics in business policy and strategy experts may use different terminologies - resources, competence, capabilities, and administrative heritage, etc., but they all suggest organizational commitment of one kind or another, some thing which is deep-seated and hard to change (i.e. history-dependent).
14. On Strategic Control Of Investment

14.1 Introduction

Two notions, strategy and cybernetics, have dominated management studies for the last three decades (Dermer, 1988; Berry et al, 1995), with strategy being normally described as management’s definition of what organizations should be doing, and control as being effected cybernetically, by means of goal-related feedback and feedforward. However, the emergence of new inquiring systems has brought forth alternative portraits for both strategy and control.

Take the teleological worldview, for example, organizations are believed to be made up of a variety of stakeholders each striving to satisfy their wants amidst a host of conflicts of varying levels (e.g. Ackoff, 1967, 1981; Emery, 1981; Churchman, 1961; The Economist, 1996). Thus, from this point of view, strategy derives from organizational struggles between ‘divergence’ and ‘convergence’ (e.g. Churchman, 1961; Ackoff, 1961) rather than being the prerogative of top management (Storey, 1983), and control results from the collectivity of interactions of differing organizational actors rather than the creation of an overall designer (e.g. Mintzberg and Waters, 1985; Dermer, 1988; Johnson, 1987).

Thus the relationship between strategy and control should not only be described, as conventional wisdom dictates, with a focus on administrative planning and control systems (Ansoff, 1979) in order to realise strategic change, but also be considered, in the light of experimentalist viewpoints, within a frame which embraces many important dimensions (e.g. operational, psychological, phenomenological, and physical) of organizational reality such as collective perceptions and cognitive biases of decision makers as well as social, technological, environmental, economic and political factors (e.g. Schwenk, 1984; Pettigrew, 1973; Pffeffer, 1982) in that these factors, according to the open systems theory, can equally affect the relationship between strategy and control (please see Figure 12-5).

Furthermore, the change that takes place nowadays in both the internal and external circumstances of investments has become so complex and turbulent that it appears very necessary to reconsider what is coined as strategic control, which has been conventionally portrayed as something to do with ensuring conformity with the central organization-wide intent of top management.

To manage investments effectively, organizations or individuals have to explicitly recognize that driving forces and/or constraints other than top management can shape strategic evolution or revolution, and that the effectiveness of investing becomes no longer goal-related but can and should be evaluated in terms of performance, development, and progress, all of which integrally contribute to the ultimate survival of organizations.

To reflect the eight perspectives outlined in Chapter one (i.e. Q1-1 to Q1-8), to combine the macro-themes of the study of this researcher (i.e. Q6-1, Q6-2 and Q6-3) in Chapter 6, and to
make use of the issues raised earlier in the thesis (e.g. Q4-1 to Q4-33, Table 5-6, Figure 2-1 to Figure 2-4, Figures 3-1&2, Figure 5-1, Table 5-4, Q6-4 to Q6-8, QB6-1 to QB6-8, Q8-1 to Q8-8, and QR8-1 to QR8-3), this part of the thesis aims to explore the nature of strategy-making and of control in relation to investments and to articulate criteria for successful strategic control of investment. In terms of structure, this part of the thesis starts from the theoretical exploration of strategy-making in practice; it then turns to useful conceptual frameworks of control, discusses effective strategic control of investments in terms of factors leading to successful controllership, and proposes a meta-principle of strategic control that unifies various forms of organizational commitment; and finally closes by offering 36 recommendations for future practice or research.

14.2 The aspects of strategy

Historically, the organizational strategy field within the decision-making frame has been broken into two discrete sub-fields (Collis and Montgomery, 1997): namely, business level strategy which focuses on competitive advantage within an industry (e.g. Porter, 1980), and corporate strategy which focuses on the overall plan for managing a diversified enterprise (e.g. Porter, 1987). In this thesis, however, the term organizational strategy is used to cover both but it essentially focuses on business level strategies.

14.2.1 Organizational strategy: the connotations

The term strategy, per se, being one of the most ill-defined in the management vocabulary, has a wide range of connotations (e.g. Chandler, 1962; Hofer and Schendel, 1978; Porter, 1980, 1985, 1987; Newman and Logan, 1971; Quinn, 1980; Ackoff, 1974; Hamel, 1996; Ansoff, 1979, Mintzberg and Waters, 1985; Ghemawat, 1991), and generally refers to a plan designed for a particular purpose, or the process of planning something in a skilful way, or the process of carrying out some action in a skilful way (Hornby, 1995).

To complicate matters, strategy has been particularly referred to a plan, the end product of strategy formulation (e.g. Newman and Logan, 1971), to the attainment of organizational objectives (e.g. Ackoff, 1974), to the means such as the allocation of resources for an organization to achieve certain ends (e.g. Hofer and Schendel, 1978), to a formal logic which threads the business activities (e.g. Ansoff, 1979), to organizational purposes (e.g. Quinn, 1980), to competitive positioning (e.g. Porter, 1985), to incremental evolution (e.g. Mintzberg and Waters, 1985), to a game which people play (Stacey, 1993), to a label which applies to patterns in action (Coad, 1995), and to revolution whereby an organization breaks the rules which dictate the current market competition (e.g. Hamel, 1996).

Nonetheless, there have been several attempts (e.g. Hax and Majluf, 1991; Whittington, 1997; Collis and Mongomery, 1997) aiming to unify the varying dimensions. For instance, Hax and Majluf (1991) propose a comprehensive definition that, (a) organizational strategy is a coherent, unifying and integrative pattern of decisions, (b) organizational strategy determines and reveals
the organizational purpose in terms of long-term objectives, action programmes and resource allocation priorities, (e) organizational strategy selects the business the organization is in or is to be in, (d) organizational strategy attempts to achieve a long-term sustainable advantage in each of its businesses, by responding properly to the opportunities and threats in the firm's environment, and the strengths and weaknesses of the organizations, (e) organizational strategy engages all the hierarchical levels (be it corporate, business and functional) of the firm, and (f) organizational strategy defines the nature of the economic and non-economic contributions it intends to make to its stakeholders.

14.2.2 Organizational strategy: the theories

It has been argued (e.g. Mills and Snow, 1978) that theories of strategy, as actual short-cuts to organizational action, save the management from going back to first principles at each decision stage. Although they can be dangerous if the management have left the underlying assumptions hidden (Argyris, 1977), theories of strategy remain generally very important in that they can indicate what to look out for, what the first steps the management should take, and what to expect as a result of organizational actions (Andrews, 1971).

Generically speaking, there are four basic theories of strategy as can been seen depicted in Figure 14-1, along two contextually sufficient but fundamentally different dimensions - i.e. outcomes of strategy and the processes by which it is made (please see Figure 2-1); namely, they are: (a) classic, (b) evolutionary, (c) processual and (d) systematic (Whittington, 1997), with each category enjoying some unique characteristics which have been summed up in Table 14-1.

### Table 14-1: Characteristics of organizational strategies

<table>
<thead>
<tr>
<th>Theories</th>
<th>Classic</th>
<th>Evolutionary</th>
<th>Processual</th>
<th>Systematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key approach</td>
<td>Formal</td>
<td>Efficient</td>
<td>Processual</td>
<td>Systematic</td>
</tr>
<tr>
<td>Key rationale</td>
<td>Profit-maximisation</td>
<td>Survival</td>
<td>Vague</td>
<td>Local</td>
</tr>
<tr>
<td>Key focus</td>
<td>Internal (plans)</td>
<td>External (markets)</td>
<td>Internal (politics/cognition)</td>
<td>External (social)</td>
</tr>
<tr>
<td>Key processes</td>
<td>Analytical</td>
<td>Darwinian</td>
<td>Bargaining/learning</td>
<td>Social</td>
</tr>
<tr>
<td>Key influences</td>
<td>Economics/military</td>
<td>Economics/biology</td>
<td>Psychology</td>
<td>Sociology</td>
</tr>
<tr>
<td>Key period</td>
<td>1960s</td>
<td>1980s</td>
<td>1970s</td>
<td>1990s</td>
</tr>
</tbody>
</table>
The classic theorists (e.g. Chandler, 1962; Ansoff, 1965; Sloan, 1963; Porter, 1980, 1985) propose that profitability remains the supreme goal of organizations and rational planning the means to achieve it. Classic theories of strategy place great confidence in the readiness and capacity of decision-makers (Chandler, 1962), who are equipped with an abundant technology of matrices, formulae and flowcharts (Ansoff, 1965), to adopt the profit-maximization dogma through rational long term planning (Sloan, 1963).

The evolutionary theorists (e.g. Hannan and Freeman, 1988; Friedman, 1953; Pelikan, 1989; Peters, 1992; Williamson, 1991), by paralleling economic competition and the nature of the laws of the jungle, posit that it will be only the best performers that survive no matter what methods decision-makers adopt (Hannan and Freeman, 1988), thus not necessarily prescribing rational planning methods but expecting markets to be sought - such as product market, managerial labour market, capital market and the market for corporate control - to secure profit maximization (Pelikan, 1989). Evolutionary theories of strategy place less confidence in top management’s ability to plan and act rationally (Friedman, 1953), but, instead, rely on markets to choose the prevailing strategies within a particular environment (Williamson, 1991).

The processual theorists (e.g. Mintzberg, 1978, 1987; Pettigrew, 1973; Cyert and March, 1963; Hamel and Prahalad, 1989; Hamel, 1996), while generally sharing the evolutionary scepticism about rational strategy-making, remain less confident about markets ensuring profit-maximising outcomes, and claim that it is to the very imperfections of organizational and market processes that decision-makers owe their strategies and competitive advantages. Processual theories of strategy propose that the best processual advice on effective strategy is not to strive after the unattainable ideal of rational fluid action (Cyert and March, 1963) but to accept and work with the world as it is (Cyert and March, 1963; Pettigrew, 1973). Processual theories of strategy also posit that what matters in strategy is the long term construction and consolidation of distinctive internal competences rather than the fluid externally oriented pursuit of opportunities (Hamel and Prahalad, 1989; Hamel, 1996).

The systematic theorists (e.g. Marris, 1964; Granovetter, 1985; Knights and Morgan, 1991), while still retaining faith in the capacity of organizations to plan forward and to act effectively within organization-specific environments, challenge the universality of any theory of strategy. Systematic theories of strategy propose that decision-makers are not simply detached calculating individuals interacting in purely economic transactions, but people who are rooted deeply in densely interwoven social systems (Granovetter, 1985), and thus, the objectives of strategy plus the mode of strategy depend on the strategists’ social characteristics and the social context within which they operate (Marris, 1964; Knights and Morgan, 1991).

The implications of the theories of strategy can be seen as follows (Whittington, 1997): classic theories of strategy indicate that strategy is best made through rational analysis undertaken at one remove from the hurly-burly of the business battlefield itself; evolutionary theories of strategy posit that strategists, as Darwinists, need to keep their options open rather than investing heavily in any single strategic plan which can court disaster; the processual theories of
strategy posit that effective strategy emerges through bargaining or learning, directly from intimate involvement in daily operations; and the systemic theories of strategy suggest that successful strategies have to be sociologically efficient and maintain appropriate to particular social contexts.

14.2.3 Organizational strategy: the major themes

It seems evident (e.g. Coad, 1995) that, although the word strategy has been used in different ways and in different contexts, the diverse descriptions of strategy can be roughly catalogued into three major themes: namely, (a) position, (b) process, and (c) the match between position and process. The theme of position (e.g. Hofer and Schendel, 1978; Porter, 1985) involves the identification of where organizations or individuals locate themselves in their ever-changing environment and concerns such conceptions as market niche, product-market domain, and competitive position. The theme of process (e.g. Chandler, 1962; Ansoff, 1979) concentrates on the way strategy is formed and implemented and links to conceptions such as rationality and behaviour. The theme of the match between position and process (e.g. Stacey, 1993) explores the overlap between the themes of position and process in the strategy literature as can be especially reflected in strategy related questions such as ‘why strategy arises’ and ‘who is involved in strategy’ (Coad, 1995).

The idea that strategy remains a version of positional analysis is concerned with the status of an organization relative to competition and other aspects of the environment in which the organization operates. Strategy can be described as a match (e.g. Hofer and Schendel, 1978) between varying organizational contexts (e.g. internal and external): strategy becomes an environmental niche in an ecological sense, a place where ‘rent’ is generated in an economic sense, a product-market domain where resources are concentrated in a managerial sense (Coad, 1995). Thus, in this line, strategy is universal in that all organizations can be said to have a strategy which helps identify where they locate themselves in their operating environment, although the match itself (say, between their resources and their operating environment) may (or may not) be explicit or well developed (Hofer and Schendel, 1978).

The idea that strategy remains a version of process analysis is preoccupied with the way organizational strategy is formed and implemented, leaving what is being decided (such as the business unit, the organization and its population) as the province of positional analysis (Chandler, 1962; Ansoff, 1979; Andrews, 1971). Strategy, in this line, is thus largely concerned with individuals or groups in the organizations, by means of logical or behavioural rationales (Coad, 1995).

The idea that strategy remains a version of analysis of the match between position and process does not surface until the distinction between the two major themes of position and process has been at least theoretically weakened. Nowadays it becomes accepted among most scholars that, the content of any strategy tends to be affected by the processes whereby the strategy is developed and implemented, and that each process per se can be equally likely to be affected by
the content and outcomes of previous strategic decisions. Thus, it seems less surprising that some positioning strategies such as Miles and Snow's (1978) analysis (characterised by prospectors, analysers, defenders, and reactors) have implied a search for organizational processes, while some prescriptions for the processes of strategy such as Andrews' (1971) identifying exploitable opportunities in a given environment have inferred a search for competitive positions such as environmental niches.

14.2.4 Organizational strategy: a simple model

The three major themes of strategy (i.e. position, process, and match between position and process) – perhaps, especially the overlap (i.e. the match between two traditional competing themes of strategy (i.e. position and process)) - has been well exploited by Stacey's (1993) simple model of the strategy concept (Figure 14-2) whereby strategy is considered as a game which organizations play consisting of patterns in actions past or yet to come. One of the beauties of Stacey's (1993) model lies in the fact that strategy is personalised, as opposed to the conventional wisdom of strategy which traditionally infers an objective reality in which organizations move in response to changes in the environment (Glaister and Thwaites, 1993), by referring organizations and their environments to groupings of individuals interacting with one another so that the dynamics which dictate the ultimate success or failure of organizations (i.e. the moves, counter-moves as well as further responses by inter- and intra-organizational players, which may not be physically touched or felt), are to be surely taken into consideration.

To illustrate (Figure 14-2), one can see the gaming process of strategy in such a fashion whereby people both within and outside an organization operating in a given environment interact through a series of feedback loops (which bring forth the discovery of opportunities, the
decisions on how to respond, and the actions to ensure arrival) that all organizations get controlled and developed: it starts at the time slice $T_i$; at the time slice $T_{i+1}$, decision makers in organization $X$ start to engage in some course of action (e.g. an investment) which they discover to be potentially beneficial in the environment in which organization $X$ operates, people in organization $X$ choose how to respond to the opportunity and then act on that choice; at the time slice $T_{i+2}$, other people who also work or live in the environment in which organization $X$ operates (e.g. notably, competitors and stakeholders), will undergo the consequences of organization $X$'s actions and then correspond to those consequences according to their perceptions of the actions of people in organization $X$, by choosing how to respond and acting upon their choices; and the game goes on and on. In this sense, organizational strategy remains a continuous synthesis followed by a series of action and reaction with knowledge and experience themselves accumulating from time to time.

14.2.5 Organizational strategy: the strategy-making processes

From Figure 14-2 and Table 14-1, it is not difficult to see that the strategy-making process is a gaming process. That is, the whole process of strategy-making remains a process of a game of either analytical, bargaining, learning, Darwinian or social nature (see Table 14-1 in particular). In practice, however, the picture of the game can differ significantly dependent upon the constituent components and/or parameters of the game itself (Table 14-2), including (a) who are playing (i.e. the players), (b) how the game can be played (i.e. the available courses of action), (c) what conditions surround the game situation (i.e. the choice environment), (d) what purposes the game has been aimed to achieve (i.e. the possible outcomes), plus (e) why the game should be played (i.e. the probability of choice of action), (f) how well the game can be played (e.g. the efficiency of an action for an outcome), (g) why the game should be played in a particular way (e.g. the relative value of outcomes), and (h) to what degree the aims of the game can be achieved (e.g. the probability of outcomes).

<table>
<thead>
<tr>
<th>No</th>
<th>Components / Parameters</th>
<th>Summarising questions</th>
<th>Some leading dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The individual or game player</td>
<td>Who are playing?</td>
<td>Central actors, Champions, Influential sources, Influential authority</td>
</tr>
<tr>
<td>2.</td>
<td>The choice environment</td>
<td>What conditions surround the game situation?</td>
<td>Environment, Organizations</td>
</tr>
<tr>
<td>3.</td>
<td>The available courses of actions</td>
<td>How the game can be played?</td>
<td>Basic process, Strategy content, Vocabulary</td>
</tr>
<tr>
<td>4.</td>
<td>The possible outcomes</td>
<td>What purposes the game has been aimed to achieve?</td>
<td>Generic outcomes, Intended message, Realized message</td>
</tr>
<tr>
<td>5.</td>
<td>The efficiency of an action for an outcome</td>
<td>How well the game can be played?</td>
<td>Leadership</td>
</tr>
<tr>
<td>6.</td>
<td>The probability of choice of action</td>
<td>Why the game should be played?</td>
<td>(Most likely) Period, Change</td>
</tr>
<tr>
<td>7.</td>
<td>The relative value of outcomes</td>
<td>Why the game should be played in a particular way?</td>
<td>(Best fit) Situation</td>
</tr>
<tr>
<td>8.</td>
<td>The probability of outcomes</td>
<td>To what degree the aims of the game can be achieved?</td>
<td>(Potential) Status, (Implicitly favoured) Structure</td>
</tr>
</tbody>
</table>

To draw a clearer or more comprehensive picture, Table 14-3 is employed, in the light of the experimentalists' view of the strategy-making process as illustrated above (Table 14-2), to
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portray this gaming process; and the strategy-making process is considered in Table 14-3 as consisting of eighteen dimensions corresponding to the eight questions which in turn are in parallel to the eight elements of strategy-making processes as described in Table 14-2. The eighteen dimensions are central actors, champions, influential authorities, influential sources, organizations, strategy content, change, environment, basic process, vocabulary, intended message, realized message, generic outcomes, leadership, (most likely) period, (best fit) situation, (implicitly favoured) structure, and (potential) status (Table 14-3).

<table>
<thead>
<tr>
<th>Process of strategy</th>
<th>Conceptual</th>
<th>Formal</th>
<th>Analytical</th>
<th>Visionary</th>
<th>Mental</th>
<th>Emergent</th>
<th>Power</th>
<th>Ideological</th>
<th>Passive</th>
<th>Episode</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of thought</td>
<td>Design</td>
<td>Planning</td>
<td>Positioning</td>
<td>Entrepreneurial</td>
<td>Cognitive</td>
<td>Learning</td>
<td>Political</td>
<td>Cultural</td>
<td>Environmen t</td>
<td>Configuration</td>
</tr>
<tr>
<td>1. Central actors</td>
<td>Architect</td>
<td>Planners</td>
<td>Analysis</td>
<td>Leader</td>
<td>Brain</td>
<td>Whoever can learn</td>
<td>Whoever has power</td>
<td>Collectivity</td>
<td>Environment</td>
<td>All those to the left</td>
</tr>
<tr>
<td>2. Champions</td>
<td>Case study proponents, believers in rational leadership</td>
<td>Rationalizers, MBAs, analytical staff experts</td>
<td>MBAs, analytical staff experts</td>
<td>Business press, individuals, innovators, small business people</td>
<td>Psychologically oriented individuals</td>
<td>Divergent thinkers, demystifier s, frustrated lower managers</td>
<td>Power oriented individuals, conspiracy theorists</td>
<td>Mythologies, more socially oriented individuals</td>
<td>Population ecologists, organization theorists, splitters and positivists</td>
<td>Lumpers, integrators</td>
</tr>
<tr>
<td>4. Influential disciplines</td>
<td>None (architecture as metaphor)</td>
<td>Economics, military history</td>
<td>None</td>
<td>Psychology (cognitive)</td>
<td>Links to learning theory in psychology and education</td>
<td>Political science</td>
<td>Anthropology</td>
<td>History (links to catastrophe theory in mathematics and punctuated equilibrium theory in biology)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Environment</td>
<td>Expedient (economic, social, technical), containing mostly opportunities, sometimes threats</td>
<td>Acquisient, checklists of factors to be forecast or preferably controlled</td>
<td>Exigent in terms of established competition, but analyzable in economic terms</td>
<td>Manoeuvrable, to find niche</td>
<td>Overwhelming for cognition</td>
<td>Demanding, difficult</td>
<td>Intractable (micro), malleable (macro)</td>
<td>Incidental</td>
<td>Dictatorial, exigent, broad dimensions (in contingency theory)</td>
<td>Any, so long as categorical (e.g. those to the left)</td>
</tr>
<tr>
<td>6. Organizations</td>
<td>Ordered, acquisient (for 'implementation'), foot of given strengths and weaknesses</td>
<td>Structured, decomposed, acquisient (for programming)</td>
<td>Foot of competitive advantages, otherwise incidental (implicitly mass producer)</td>
<td>Malleable, simple</td>
<td>Incidental</td>
<td>Eclectic, flexible, playful</td>
<td>Conflicting, disjointed, uncontrolled, disjointed (micro); aggressive, controlling (macro)</td>
<td>Cohesive, normative</td>
<td>Acquisient</td>
<td>Any, so long as categorical (e.g. those to the left)</td>
</tr>
<tr>
<td>7. Leadership</td>
<td>Dominant, judgmental</td>
<td>Responsive to procedure</td>
<td>Responsive to analysis</td>
<td>Dominant, intuitive</td>
<td>Source of cognition</td>
<td>Responsive to initiatives or own learning</td>
<td>Weak, at best a player (micro); at helm (macro)</td>
<td>Part of collectivity</td>
<td>Acquisient</td>
<td>Any, so long as categorical (e.g. those to the left)</td>
</tr>
<tr>
<td>8. Basic process</td>
<td>Cerebral, simple and informal, judgmental, deliberate</td>
<td>Formal, decomposed, staged, deliberate</td>
<td>Analytical, intuitive, largely deliberate</td>
<td>Visionary, intuitive, largely deliberate</td>
<td>Mental, overwhelming</td>
<td>Informal, messy, emergent</td>
<td>Aggressive, confictive, messy, emergent (micro), deliberate (macro)</td>
<td>Ideological, constrained, collective, deliberate</td>
<td>Passive, emergent</td>
<td>Integrative, episodic, sequenced, plus all of those to the left</td>
</tr>
</tbody>
</table>

Table 14-3: Organizational strategy as clarified by strategy-making processes (Source: Adapted from Mintzberg, 1990)
| 4.2 | Vocabular y | Distinctive competence, competitive advantage, SWOT, formulation, implementation | Programming, budgeting, scheduling | Generic strategy, strategic group, industry and competitive analysis, portfolio, experience curve | Vision | Map, frame, concept, attainment, refrance, mental set, bounded rationality, cognitive style | Incrementalism (disjointed or logical), emergent strategy, sense-making, revitalization, intrapreneurship, strategic candidate, champion | Power, coalition, political games, collective strategy | Myth, culture, ideology | Selection, environmental dynamism, complexity, niche | Configuration, archetype, stage, life cycle, quantum change, strategic revolution |
| 4.3 | Strategy content | Explicit perspective, unique, prescriptive | Explicit plan, decomposed into sub-strategies and programmes, also plays, prescriptive | Explicit generic positions (economic and competitive), also plays, descriptive | Implicit perspective (vision), personal and unique (niche); descriptive | Mental perspective (individual concept); descriptive | Implicit patterns, often collective; descriptive | Plays and positions, overt and covert, subunit (micro), organizational (macro); descriptive | Collective perspective, uniquely and normally implicit; descriptive | Specific position (niche in pop. eco.); descriptive | All those to the left |
| 5.1 | Generic outcomes | C1, C2, E1, E2 (please see Figure 6-3) | C1, C2, E1, E2 (please see Figure 6-3) | C1, C2, E1, E2 (please see Figure 6-3) | C1, C2, E1, E2 (please see Figure 6-3) | C1, C2, E1, E2 (please see Figure 6-3) | C1, C2, E1, E2 (please see Figure 6-3) | C1, C2, E1, E2 (please see Figure 6-3) | All those to the left |
| 5.2 | Intended message | Fit | Formalize (decompose) | Envision | Cope | Learn (evolve) | Promote | Coalage | React | Integrate |
| 5.3 | Realized message | Think (strategy making at case study) | Programme (rather than formulate) | Centralize (then hope) | Worry (since can't cope or invent) | Play (rather than pursue) | Hoard (rather than share or even produce) | Perpetuate (rather than change) | Capitate (in population ecology); split (in contingent theory) | Lump (rather than numerical) |
| 6.1 | Period (most likely) | Reconception | Strategic programming | Recalculation; start-up, turnaround, sustained small size | Original conception, clinging | Dramatic, unprecedented, or evolving change | Major change, blockage, flux | Reinforcement; resistance to change (reframing, cultural revolution) | Life cycle stages | Any, so long as is isolatable |
| 6.2 | Change | Occasional, quantum | Periodic, incremental | Occasional, typically quantum and revolutionary, opportunistic | Infrquent (resisted mentally) | Continuous, typically incremental, piecemeal but with occasional quantum insight | Frequent, piecemeal, idiosyncratic | Infrequent (resisted ideologically) | Never or rare and quantum, frequent and piecemeal (in contingent theory) | Any, so long as is categorical |
| 7 | Best Fit | Simple, stable & predictable, integrated | Simple, stable & predictable, ideally controllable | Simple, stable (predictable & preferably controllable), mature & therefore structured (so that data quantified) | Dynamic but simple | Individual | Complex, dynamic (and so unpredictable), ideally novel | Divisive, malevolent (micro), controllable (macro) | Passive | Uniform, set, competitive |
| 8.1 | Utility status | Foundation of prescription only | Low, unless becoming empirical | Very high, likely to remain so | Some increased interest | Moderate now, heading for frustration? | Growing interest | Growing interest now, decline likely unless conceptual breakthrough | Low now, decline likely | Growing interest |
| 8.2 | Structure (Implicity favoured) | Machine bureaucracy (centralized, formalized) | Large machine bureaucracy in commodity or mass production (centralized, formalized), also divisionalized form | Large machine bureaucracy (centralized, formalized), also divisionalized form | Simple structure (centralized organic) | Not specified | Advocacy professional bureaucracy (decentralized) | Orkan advocacy or professional bureaucracy (in micro), closed system machine bureaucracy or divisionalized form (in macro) | Missionary organization, sometimes stagnant bureaucracy | Passive, likely bureaucratic (in population ecology); any (in contingent theory) | Any, so long as is configurational |
14.2.5.1 Strategy-making as a conceptual process

The conceptual processists of the design school (e.g. Andrews, 1971; Selznick, 1957; Christensen et al, 1982; Newman, 1951; Ohmae, 1982) consider organizational strategy as a process of capturing a successful match between qualifications and opportunity that positions an organization in its environment.

The fully evident or implicitly recognized basic premises underlying the conceptual process include that, (a) strategy formation remains a controlled, conscious process of thought, (b) the responsibility for the control and consciousness rests with the CEO and the CEO is the sole strategist, (c) the model of strategy formation must be kept simple and informal in that elaboration will kill it, (d) strategies remain unique and the best ones result from a process of creative design, (e) strategies emerge from this process full-blown, (f) these strategies should be made explicit and possibly articulated (i.e. to be kept simple), and (g) only after the unique, full-blown, explicit and simple strategies are fully formulated can they then be implemented (Christensen et al, 1982).

The critique of the conceptual processists has included a number of grounds: (a) the use of other theories including the findings on the incremental aspects of strategy-making process is virtually dismissed, (b) the relevance of the model could go out of context, and (c) having to make strategy explicit actually promotes inflexibility (Quinn, 1980; Mintzberg, 1990).

It has been well argued (Mintzberg, 1990) that the conceptual process of strategy-making maintains a set of concepts - such as distinctive competence and fit - which infuse strategic management and can be best used in the reconception periods during which organizations come out of a time of contextual change into one of new stability.

14.2.5.2 Strategy-making as a formal process

The formal processists of the plan school (e.g. Ansoff, 1965, 1979, 1987; Malmlow, 1972; Jelinek, 1979) consider organizational strategy as a process of generating synthesis by analysis, treating planning not just an approach to strategy formation but also a virtual religion to be promulgated with the fervour of missionaries.

The basic premises underlying the formal process include that, (a) strategy formation should be a controlled, conscious and formal process, decomposed into distinct steps, each delineated by checklists and supported by techniques, (b) responsibilities for the overall process rests with the CEO in principle and the responsibility for its execution rests with the staff planners in practice, and (c) strategies emerge from the process full blown, to be explicated so that they can then be implemented through detailed attention to objectives, budgets, and operating schedules of various kinds (Ansoff, 1965; Mintzberg, 1990).

The critique of the formal processists covers a number of grounds: (a) plans are sometimes useless in that the planning process is always indispensable, (b) the pitfalls of planning exist that planning has lacked the proper managerial support or a climate congenial to its practice, (c)
planning can, under certain circumstance, impede the commitment necessary for effective strategic management, (d) while being aimed to deal with change and especially with turbulent environments, planning is in fact used in organizations to set direction but not to encourage change, and (e) planning promotes the pitfall of politicized climates, i.e. the grand fallacy that analysis provides synthesis, which itself consists of the fallacies of predetermination, detachment and formalization (Quinn, 1980; Newman, 1951; Steiner, 1979; 1983; Mintzberg, 1990).

It has been held (e.g. Mintzberg, 1979; Jelinek, 1979) that, with formal processists being both analysts or catalysts, the formal process of strategy-making can be effectively used to program organizational strategies by first codifying them, then elaborating and translating them into ad hoc programmes and routine plans or budgets, and finally using them for the purpose of communication and control, and that, when change seems dramatic or organizations function with varying forms of structure (e.g. that of entrepreneurs and/or intrapreneurs), the formal process can be best relied on in conjunction with other forms of strategy-making processes (e.g. the looser forms first, the left-handed planners second, and the right-handed planners last).2

14.2.5.3 Strategy-making as an analytical process

The analytical processists of the positioning school (e.g. Suntzi, 1992; von Clausewitz, 1962a, 1962b; Schoeffler et al, 1974; Porter, 1980, 1985, 1987) consider organizational strategy as a process of delineating categories of strategy and matching them to the contexts which seem most suitable, by emphasizing on strategies themselves more than the process by which they are to be formulated and by focusing on the content of strategies.3

The recognized premises underlie the analytical process include: (a) strategies are generic, specifically common, tangible positions in the marketplace, (b) the marketplace is economic and competitive, (c) the strategy formation process is thus one of analytical selection based upon calculation, (d) strategies as positions lead to other types of strategies (e.g. functional), sometimes within clusters which define generic type ‘strategic group’ of organizations within industries, (e) analysts play a significant role in this process, feeding the results of their calculations to managers who officially control the choices, and (f) strategies therefore emerge from this process full blown and are then calculated and implemented, and therefore market structure dictates positional strategies which dictate other strategies which dictate organizational structures which determine performance (Porter, 1980; Mintzberg, 1990).

The critiques of the analytical processists include: (a) the separation of thinking from action places undue emphasis on strategy-making as a deliberate process and thereby slights the importance of strategic learning, (b) the strategy-making process can be undermined by the fallacies of predetermination, detachment, and formalization, (c) the focus of the strategy-making process is narrow in that it is biasedly oriented to the economic and quantifiable as opposed to the social, political or even non-quantifiable, (d) the context of the analytical process has been biased towards traditional, big established organizations, (e) a conceptual schism exists
that organizations can be advised to conduct formal analyses under conditions of relative stability but also to focus attention on the dynamic aspect of strategic positioning. (f) that the narrowness of the analytical process in favour of calculation can impede not only learning and creativity but also commitment required, and (g) the analytical process tends to have a narrow focus, with strategy being seen as generic position, not unique perspective (e.g. Channon, 1977; Mintzberg, 1990).

It has been suggested that the analytical process can be effectively oriented toward mass products and services in more mature segments, especially during the period of recalculation when changes of position can take place within given perspectives (Mintzberg, 1990).

14.2.5.4 Strategy-making as a visionary process

The visionary processists of the entrepreneurial school (e.g. Schumpeter, 1934; Meindl et al, 1985; Cole, 1959), seeing personalized leadership based on strategic vision as the key to organizational success and the initiative of the visionary leader as the means to overall growth, consider organizational strategy as a process of maximizing profit in visionary response to the dictates of a competitive market, by not only focusing the strategy-making process exclusively on entrepreneurial leaders but also stressing the most innate of mental state and processes – notably, intuition, judgment, wisdom, experience, and insight.

The fundamental premises underlying the visionary process embrace: (a) strategy exists in the mind of the single leader as perspective, specifically, as a sense of long-term direction, a vision of the organization’s future, (b) the strategy-making process is semiconscious at best, rooted in the experience and intuition of the leader, (c) the entrepreneurial leader maintains close control of the implementation as well as the formulation of the vision, binding the two together tightly through personalized feedback on actions, (d) the strategic vision is therefore malleable as is the leaders’ organization, a simple structure responsive to their directives, and (e) the entrepreneurial strategy tends to take the form of niche, one or more pockets of market positions protected from the forces of outright competition (e.g. Cole, 1959; Mintzberg, 1990).

The main critique of the visionary processists include: (a) visionary processists wrap up strategy-making in the vision of a single individual but can hardly really tell much about what the process is, and (b) visionary processists seldom come to grips with the fact that the behaviours - which are glorious and energizing to some - can become pathological and even deadening to others (e.g. Mintzberg, 1990).

It has been proposed (e.g. Cole, 1959; Mintzberg, 1990; Mintzberg, 1978; Mintzberg and Waters, 1982) that the visionary process can be better exploited in start-up or turnaround situations in which forceful leadership and rich vision are needed (especially in the sustained small sized organizations).4

14.2.5.5 Strategy-making as a mental process

The mental processists of the cognitive school (e.g. Simon, 1957a, 1957b, 1987; Nystrom, 1979;
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Tverskey and Kahneman, 1974; March and Simon, 1957; Bruner et al, 1956; Pondy and Huff, 1985; Wissema et al, 1980), viewing strategy-making as a set of collective activities initiated by individual brains, consider strategy as a process of getting at what strategy-making actually means in the sphere of human cognition, by examining at least four aspects of cognitive psychology including perception - how the strategists get informed (Simon, 1957a, 1957b; Tverskey and Kahneman, 1974; March and Simon, 1957), concept attainment - how the strategy itself forms (e.g. Bruner et al, 1956), reconception - how the strategy changes (e.g. Pondy and Huff, 1985), and strategic style - how strategists differ in terms of cognitive orientations (e.g. Wissema et al, 1980).

The premises underlying the mental processes embrace: (a) strategy-making remains a cognitive process which takes place in the mind of the strategists, (b) strategies are perspectives or concepts which form in the mind of the strategists, (c) the strategists’ environment is complex and their cognitive capabilities are limited by comparison so that the receipt of information becomes restricted and biased and the strategy-making process can be distorted, (d) strategies can remain dynamic in that, specifically, they can be difficult to attain in the first place, considerably less than non-optimal when attained and subsequently difficult to change when no longer viable, and (e) strategists can vary significantly in styles depending on individual cognitive makeups (Mintzberg, 1990).

The major critiques of the mental processists include: (a) given that strategy-making remains a cognitive process particularly in the attainment of concepts, cognitive psychology has yet to adequately address the questions of prime interest to strategy-making such as how concepts actually form in the mind of a strategist, and (b) though it remains interesting and informative to learn about distortions in the strategy-making process, strategists’ understanding itself can risk becoming distorted when phenomena such as experimental wisdom, creative insight, and intuitive synthesis are ignored (Sperry, 1974; Mintzberg, 1990).

It has been concluded that viewing strategy-making as a mental process reminds strategists that strategies can vary in their cognitive orientations with significant consequences for the strategies pursued (Simon, 1993), and it has also been suggested (Mintzberg, 1978; 1990) that, as soon as the mental process is concerned, attention needs to be drawn to particular stages in the strategy-making process, notably the periods of original conception and reconception, and especially the period of clinging to existing strategies due to cognitive fixation (Mintzberg, 1978).

14.2.5.6 Strategy-making as an emergent process

The emergent processists of the learning school (e.g. Lindblom, 1959; Quin, 1980; Cyert and March, 1963; Bower, 1971; Weick, 1979) consider strategy as a process of learning over time, viewing strategy-making as a set of sometimes individual but more often collective activities with unintended order emerging from strategists’ knowing a context and the organization’s capability of dealing with it to the organization’s converging on patterns of behaviour which work in practice. In essence treating strategy-making as emerging is regarding organizations as
learning systems (e.g. Argyris, 1976; Normann, 1977) by which organizations learn. Learning can take place by means of *disjointed incrementalism* under the umbrella of which strategy-making becomes a never-ending process of successful steps in which continual nibbling of many actors maintains a substitute for a good bite (Lindblom, 1968). Learning can also take place though *logical incrementalism* by which strategy-making becomes the constant integration (of the central actors who aim to promote politically a strategic vision which itself is undergoing change and improvement) of the simultaneous incremental processes of strategy formulation and implementation (Quinn, 1980). Learning can take place through emergencism in terms of, say, *strategic initiatives* under which strategy-making becomes an emergent process of learning involving multiple strategic actors functioning in varying levels of the hierarchy (Bower, 1970). Learning can also be obtained by *emergencism though retrospection* under which strategy-making remains a process of learning involving the interface of thought and action as actors reflect on what they have done (Weick, 1979).

The emerging premises which underlie the emergent processes include: (a) the complex and dynamic organizational environment coupled with the diffusion in the organization of its knowledge base for strategy-making precludes deliberate control, and thus, strategy-making must above all take the form of a process of learning over time, in which, at the limit, the formulation and the implementation of strategy become nearly indistinguishable, (b) there can be many potential strategists in most organizations because more commonly it is the collective system which learns although the leader must learn too and sometimes can be the sole learner, (c) the strategy-making process can proceed in emergent fashion through behaviours which stimulate thinking retrospectively in that strategies can take root in all kinds of strange ways and places often in response to external pressures and events, (d) the role of leadership lies in organizations' ability to manage the process of strategic learning rather than to preconceive deliberate strategies, (e) organizational strategies appear first as patterns out of the past and only later perhaps as deliberate plans for the future, ultimately perhaps as broader perspectives (Mintzberg, 1990).

The main critiques of the emergent processists include: (a) emergent processes can run the risks of not being able to converge on a clear organizational strategy, (b) collective style of learning can prove cumbersome in dealing with certain types of strategic change, especially when considerable commitments are required, (c) incrementalism can lure organizations into positions they never intended via escalating commitment in that negative consequences of previous incremental action can encourage further commitment to recoup deployed resources, (d) organizations in crisis may not have the time to learn in a decentralized, incremental way, and they may be better off with strategic visions which are novel and tightly integrated (Mintzberg, 1978; 1990).

It can be concluded that the emergent processists have provided organizational strategists with greater understanding. For the emergent processists, slotting organizations into supposedly optimal strategy such as profit-maximization may prove ineffective because setting out to be in
total control may in fact forfeit control; while within what appears to be passive, reactive responses to external forces, organizations can actually learn and create and come up with novel and interesting strategies (Pascale, 1984). It has been suggested (e.g. Mintzberg, 1979; Grinyer and Spender, 1979) that the emergent processes might appear most commonly in organizations obsessed with adhocracies and professional bureaucracies, during periods of dramatic or unprecedented change in the environment, or on occasions when evolving strategic change is required due to the need for political manoeuvring.

14.2.5.7 Strategy-making as a power process

The power processists of the political school (e.g. Allison, 1971; Perrow, 1970; Pfeffer and Salanick, 1978), viewing strategy-making as internal politicalization, regard strategy as a process of exploiting power in other than purely economic ways (e.g. legitimate or illegitimate) by individuals or a group of individuals in an organization with regard to the internal environments or by organizations themselves with regard to their external environments. This means that, within an organization, different actors or a coalition of them with power are able to use political means which is outside the ordinarily acceptable ones of authority, expertise and ideology to vie with each other over outcomes by engaging in continual processes of bargaining or negotiating to produce series of outcomes which emerge as strategies (Cyert and March, 1963; Mintzberg, 1983), and that, within the operating environment, some organizations can function as political vehicles acting out of organization-specific self interest, in conflict or cooperation with other organizations in order to pursue clear, deliberate strategies of political nature by means of, say, integration, merger, cooperation, and even bankruptcy (Freeman, 1984; Astley, 1984; Pfeffer and Salanik, 1978; Rheman, 1973; Mintzberg, 1983).

The basic premises which underlie the power processes of strategy-making include: (a) the strategy-making process remains fundamentally political in that it is based on illegitimate or legitimate means and normally parochial ends which often generate conflict, whether reflecting actions by organizations (macro-politicalization) or focused within the organizations (micro-politicalization), (b) whether realized by deliberate plans or emergent patterns, political strategies are more likely to take the formed positions and especially ploys rather than perspectives, (c) there must be a number of actors who either vie with each other or challenge vulnerable central actors in a micro-political way to control organizational outcomes, (d) in macro politics, organizations promote their own individual welfare through aggressive deliberate strategies of a political nature, (e) micro politicalization tends to function well in times when major changes surface, either imposed on the organization externally or else arising internally as a result of the alignment of the organization's power system such as the rise of a previously weak source of influence or the breakdown of an established one, and (f) macro politicalization usually reflects the closed system nature of an organization, measured by its power relative to the external influencers surrounding it (Pettigrew, 1977; Cyert and March, 1963; Mintzberg, 1990, Freeman, 1984; Astley, 1984; Pfeffer and Salanik, 1978; Rheman, 1973; Mintzberg, 1983).
The major critiques of the power processists include: (a) the power processists can overstate the power related points in that strategy-making is not just only political, (b) organizational foci on divisiveness and fractionating can mislead organizations to bypass patterns which do form, even in rather conflictive situations, (c) the power process can give rise to severe problems of power and collusion in a society of large organizations or in an organization with a large number of power-equidistant actors, and (d) it hardly makes sense to regard strategy-making as a power process devoid of micro or macro political activities or games (Mintzberg, 1983, 1990).

It can be concluded that the power process of strategy-making can be better exploited during periods of major change when power shifts and conflicts arise, or at the time of blockage when strategic change can not take place due to political intransigence, or on occasions of flux when organizations are unable to establish any clear direction but to rely on the form of a free-for-all (Pettigrew, 1977; Mintzberg, 1990).

14.2.5.8 Strategy-making as an ideological process

The ideological processists of the cultural school (e.g. Hedberg and Jonsson, 1977; Edwards, 1977; Rhenman, 1973; Normann, 1977; Staw, 1976, 1981; Westley, 1983; Allaire and Firsirotu, 1985; Barney, 1986), linking strategy-making to organizational cultures, consider strategy as a process of collective cognition rooted in the integrated force of organizational ideologies. The ideological processes concern themselves largely with the influence of rich cultures in maintaining strategies and resisting strategic changes as well as provoking discussions about issues such as whether culture can be a source of sustained competitive advantage (Barney, 1986), whether culture mediates between executive personality and strategy (Kets de Vries and Miller, 1986), and whether strategy making becomes associated with image-making (Westley, 1983).

The basic premises which underlie the ideological processes of strategy-making include: (a) strategy-making remains fundamentally a collective behavioural process based on the beliefs shared by the involved organizations' members, (b) strategy inevitably takes the form of perspective above all, not ploy or position, and maintains rooted in organizational intentions and reflected in patterns which make it deliberate, (c) control and coordination in the organization become largely normative under the influence of the shared beliefs, (d) given the importance of the internal belief system, the organization can appear to be proactive in comparison with an environment the influence of which tends to be passive and diffuse, and (e) cultures and ideologies tend to perpetuate existing strategies rather than encouraging strategic changes, at best allowing for shifts in position within the organization's overall strategic perspective (Dunbar et al, 1982; Mintzberg, 1990).

The major critiques of the ideological processists include: (a) the ideological process of strategy-making can be faulted for practical conceptual vagueness, (b) the 'hard' methods of social science can be bound to miss the point about a phenomenon as ethereal as culture, (c) the ideological process of strategy-making can promote stagnation in organizations in that to overly...
emphasize tradition and consensus and characterize change as complex and difficult tends to discourage strategic revolution (Mintzberg, 1982, 1990).

It can be concluded that the idea that strategy can form from an ideological process promulgates organizations’ history and thus strategy-making becomes the management of their collective cognition and organizational style. The ideological process of strategy-making seems obviously particularly applicable to ‘missionary’ type organizations enjoying powerful ideologies; it also seems applicable to particular periods of an organization’s life, especially ones of reinforcement in which rich strategic perspectives are pursued vigorously, or ones of resistance to change in which necessary strategic adaptation is blocked by the inertia of a given strategic perspective; it can also be used to help strategists understand periods of reframing during which new collective perspectives establish and even periods of cultural revolution which can be proven very effective in bringing forth strategic turnarounds.

14.2.5.9 Strategy-making as a passive process

The passive processists of the environmental school (e.g. Hannan & Freeman, 1977; Aldrich & Pfeffer, 1976), placing environment - which consists of a set of vague forces or kind of an atmosphere which covers everything except organization - alongside leadership and organization as the central actors in the process of strategy-making, considers strategy as a process by which organizations do as the environment tells them so that strategy is environmentally conditioned and else such as strategic choice are ‘selected out’ (Aldrich & Pfeffer, 1976).

The premises of the passive processists include: (a) the environment dictates strategy by forcing organizations or their attributes into ecological-type niches and those which refuse to so adapt will eventually die,10 (b) there is not any real internal strategist nor is there any internal strategy-making process, and leadership remains nothing but a myth11, and (c) strategies are essentially niches or positions where organization are sustained as long as whatever nourishes them there has not run out (Aldrich & Pfeffer, 1976; Mintzberg, 1979, 1990; Hannan and Freeman, 1977).

The critique of the passive processists of the environmental school of strategy-making include: (a) the dimensions of the environment often appear to be delineated in an abstract or aggregated way despite the fact that strategy has to do with the selection of precise niches, (b) it can be difficult to tell how great the distance is at which organizational behaviour can be looked, or how relevant all this is for those practising and studying strategic management, and (c) to debate over the existence of strategic choice rather than to consider the conditions which enlarge or restrict its breadth will only constrain the choice itself (Hannan and Freeman, 1977; Mintzberg, 1990).12

It can be concluded that the passive processes encourage strategists to learn about the environments of organizations and especially about the various forms these may take, and to take account of the contexts in which the environmental ideas seem most applicable. It seems that the passive processes might be better exploited when an organization is at the niche stage of
its life cycle (Goold, 1980; Mintzberg, 1990).

14.2.5.10 Strategy-making as an episodic process

The episodic processists of the configurational school (e.g. Chandler, 1962; Miles & Snow, 1978; Miller, 1982; Mintzberg, 1981, 1983, 1990; Popescu, 1965), focusing on typologies and episodes of various kinds (e.g. types of organizations, kinds of environments in which organizations operate, and periods of history) ideally integrated into stages which are sequenced over time in life cycles, consider strategy as a chain of episodes – patterns in action which sustained themselves for identifiable periods of time (e.g. growth, flux, and continuity) - each at its own time, in its own place, and as an integrated phenomenon.

The basic premises which underlie the episodic process of strategy-making include: (a) the behaviours of organizations are best described in configurational terms as distinct, integrated clusters of dimensions with regard to state and time, (b) strategy-making remains an episodic process, in which organizations of a particular type and form, which are matched to a particular type of environment, engages in a particular form of the process for a distinguishable period of time, (c) the process can be conceptual, formal, analytical, visionary, mental, emergent, power, ideological, and passive; the resulting strategies can take the form of plans, patterns, ploys, positions, or perspectives; but each must come at its own time and with its own context, and (d) the periods of the clustered dimensions appear to sequence themselves over time in a patterned way in relation to the life cycles of strategy-making (Mintzberg, 1990; Popescu, 1965).

The main critiques of the episodic process of the configurational school include: (a) to configure is to distort so as to explain, but distortion by means of categorisation can be arbitrary, (b) there is a lack of profundity of the work of the configurational school, and (c) the nuances of the messy world of strategy-making should not be ignored in that the richest forms of strategy-making can exist on the edges – i.e. outside of the pat categories, or beyond configuration (Mintzberg, 1989).

It can be concluded that the episodic processists have brought order to the messy world of strategy-making by functioning as lumpers (who assume away nuanced variability to the benefit of overall clustering, ignoring outliers in favour of central tendencies, and thus seeing the world in terms of simple, integrated categories) - rather than splitters, who follow the principle of economy by isolating variables, laying them out along continuous scales, and then exploring the relationships between their pairs (Darwin, 1964). It has also been argued that strategy-making involves quantum change - the changing of many elements in coalignment in sharp contrast to piecemeal change – which can be very rapid or revolutionary rather than incremental although it really depends on how closely one looks and where (Miller and Friesen, 1982; Miller, 1982). However, the message concerning the episodic process is clear: organizations bide their time until they incrementally learn where to go and then they do leap in revolutionary fashion (Abell and Hammond, 1979), and as a result, organizations may witness long periods of the maintenance of a given configuration, and then become punctuated by brief periods of
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14.2.6 Organizational strategy: the ‘W’ confusions

For over half a century, there have been numerous debates among both practitioners and academics on strategy (e.g. Chandler, 1962; Sterner, 1979; Porter, 1980; Mintzberg, 1990, 1994b; Ansoff, 1991, 1994; Campbell and Alexander, 1997). However, most debates about strategic management have been ended up with nothing more than a bunch of new business concepts - such as competence, portfolio, competitive advantage, and stages - which might have at best enriched the literature of strategy management. It becomes evident that those debates over the years have hardly solved any of the rooted problems, but they have instead created a dozen of confusions for organizational strategies.

A quick browse at Table 14-3 suggests that, apparently, there are at least twelve major ‘W’ confusions worthy of attention, which can be mainly and directly linked to the when, where, who and which (ways) paradigms, viz., the confusions of purpose, thinking, structure, style, source, complexity, choice, genericness, collectiveness, integration, change, and control.

The confusions of purpose reflect why organizations need strategy: some organizations pursue strategy for consistency via the mental, ideological, or passive process; some organizations pursue strategies to achieve progress via the visionary or process; and others pursue strategies to reconcile conflicting forces in order to achieve a balanced cycle of convergence and divergence via the formal, emergent or episodic process.

The confusions of thinking stand for how much strategic thinking organizations need: the mental processists claim that strategists overwhelmingly need thinking so as to promote inspiration and insights; the conceptual, formal, and analytical processists admit that thinking remains necessary; the power and ideological processists claim that strategists can benefit from strategic thinking; the emergent processists prefer little thinking but more acting; and, the passive processists claim that strategic thinking is unnecessary.

The confusions of style reflect where the power is generated: the conceptual and formal processists admit that organizational strategy powers from rationalizers; the mental processists prefer human cognition, the visionary processists prefer individualists such as innovators; the emergent processists claim that power comes from demystifiers; the passive processists argue that strategy powers from splitters; and, the episodic processists declare that organizational power comes from lumpers.

The confusions of structure reflect how strategies are realized or implemented: the conceptual, formal, and analytical processists tend to believe that ‘structure follows strategy’; the visionary, ideological, and power processists appear to believe that ‘strategy follows structure’; the mental processists may claim that there is no relationship between strategy and structure; and the passive and episodic processists might claim that strategy and structure remain inextricably reciprocal so that ‘strategy may follow structure and structure may follow strategy’. 

multifaced and concerted transition to a new configuration (Miller and Mintzberg, 1984).
The confusions of source represent where new strategies could come from: organizations can develop their strategies by doing via the emergent process, by thinking via conceptual or visionary process, by programming via formal process, by calculating via analytical process, by disputing via power process, and by useless waiting via passive process.

The confusions of complexity stand for how complex a good strategy should be: while the conceptual, formal, and analytical processes demand that strategy be simple; the visionary process requires that strategy remains simple but dynamic; the emergent process demands that strategy be complex; other processes are expected to be in between simple and complex.

The confusions of choice represent how much choice organizations have to make strategy: the passive processists claim that strategic choice belongs to the environment which is dominated by uncertainty and literately organizational strategists have no choice; the mental and ideological processists claim that every choice can be possibly obtained; the formal, analytical, and power processists claim that much choice can be smartly plucked; the emergent processists claim that choice correlates to learning over time; and, the conceptual and visionary processists maintain that strategists have every possible choice.

The confusions of genericness stand for how generic a good strategy should be: while the analytical processists regard strategies as very generic; the passive and power processists (macro) regard strategies as somewhat generic; and, the conceptual, visionary and ideological processists consider strategies as unique.

The confusions of collectiveness represent who the strategists or actors are: while the conceptual and visionary processes declare that strategy is championed by single actors; the mental, power, and ideological processes demand that strategy is co-championed by more than one actor; and, the passive, formal, analytical and mental processes maintain that strategy is championed by the environmental forces, some techniques, certain analyses, or biological brain, respectively.

The confusions of integration represent how tightly a good strategy should be integrated: the analytical, power, formal, and emergent processists are in favour of loose integration, and the visionary, ideological and conceptual processists prefer tight integration. It also represents the ways by which a good strategy should be integrated: cognition and vision can be mentally integrated, culture can be normatively integrated, and mutual adjustment can be collectively integrated.

The confusions of change reflect how frequently strategy should change: the formal process prefers concurrent change; the power process prefers frequent change whenever new challenge arises; the emergent process prefers constant change; the ideological and mental processes prefers rare change; and, the passive process prefers no change at all.

The confusions of control reflect how much control organizations should exert on their strategy-making: the conceptual, formal, analytical, and perhaps visionary processists prefer aggressive control; the mental processists doubt about the role of control in strategy-making; the emergent
processists disfavour deliberate control but promote emergent control; the power processists
dismiss collective control in favour of individualists' control; the episodic processists want a
balanced control; and the passive processists prefer no control at all.

To combine the above confusions one can refer to a general type of confusion or meta-confusion,
that is, the confusions of paradigms: like the Utz laws of computer programming in which
programming leads to programmes which in turn lead to further programming which might need
new computing languages, the process of strategy-making changes the things to be strategized,
including the paradigm upon which strategy-making is based. When one confusion (e.g. control)
is disentangled, that means only that one has another confusion on hand which demands a new
set of dimensions. That is, strategists pass from confusions to confusions while disentangling
confusions after confusions.

Feasibly, to solve a problem by means of expanding its narrowness may remain practical to
solve immediate problems, but self-expanding does not solve all of the problems in the final
sense; sometimes it can prove useful to contract the narrownesses of a problem so as to
formulate principles to help solve future problems, although contracting can be less exiting or
even discouraging. That is, organizational strategists have to get beyond the narrowness of each
possible process and to know how it lives its life. Moreover, it seems justifiable that each
process of the strategy-making (i.e. conceptual, formal, analytical, visionary, emergent, mental,
passive, ideological, power, or episodic) has its own grounds, and each can be both right and
wrong, appropriate or inappropriate, valuable or useless, when the fundamental dimensions of
strategy are jointly consulted - including the content (i.e. What is the organizational strategy?),
the process (i.e. What are the ways to get organizational strategy formed?), and the context (i.e.
What conditions the strategy?).

Perhaps a better way to deal with the over-heated debates about the states of a particular
strategy-making process (e.g. right or wrong, appropriate or inappropriate, and valuable or
useless), is to solve the 'W' confusions (Figure 14-3) through direct consultation with first
principles - the principle of economy - so that to produce certain useful meta-principles, by
persuading organizational strategists,

(a) to forget at least for a while about the 'what' and 'which' paradigm which frequently evokes
the profundity of strategy-making (e.g. what is strategy and which is the best process) in that
humans can not really appreciate a new paradigm by using the vocabulary of an old
paradigm - the principle of uncertainty;

(b) to delay at least for a short period the exploration of the 'whether' and 'why' paradigm
which usually provokes extreme but too soon answers (e.g. whether a particular process is
valuable and why is it valuable?) in that humans can not fully comprehend a to-be-
generalized paradigm by staying within a narrowly specified paradigm - the principle of
complexity; but

(c) to concentrate at least for quite a while on the 'when', 'who', 'where', and 'which ways'
(how) paradigm which normally expects pragmatic answers (e.g. when is a particular process
applicable, who is the actor, where does it fit best, and in which way can it be satisfactorily implemented?) in that human beings can not always afford just to think and act, and we have to make sense of both thoughts and actions in a purposively controlled way so as to end confusions and unify such scarce resources like capital, effort, time, knowledge and information — the principle of unity.

Figure 14-3: Strategy-making as ‘W’ confusions

<table>
<thead>
<tr>
<th>Which</th>
<th>What</th>
<th>Who</th>
<th>When</th>
<th>Where</th>
<th>Which way</th>
<th>Whether</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Paradigmatic dilemmas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style</td>
<td>Control</td>
<td>Choice</td>
<td>Complexity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td>Change</td>
<td>Purpose</td>
<td>Integration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collectiveness</td>
<td>Thinking</td>
<td>Structure</td>
<td>Genericness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14.3 The aspects of control

According to Honby (1995), the word control enjoys two dimensions: the noun and the verb. The noun dimension remains a content one of a state, condition, authority, ability, measure of power, influence, performance, and the like; and it concerns, among other things, authority, ability, management, restriction, standards of comparison, means of regulation, and places from which orders are issued or checks are made. The verb dimension remains a processual one of powering, authorising, regulating, limiting, or the like; and it concerns, inter alia, checking, testing, verifying, exercising restraints, directing influence, and reducing the incidence of adverse situations. This suggests that control in the full organizational context is bound to embrace multiple dimensions, viz., it is coming more and more to mean information-control (e.g. facts and knowledge) rather than man-control, and the essence of control in organizations is coming more and more to mean the co-existence of many controls rather than one (or a few) super-imposed control(s).

14.3.1 Control in organizations: the evolving concepts

Control as a concept has existed since organized effort began, and the concept of control has evolved in accordance with the evolution of management thought. The concepts of control deeply reflect varying premises (complementary and/or contradictory) of the controllers who have been intellectually influenced by many distinctive thinkers at different times of the history.

In the light of the Chinese wisdom, for example, while Sunzi (who lived in around 600 B.C.) considers control in organizations as calculations with lengthy deliberations, sound plans and heavy interests in reward and incentives to conquer the controlled in the line of marshalling organizations into subdivisions, gradations of rank among officers, and material signals such as gongs and flags for communications (Sunzi, 1992); Confucius (who lived in about 550 B.C.) regards control as cultivation and improvement of the moral nature of people so that cooperation
can be secured in any organization at any time throughout the history of the humankind (Confucius, 1926, 1997; Hahn and Waterhouse, 1972) – what an interesting conflict or confusion concerning the basis of control!

History has witnessed that the basis of control has been shiftily parading, or more precisely, waning and waxing in conjunction with periods of contextual contraction and expansion. It has been held (e.g. Weber, 1964; Durkheim, 1949; Wren, 1987) that this parade can be ascribable to the fundamental tension between Gemeinschaft in which people share common identity and enjoy being bound by common values and traditions (Weber, 1964) and Gesellschaft in which people partake of a way of life featured by competition, individualism and calculative self-interest (Durkheim, 1949).

This suggests that there exists such a temporarily sustainable but essentially inevitable shift over time of the language, tool, mechanism, and preference for control that whatever dresses and shoulders control such as particular strategies remains historically and contextually located (Table 14-1, which is depicted to extend Barley and Kunda’s (1992) analysis on the link between managerial ideologies and bases of control in terms of Etzioni’s (1961) interpretations of organizations in the operational context).

<table>
<thead>
<tr>
<th>Era of ascent</th>
<th>Managerial ideology</th>
<th>Major basis of control</th>
<th>Surging imperatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before 1870s</td>
<td>Laissez-faire capitalism / Enlightenment</td>
<td>Coercive, plus little normative</td>
<td>Management of ‘harder’ resources (e.g. raw materials &amp; land)</td>
</tr>
<tr>
<td>1870s - 1900s</td>
<td>Industrial betterment</td>
<td>Normative, plus little utilitarian</td>
<td>Management of labour</td>
</tr>
<tr>
<td>1900s - 1920s</td>
<td>Scientific management</td>
<td>Utilitarian</td>
<td>Management of capital</td>
</tr>
<tr>
<td>1920s - 1950s</td>
<td>Welfare capitalism / human relations</td>
<td>Normative, plus some utilitarian</td>
<td>Management of labour</td>
</tr>
<tr>
<td>1950s - 1980s</td>
<td>Systems rationalism</td>
<td>Utilitarian</td>
<td>Management of capital &amp; information</td>
</tr>
<tr>
<td>1980s - 1990s</td>
<td>Organizational culture</td>
<td>Normative</td>
<td>Management of culture</td>
</tr>
<tr>
<td>1990s &amp; beyond</td>
<td>Post-modernism / informalization</td>
<td>Normative, plus some utilitarian</td>
<td>Management of ‘softer’ resources (e.g. information and knowledge)</td>
</tr>
</tbody>
</table>

In the era of enlightenment and industrial betterment, the concept of control in organizations stresses unilateral command and rigid discipline in view of the low esteem with which people were held. Control is achieved not only by means of power of dogma, military regimen, and state fiat, but also by means of specialization of labour (Smith, 1952) as well as standardisation of parts; and it is since then that accounting emerges to be a control mechanism in the Western world to provide information for decision-making though still remaining in a relatively gross state without any sophisticated accounting methods. For example, James Montgomery, who wrote in 1832 what was most probably the first Western management text, conceives the control function as ‘avoiding unnecessary severity’ in disciplining subordinates as well as ‘being alert to prevent rather than check faults after they have taken place’ (Baughman, 1968).

In the scientific management era, the concept of control in organizations stresses accurate standards and advancements in measuring times and costs, and the focus of control lies in the varying facets of production function such as materials and schedules by means of graphic aids.
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(e.g. Gantt, 1919) as well as the internalization of goals (e.g. Gantt, 1919; Taylor, 1967) as a control device. For example, Taylor (1967) proposes that costs become an integral part of daily planning and control, not just a subject for analysis after a long period of time has passed. Gantt (1919) views that the essential element in any control situation is time and suggests that a bar chart showing how work is routed and scheduled through various operations to its completion can aid control in organizations. Donaldson Brown’s famous ‘DuPont Chart System’ (Dale, 1960) portrays the relative performance of various departments to control by refining the return on investment concept into a device for measuring and comparing the performance of various departments rather than just measuring overall return on investment for the organization as a whole. Fayol (1949) conceives that control consist of ‘verifying whether everything occurs in conformity with the plan adopted, the instructions issued, and the principles established’, that control can be applied to people, objects, and activities, that control permeates all elements of the undertaking including personnel, execution of plans, quality of work, financial activities, security, and information, that effective control is based upon prompt action, control has an integrative effort on the other four elements of management (i.e. planning, organizing, command and coordination) in that it stimulates better planning, simplifies and strengthens the organization, enhances the efficiency of command and facilitates coordination.

During the social man era, the concept of control in organizations stresses the need to modify any stringent use of external controls, to open communications channels, to develop interpersonal skills of the controlling and the controlled, and to recognize the importance of group influences on the task of the controllers. This era of social man leads to a softening of any rigorous notions of external control and signals that control is to become more of a democratic, internalized commitment to the inducements offered by management and the social skills the controllers have displayed. For example, Davis (1951) conceives control as ‘the function of constraining and regulating activities that enter into the accomplishment of an objective’. Follett (1987) proposes a new philosophy of control that control is fact-control rather than man-control and correlated control rather than a super-imposed control, and maintains that each control situation generates its own control because it is the facts of the situation and the interweaving of the many groups in the situation that determines appropriate behaviour.

During the modern era (i.e. that of systems rationalism and of organizational culture), control in organizations is a twofold concept. The concept of control stresses the role of feedback in managerial control as a result of advancing technologies such as IT, CPM/PERT, CAD, and artificial intelligence. Control activities become more centralized for efficiency’s sake and thus less flexible in meeting local needs and in allowing for individual discretion. For example, the Critical Path Method (CPM) sees control as a network of activities, the relationship and interactions of which can be graphed in terms of paths to a given completion date, and to control is to focus managerial attention on a critical path in an effort to keep the total task on course (Archibald and Villoria, 1967). But, meanwhile, the concept of control in organizations also stresses the role of ‘art’ over the technique and the tool approach to control. For example, Drucker (1954) conceives control as self-control deriving from the inside rather than from
outside and argues that it is the objective needs of the tasks rather than orders from above that effect control. Peters and Waterman (1982) consider control as cultural and argue that control should have simultaneous ‘loose-tight’ properties of keeping on target but without stifling innovation. This modern era represents both the institutionalization - with a proliferation of rules, forms, procedures, and other accoutrements - of control function which has been enhanced by modern technological developments, and the individualization - with a proliferation of creativity, norms, and competence - which has been enhanced by modern development in arts and other disciplines such as sociology and biology. Although modern concepts of control can contribute to efficiency in resource utilization, they can also bring forth a strain between individuals and the systems as well as a danger of losing sight of the goal of controlling and the means of controlling.

In the post-modern era the concept of control in organizations stresses the role of control in the organizational context featuring flexible specialization in organization due to increasing turbulence and uncertainty (Gergen, 1992) and relative de-differentiation in production due to increasing proliferation of differentiated consumption (Clegg, 1990). This post-modernity era challenges the view that control concepts should be used as bureaucratic devices to extend the mastery of mankind over nature. Post-modern control in essence calls for the search of knowledge-oriented indirect and internalized controls including ideological ones (Heydebrand, 1989). For example, Simons (1995) conceives control as believing in the innate potential of humans to innovate and add value and argues that control consists of four levels (i.e. belief systems, boundary systems, diagnostic control systems, and interactive control systems) which set in motion powerful forces which reinforce one another.

In the future (hopefully from the early half of the 21st century), the concept of control in organizations might stress the role of proper orderliness, proper harmony, proper integration, and proper reorganization in the full organizational context, and it might re-emphasize the preservation of human values which have been human’s request for a long, long time. To ensure controlled performance, controllership, might mean proper orderliness achieved through authority in terms of constructive, if not completely elite, experience and knowledge (perhaps, forming a new leadership elite envisioned by Sunzi (1992) and Gantt (1919)), or mean proper harmony in organizational life through a pleasing and productive arrangement of parts within the whole which would satisfy the requirements of people and the organization (perhaps forming incongruency-reducing organizations envisioned by Laozi (1959) and Argyris (1957)), or mean proper integrative arrangement of parts and whole in terms of interactive experience and collective knowledge (perhaps, forming a collective society of experiencing citizens envisioned by Confucius (1926) and Follett (1940)), or mean proper creative reorganization (which resides in the proper arrangement of formal and informal relations) of the organization (which has not yet yielded enough convincing results to justify its endurance) in terms of creative (if not virtual) experience and corrective (if not destructive) knowledge (perhaps, forming professions pursuing virtuous properness envisioned by Zhang (1988) and Mooney and Reiley (1931)). Only time knows!
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In short, the evolution of the concepts of control can be portrayed as developing along a set of continuums featuring contextual expanding and/or contracting, which may, in a practical sense (please see Figure 14-3), contain, as the polarised ends of each continuum, centralization & decentralization (in respect to structure?), formalization & informalization (in respect to style?), conservatism & creationism (in respect to thinking?), mechanization & humanization (in respect to implementation?), institutionalization & personalization (in respect to collectiveness?), generalization & specialization (in respect to complexity?), externalization & internalization (in respect to source?), localization or globalization (in respect to integration?), singuralization or multiplication (in respect to choice?), logicalization & sensitization (in respect to decision-making), exploitation & contribution (in respect to purpose?), simplification & sophistication (in respect to design), immaturity & maturity (in respect to behaviour?), and naturalization & nurturization (in respect to genericness?), to name but a few. Thus, partly due to the discrete but somewhat dialectical nature of control concepts, and partly due to the influence of the many distinguished philosophers, eminent practitioners and prolific organization theorists, it appears unsurprising that there exists a huge body of somewhat constructive (even, perhaps sometimes, conflicting, if not completely contradictory) literature on the meaning, the perspective, the task, the theory, the problem, and the controllership in regard to control in organizations.

14.3.2 Control in organizations: the differing meanings

Historically speaking, organizational theorists have never been restrained about defining the concept of control in organizations, and this, perhaps, explains why the control literature is so discrete. For example, Follett (1987) defines control as 'a self-generating process, as the interweaving experience of all those who are performing a functional part of the activity under consideration'; Hostede (1968) views control within an organizational system as 'the process by which one element (person, group, machine, institution or norm) intentionally affects the action of another element'; Merchant (1985) views control as an involvement 'to help ensure the proper behaviours of people in the organization'; Stacey (1990) suggests that control remains the 'coherent, rather than haphazard, ways of dealing with change'; and O'Reilly and Chatman (1996) hold that 'control comes from the knowledge that someone who matters to us is paying close attention to what we are doing and will tell us if our behavior is appropriate or inappropriate'.

Conceivably, the different meanings of control in organizations can be catalogued into three general groups: namely, positive, negative and neutral. Control in positive sense indicates order, reliability, stability and predictability, and the absence of control implies chaos, disorder, uncertainty and anarchy. Control in the negative sense implies domination, coercion, exploitation and manipulation, and the absence of control implies freedom, individuality, discretion, responsibility and autonomy. Control may also seem neutral (Salaman, 1981): control is demanded by the neutral tasks (e.g. socialists' value creation, or capitalists' profit-maximization) in hand attainable through the application of sciences, technologies and arts, which in turn is for the benefits of society at large, indeed for the individuals themselves (e.g.
citizens, employees, suppliers, financiers, or customers) - outside or inside the specific organization which exercises it.

14.3.3 Control in organizations: the specific views

It remains evident that control in organizations involves considerable complexity and is confined to the vagaries of the nature of organizations. This suggests that the domains of control may differ significantly due to the varying sets of circumstances in which an organization operates.

For example, Etzioni (1961) has better exploited this perspective than anyone else by indicating three ideal types of organization, namely, normative, utilitarian and coercive: normative organizations exist where an overall organizational goal is shared by most participants; utilitarian organizations exist where the goals of participants can become irrelevant to the activities of the organization and participants’ involvement can remain contractual or instrumental; and coercive organizations exist where the values of the participants are opposed to those of the ruling coalition within it and the unwilling participants are powered over by the coalition.

This suggests that the mechanisms of control in organizations may differ significantly according to their normative, utilitarian or coercive nature. To make things more complicated but more practical, varying forms of involvement (i.e. normative, utilitarian and coercive) can even co-exist in the same organization spreading through different hierarchical levels; for example, it is not very difficult for practitioners to find that such co-relations exist that while the top level of management commits to normative involvement, the middle level of management to coercive involvement, and the lower level of management to instrumental or contractual.

This further suggests that control in organizations can be and should be viewed from different angles, depending on the dominant set (e.g. economic, psychological, or political) of circumstances which dictate the organization. For example, in the eyes of the economists, control becomes an economically necessary activity, and if control breaks down, everything gets out of hand with resources being wasted or spent for virtual work. In the eyes of the behaviourists, control remains a psychologically necessary activity for creating stable and predictable work conditions in which people can function effectively. In the eyes of the politicians, control is a politically necessary means by which organizations can perpetuate inequalities of resources in organizations or sustain competitive advantage in the competitive arena.

14.3.4 Control in organizations: the fundamental tasks

One of the successful methods to study control in organizations is to link the study to the specific tasks of control in organizations. It has been argued (Thompson, 1967), although opposite to Cyert and March’s (1963) assertion that organizations do not have goals, that the specific tasks of control in organizations involve the ‘satisficing’ (Simon, 1957) of three goals:
(a) the establishment of purpose, (b) the pursuit of effectiveness, and (c) the struggle for efficiency.

The purpose of organization includes survival which serves as the overall minimum purpose of any organization; and the purpose of organization might be stable over long periods of time or contingent upon changes both inside or outside the organization. Effectiveness becomes the measure of the achievement of purpose; it can remain weaker in the long run than in the short run - or vice versa; and it may maintain fuzzier in some situations. Efficiency is the relationship of outputs to given sets of inputs; it can be higher or lower dependent upon the inputs and outputs involved in the operations. It has been argued that management is "the profession of control" (Beer, 1966). It has been further argued (Follett, 1987), from the vantage point that control remains the objective of organization, that control is organization; and therefore it can be argued that the tasks of organization are the tasks of control.

Figure 14-4: The tasks of control in organizations

Figure 14-4 is depicted to illustrate this reciprocal nature of control in relation to all factors in a control situation - a scenery involving both external and internal factors that shape the society as it is - which consists of purpose space, effectiveness space, efficiency space, and control space. The purpose space is represented by specific purpose-oriented goal states; the effectiveness space is represented by path constraints on specific outcome-oriented goal states; the efficiency space is represented by path constraints on specific process-oriented goal states; and the control space remains the specific arena where control takes place and is equipped with all possible control states (i.e. inputs, processes, and outputs).

Control, in this logic, manifests itself as a sequence of operations leading to the goal states and conforms to the path constraints: the inputs signal the initial state at which control begins, the purpose-related goal states maintains the end state to be achieved by control, a set of control operators - e.g. people, events, things, and change, in the light of Russell's (1912) theory of causation - define allowable moves within the control space, and two sets of path constraints...
exert influence on what counts as a winning control.

14.3.5 Control in organizations: the contending theories

Although the study of control in organizations involves considerable complexity and is confined to the vagaries of the nature of organizations and human behaviour, it still seems very plausible, in the light of Figure 14-4, to theorize control by exploiting the horizontal co-relations between control states, or the vertical co-relations within the control situation. In fact, control in organizations has remained very open to analysis and has attracted many approaches tempting to theorize control. Among the most appealing approaches to control in organizations are: (a) cybernetic, (b) systemic, (c) organizational, (d) economic, (e) anthropological, (f) political, and (g) the contingency.

14.3.5.1 The cybernetic approaches to control

The cyberneticians have been concerned with the common rather than specific processes of communication and control in people and machines employed in an attempt to attain desirable objectives and have attempted to adapt the self-regulating principles found in the human brain to organizations so as to derive general principles of control which can be applied in different control situations (e.g. Beer, 1966, 1972). In general, the cybernetic control remains a logical and abstract approach which gives powerful insights into the operation of control, though lacking specificity as well as proactiveness.  

Cybernetic control emphasizes deviations between actual process outputs and those which are desired, and focuses on negative feedback in contention to explain much apparently purposive and adaptive behaviour; thus, the control process remains a process of error reduction under control conditions, and the less change (i.e. deviation) there is between the realized state and the desired state of the control process, the more control has achieved. Technically speaking, cybernetic control is achieved either by error - i.e. feedback (or reactive) control - or by what gives rise to error - i.e. feedforward (or anticipatory) control.

Feedback control

*Feedback control* waits for the occurrence of an error and takes action to counteract it, and control operation follows the route (from step 0 to step 5 for a closed loop) as shown in Figure 14-5. The essence of feedback control is to ensure self-regulation so as to maintain a state of equilibrium among key variables of the process outputs even when there exist environmental disturbances.

Among principles for the proper functioning of feedback control are (Cushing, 1982; Wilson, 1995): (a) the benefits of control should be at least as great as the costs of developing, installing, operating and improving it, (b) variances, once measured, should be circulated promptly to decision-makers so that quick control actions can be facilitated, (c) feedback reports should be simple, straight forward and highlight all control factors which require decision-makers' attention, and (d) the feedback systems should be neatly integrated with varying aspects of
organization (e.g. structure and leadership) other than control.

Feedforward control

*Feedforward control* predicts the likely occurrence of an error and takes action to prevent it occurring, and the operation of control follows the route (from step 0 to step 5 for a closed-loop)\(^3\) as shown in Figure 14-6. Successful feedforward control requires good understanding of the way in which organizations function (i.e. the predictability of the co-relations between inputs and outputs).

Among useful guidelines for developing feedforward control are (Wilson, 1995): (a) feedforward control should involve thorough planning and analysis vis-à-vis the links among inputs, process and outputs, (b) feedforward control process should be dynamic so that emergent influences on outputs can be promptly included, (c) data on significant variables should be
regularly gathered and evaluated in order to assess their likely influence on future outcomes, and (d) feedforward control demands that control actions focus on preventing up-to-come errors rather than correcting past errors.

In comparison, however, although feedback control (Figure 14-5) has been believed (e.g. Ashby, 1956) to be much less advantageous than the feedforward control (Figure 14-6), the best approach to cybernetic control is perhaps to use both feedback and feedforward control as complements because in any control situation few organizations can achieve their purposes both effectively and efficiently for any length of time if only one type of control is in use. 

14.3.5.2 The systematic approaches to control

Systematic theories of control pinpoint the view that human and machine behaviour can be better explained by studying the interrelationship of parts rather than the nature of the parts themselves, and thus stresses the importance of emergent properties which are characteristic of the level of complexity being studied and which may not have significant or non-forgettable meaning at lower levels of analysis. Seemingly, there are two types of systematic control: the first refers to hard systems which involves relatively clear objectives and decision processes with quantitative measures of performance; the second refers to soft systems which involves vague and ambiguous objectives and ill-defined or irrational decision processes with at best qualitative measures of performance (Checkland, 1981).

Most control systems theories (e.g. Beer, 1972; Buckley, 1968; Boulding, 1956) are derived at a relatively low level of analyses which may be arranged in a hierarchy, and the attempts are then made to transfer each of them to a much higher level of analyses with probable adverse consequences in terms of applicability. For example, Beer (1972) proposes that the human brain and nervous system can serve as a model for organizational control, and identifies five levels of control as depicted in Figure 14-7, ranging from the transformation processes required by the whole system and the maintenance of internal stability, to the maintenance of dynamic equilibrium with the external world, and to the self-conscious development of goals.

In general, systems approaches to control provides a means by which real-world control problems can be dealt with; but it does not provide any theoretical basis for the study of control in organizations. It seems evident that the application of systems thinking to the study of control
in organizations raises more questions than it answers; but it can provide a useful countervailing force in developing more comprehensive theories of control.

Figure 14-8 is depicted to describe systematic control, the process of which can be regarded as one of appreciation – i.e. the development of rich and insightful ways of viewing real-world situations (Vickers, 1965). It involves conducting a deliberate (perhaps non-systematic) analysis aiming to uncover the rich complexity of the systems; it then aims at a root definition (i.e. a fundamental statement of the purpose from first principles) of the basic nature of the system thought to be relevant to the problem situation; and finally it constructs a conceptual model of the system using the minimum necessary system which can help achieve the root definition.

Moreover, systems ideas have found their increasing influence on other disciplines related to the study of control in organizations such as social, political, ideological, economic, and technical systems movement in organization theory and have thus contributed much to the development and / or the refinement of such concepts (old and new) like social control, self control, political control, insidious control, emergent control, and economic control.

14.3.5.3 Organizational approaches to control

Organizational approaches to control focus on the behavioural side of control by locating control in the context of social systems (Berry et al, 1995), and emphasize the behavioural information aspects of control under the premise that control can be accomplished through performance evaluation (Dalton, 1971). Control, as being reflected in the social perspectives and patterns of social interactions (Hopwood, 1974; Merchant, 1985), is thus a property of the relationship between controllers and the potentially controlled. Organizational approaches to control stress the role of minimizing the divergence of behavioural preferences among the members of an organization under the assumption that organizational members cooperate in the achievement of organizational goals in that the members understand and internalize organizational goals (e.g.
Ouchi, 1979; Hopwood, 1974). It has been argued among organization theorists (e.g. Hopwood, 1974; Thompson, 1967) that there exists classifiable controls of fundamental importance to any organizational context, and they can be generally classified into three types (Hopwood, 1974): administrative controls, social controls, and self controls (Figure 14-9).

![Figure 14-9: Organizational approaches to control: an exemplary interaction between controls](Source: Adapted from Hopwood, 1974)

Apparently, as can be seen in Figure 14-9, the interaction between administrative controls, social controls, and self-controls has a significant bearing on the control situation in an organization: administrative controls become socially constructed in the sense that they bear various assumptions, beliefs and values encoded into their design and mode of operation; the impact of administrative controls upon the members - in relation to whose behaviour they are supposed to control - becomes further affected since individuals' behaviour may be greatly influenced by the various social pressures which occur in the organization; administrative and social controls get implemented ultimately through the agency of self-controlled individuals (Johnson and Gill, 1993).

**The role of administrative controls**

Administrative controls refer to mechanisms, techniques and processes which are consciously and purposefully designed (presumably by particular coalitions of members such as powerful or interested parties) to try to control the behaviours of other individuals, groups and organizations (Johnson and Gill, 1993). It has been argued (Mintzberg, 1979) that administrative control can involve at least three major mechanisms (Figure 14-10): (a) rules and procedures which are aimed to standardize work processes (Weber, 1964), (b) output control (e.g. budgets, feedback, feedforward, and MBO) which is aimed to standardize work output so as to ensure control while leaving the everyday accomplishment of tasks to members' judgment and discretion (Ouchi, 1979), and (c) internalized objectives (Anthony, 1977) - by means of pre-emptive recruitment / selection (Armstrong, 1988) or restructuring of attitudes and beliefs (Wood, 1986) - which are aimed to ensure that subordinates internalize the values, beliefs and attitudes supportive of the organization's goals and objectives pre-set by hierarchical superiors (Ouchi, 1979).

In general, varying forms of administrative control distinguish themselves from one another in terms of the task aspects which organizational members intend to restrict or influence; in practice, however,
administrative attempts to control organizational members' behaviour at work may involve more than one type of administrative control.40

The role of social controls

Social controls essentially refer to the process through which compliance, obedience and conformity to predetermined standards of behaviour are spontaneously rather than consciously or purposively achieved through interpersonal and group processes (Huczynski and Buchanan, 1991). This suggests that - according to Mead's (1934) notion that humans experience themselves as such, not directly, but only indirectly, from the particular standpoints of other individual members of the same social group, or from the generalized standpoint of the social group as a whole to which they belong - social controls, in the main, involve the informal socialization processes by which members of an organization induct each other into membership of particular cultures through reflections of the standpoints of particular kinds of people (or reference group) who are, presumably, significant or important in the organizational members' lives (van Maanen, 1976; Hopwood, 1974). Seemingly, a reference group such as superiors in organizations plays a role as a source of or reference to ways of thinking, feeling, perceiving, and evaluating and can eventually help orientate others' conduct, although reference groups do not necessarily transit norms and values which agree with those of the particular cultures adhered to by hierarchically superior coalitions of members (Turner, 1972). This implies that, through establishing, valuing, and enjoying social relationships with other organizational members (hierarchical peers, superiors or subordinates), some members of an organization can become socialized into accepting the particular norms and values dominant within that social network (Ouchi, 1980).

In brief, social controls mean 'getting right person for the job' or training and culture (Merchant, 1985); they emerge from the mundane everyday interactions of organizational members; as a kind of backdrop for action they are made up of the shared values, norms, and beliefs which are adhered to by group members; they can not only affect the operation of any administrative controls but they also can exert a direct influence on the ways by which administrative controls are designed in the first place. In practice, however, social controls can remain difficult to distinguish themselves from less obtrusive forms of administrative controls in that social controls and unobtrusive administrative controls (i.e. insidious controls), which affect human
behaviour and attitudes in ways (e.g. deceptive, elusive, and unresponsive) which do not involve the experience of being controlled or manipulated), can merge; besides, the motivations, expectations, and personal relationships of all the members of an organization can literally exert a significant effect on the outcome of the control processes.

It has been argued (Pfeffer, 1997) that among those major mechanisms of social control are (Figure 14-11): (i) rewards, incentives, sanctions, and surveillance, (ii) commitment and socialization, (iii) organizational culture, and (iv) leadership. Consider rewards, incentives, sanction and surveillance, research evidence seems persuasive that rewards (e.g. pay) have important symbolic and legitimating aspects (Wood, 1996), although the efficacy of financial incentives still remains substantially more equivocal (Besser, 1995); that organizational sanctions have a symbolic, public face to the controlled regardless of the (punitive or non-punitive) nature of the control strategies (Gavin et al, 1995; O'Reilly and Weitz, 1980); and that the rapid development of electronic monitoring capacity has undoubtedly enhanced the significance of surveillance in monitoring behaviour (Aiello and Svec, 1993).

As regards commitment and socialization, research evidence seems more persuasive that control premised in socialization and commitment processes remain quite effective: commitment resulting from a process of self-perception (Bem, 1972) and dissonance (Festinger, 1957) under the conditions of choice, publicness and explicitness (Salancik, 1977), can function as a form of internal control, which does not really rely on continuing surveillance and reward, thus remaining a more efficient as well as more effective means of coordinating behaviour (Simmon, 1991) despite the worry that commitment may also be a means of resistance to change or an irrational perseverance in behaviour (Staw, 1976, 1977; Brockner, 1992); and institutionalized commitment has obvious positive effects for organizations as well as individuals in that the socialization process when coupled with suitable tactics can produce less role stress and higher job satisfaction (Pascale, 1985; Ashforth and Saks, 1996; van Maanen and Schein, 1979).

Organizational cultures, though closely related to the idea of control through commitment and socialization, also exhibit distinct contribution to control in organizations; this is because control through the management of culture offers distinctive advantages over external control accomplished through rewards and sanction, although empirical evidence suggests that the relationship between strong culture and performance can be complex (Kotter and Heskett, 1992). With respect to leadership, it has been widely believed (e.g. Pfeffer, 1977; Calder, 1971) that
leadership effects are attributed, particularly in uncertain situations, to achieve a feeling of mastery or control; however, evidence (e.g. Eccles and Nohria, 1992) shows that control premised in managerial language is believed to become very effective (Peters, 1978). 54

The role of self controls

Self controls generally refer to controls which people exert over their own behaviour (Johnson and Gill, 1993) and entail controls which are derived from the inside rather than from outside the stricter in that it is the objective needs of the tasks rather than orders from hierarchical superiors or influences from peers that effect control (Drucker, 1954). It has been argued (Hopwood, 1974) that, for social and administrative controls to be effective, orders or influences on members' organizational behaviour have to be expressed through the actions and attitudes of the controller and the controlled; that the norms embodied in the administrative or social controls to be exerted have to operate as personal controls over individuals' attitudes and behaviour; and that the administrative and social controls to be exerted have to convey rewards the individual members actually value and desire. In essence, self controls derive from the conformity of members of an organization to the prescribed norms regarding (the behavioural aspects of) the inputs, processes and outputs of any operations, and this conformity of norms manifests itself by three possible forms which underpin three different forms of self control (Kelman, 1961): (i) compliance, (ii) identification, and (iii) internalization.

According to Kelman (1961), compliance refers to the mode of conforming behaviour adopted by an individual who is motivated by a desire to gain a reward or avoid a punishment; identification refers to the conforming response to social influence brought about by a desire of the individuals who are receiving the influence to be like the individuals who are exerting the influence; and internalization refers to the development of the internal moral imperatives of the individuals who are receiving influence in their perceptual world as they adopt the beliefs, norms, and values of the individuals who are exerting the influence.

Arguably, the processual nature of self control in practice may witness the involvement of different forms of self controls: as can be seen from Figure 14-12, the individuals may initially 'obey' external demands due to sanctions, and then, through daily social interactions of various kinds, emotional attachment develops and eventually leads to identification, and ultimately identification leads to internalization, all hugely dependent on, inter alia, the influencees' expectations on what is demanded and what can be achieved, and the influencees' motivations to commit themselves to the norms towards the conformity of norms such as the rewards on offer.

For example, individuals may perceive that certain kinds of demands have (or don't have) economically (or socially or politically) positive or negative valency; individuals may perceive that control remains the trade-off for their physiological, safety, social, ego-esteem or self-actualization needs. Figure 14-13 is depicted to demonstrate how expectations, motivations and perceptions jointly affect the performance obtained by those who are influenced.
In brief, practical control situations in any organization can only be understood and explained fully in terms of the interaction of administrative, social and self controls (please see Figure 14-9), and they can involve, from the systems vantage point, a variety of possible interrelationships between different types of control (please see Figures 14-10 & 14-11), various kinds of control operators (e.g. people who design the control space), changeable sets of tasks, and varying control spaces (please see Figure 14-7).

14.3.5.4 Economics approaches to control

Economics approaches to control have involved different interpretations: historically, control in the main stream analyses, influenced by Smith’s (1893) doctrine of the ‘invisible hand’ of the price system, has focused on exchanges between individuals acting through equilibrating markets and promoted the superiority of the market over hierarchy as a mode of optimal allocation of resources with the consequence that controls other than general equilibrium remain unnecessary (Bator, 1957); modern interpretations of control in favour of disequilibrium, inspired by Keynes’ (1936) critique that the ‘invisible hand’ could send the wrong signals, have spawned the view of ‘economics as a process’ which has promoted limited perspective (e.g. rational expectations) on control (Leijonhufvud, 1968); the more modern interpretations of control emerge from the ‘new institutionalist’ economics, which, based on the belief that
production function is not technologically determined, emphasizes the contractual perspectives and promotes the idea that controls other than general equilibrium theory remain necessary in that the production function is imperfectly specified as the result of informational asymmetries, bounded rationality, opportunitism, small numbers, atmosphere and other lacunae of the contractual world (Spicer and Ballew, 1983). However, it seems that economics approaches to control prevailing in the micro level theoretical economics / accounting literature (e.g. Meyers and Nicholas, 1984; Emery and Finnerty, 1997; Croutchley and Hansen, 1989) have mainly focused on agency theories (Seal, 1993; 1995).  

Agency theories consider an organization as a nexus of contracts and a legal myth (Jensen and Meckling, 1976), and argue that, with the traditional interest in contracting, organizations set for the optimal contract form for the ubiquitous control relationship in which some members of an organization, the principals, delegate work to others, the agents (Ross, 1973). Agency theories originally stem from Berle and Mean’s (1932) recognition that separation of ownership and control of modern corporations gives rise to the difficulty of controllers’ pursuit of the best interests of the owners beyond the minimum and legal requirements; modern agency theories are primarily based from Jensen and Meckling’s (1976) classic analysis on agency costs; and the more modern agency theories are derived from the refinement of Jensen and Meckling’s (1976) analysis by Fama (1980) and Fama and Jensen (1983).

Theoretically speaking, agency theories boast two distinguishable streams (Eisenhardt, 1989): (i) the positivist approach (e.g. Fama, 1980; Jensen, 1984) with its focus on the special case of relationships between enterprise owners and appointed managers, and (ii) the principal-agent approach (e.g. Harris and Raviv, 1978) with the intent to achieve a general theory of agency relationships covering a wide range of relationships between various principals and agents.

Practically speaking, however, agency theories essentially deal with the problem of moral hazard which arises either when information remains asymmetric (i.e. hidden information) or when the agent’s actions remain unobservable (i.e. hidden action), and this problem can deteriorate in the face of ex ante and ex post uncertainty (Arrow, 1985; Tiessen and Waterhouse, 1983). To tackle this, the principals have two control options (Eisenhardt, 1985) which directly contribute to two recognized forms of contracts – behaviour contract and outcome contract (Tiessen and Waterhouse, 1983). Figure 14-14 is depicted to illustrate the role (of control) of agency theories in providing measures and rewards such that members of organizations pursuing their own individual self-interests will also pursue the collective interests.

Seemingly, the principals can either reward the agents based on outcomes such as profitability although risking rewarding the agents in an unfair way in that good outcomes can occur despite poor efforts and poor outcomes can occur despite good efforts, or purchase information about the agents’ behaviours and then reward or punish those behaviours by means of purchasing surveillance mechanisms such as cost accounting measures, budgeting systems or additional layers of management.
The optional choice between the two options or contracts, perhaps, rests upon, as suggested by both Eisenhardt (1985) and Tiessen and Waterhouse (1983), the trade-off between the costs of measuring behaviour and the costs of measuring outcomes and transferring risk to the agents, bearing in mind that uncertainty plays a role in the choice of control strategy through its impact on risk sharing costs and that information systems play a role in maintaining behaviour control as an alternative to outcome control when information about the agents’ behaviour remains otherwise incomplete.
14.3.5.5 The anthropologic approaches to control

Anthropologic approaches to control have exclusively emphasised the importance of the cultures, ideologies, and values of both the controllers and the potentially controlled.\(^5^9\) Research evidence (e.g. Allaire and Firsiootu, 1984; Smirech, 1983) shows that control-relevant literatures on cultures, ideologies and values, seem to have a diverse nature: some perceive them as the proactive tools of the controller, some see them passively as constraining influences, and some with mixed feelings view them as spontaneous control devices.

**Cultural controls**

The anthropologic control in the line of *cultures* has been centring on three promising mechanisms towards cultural uniformity in organizations: integration, differentiation, and ambiguity (Martin and Meryerson, 1988).\(^6^0\) The use of cultural control as an integrating mechanism has been popularized by Peters and Waterman’s (1982) assertion on cultures that organizational culture remains a variable or contingency which can be manipulated in order to achieve organizational excellence; the thesis of this cultural approach lies in that the role of management is to promote appropriate culture from which control will naturally flow, resulting from internal self-control rather than externally imposed bureaucratic rules and regulations;\(^6^1\) and, seemingly, the control operator in this active approach to control consists of cultures (which has been conceived as things which can be imposed or encouraged by the controllers and the ability of the potentially controlled to develop their own culture or resist cultural control are simply assumed away).

On the other extreme end of the cultural control continuum is the view that culture remains a mechanism of differentiation: culture maintains a dynamic and symbolic element which needs to be taken account of but which cannot be determined externally (Dyer, 1984; Martin, 1992); this approach regards cultural control as both ineffective and inefficient in that cultures are more likely to act as a factor only to resist strategic change (Dyer, 1984); and, seemingly, the control operator consists of varying factors entailing people, things, change and events.

Cultures as the mechanism of ambiguity simply accepts that ambiguity is an integral and central part of organizational reality in which members of an organization agree on some viewpoints, disagree about some, and are ignorant of, or indifferent to, others (Martin and Meryerson, 1988); this approach regards cultural control as playing a mediating role such as ‘organization development’,\(^6^2\) though not necessarily the operational (e.g. instruments of administrative control) for the controllers; and, seemingly, the control operator in this vein consists of change only.\(^6^3\)

Consider organization development, for example, research on the organizational life-cycle (Schein, 1985; Deal and Kennedy, 1982) reveals that, cultural control at the founding stage may entail such powerful elements like (a) the things to which controllers pay attention, (b) controllers’ reactions to organizational crises, (c) role modelling and coaching, (d) criteria for allocating rewards and (e) criteria for recruitment, selection, promotion, and retirement (Schein,
1985), and that cultural control for organizations in mid-life might more often than less see flexible rather than ‘strong’, monolithic cultures (sometimes, perhaps, to the extent that cultural control simply means cultural change).

**Ideological controls**

Anthropologic control in the line of *ideologies* has been enriched by Brusson’s (1985) notion that actions are often promoted by ideologies - predetermined ideas about what is the appropriate way for individuals to proceed actions. This suggests that control in organizations differentiates between weak and strong consideration: strong ideologies indicates greater agreement on the way actions should proceed, and weak ideologies make actions less likely to proceed. This suggests that ideological control becomes plausible in that the alignment of the controllers’ ideology to that of the potentially controlled can facilitate easier control mechanisms required for the management, although ideological control may not necessarily be able to provide an insight of how to ideologically operationalize a control system.

**Clan controls**

Anthropologic control in the line of *values* can be richly reflected by the notion of ‘clan control’ (Ouchi, 1980) which refers to the social control exerted on individual members of an organization because they are part of a group and identify with the group and the common values of the group. Within an organization, according to Ouchi (1980), there are three organizational control mechanisms, namely, markets, bureaucracies and clans (Table 14-5). Market controls are achieved through price mechanisms under the umbrella of a shared norm of reciprocity embedded in trust; bureaucracy controls are achieved through formal rules under the umbrella of a shared norm of reciprocity embedded in honesty in addition to an agreement on the legitimate source of authority; while clan controls are implicitly achieved through traditions under the umbrella of a range of shared values and beliefs on the forms of proper behaviours, and of high level of commitment to those behaviours.

<table>
<thead>
<tr>
<th>Type of control</th>
<th>Social Requirements to operate</th>
<th>Informational requirements</th>
<th>Prime control techniques</th>
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<tbody>
<tr>
<td>Clan Economic</td>
<td>Norm of reciprocity,</td>
<td>Traditions</td>
<td>Rewards attached to displaying correct values including rituals and ceremonies,</td>
</tr>
<tr>
<td>Social Blood relationship</td>
<td>Legitimate authority, Share values &amp; beliefs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market</td>
<td>Norm of reciprocity</td>
<td>Prices</td>
<td>Output control</td>
</tr>
<tr>
<td>Bureaucracy</td>
<td>Norm of reciprocity,</td>
<td>Rules</td>
<td>Output control, behaviour control</td>
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<tr>
<td></td>
<td>legitimate authority</td>
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Clan controls can prove to be very effective on many occasions especially when the outputs are ambiguous and difficult to measure or behaviour controls are inappropriate, due to, say, the unknown transformation process (Ouchi, 1980). It has been argued (Alvesson and Lindkvist, 1993) that there are at least three types of clan control: economic, social, and blood relationship. The logic of economic clan controls lies in the beliefs that co-operative behaviour is a good way for an organization to achieve higher output which scores the organization’s financial equity and
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hopefully results in long term prosperity; the social clan controls are grounded on the emotional and social needs of the members of the organization to belong and communicate with each other as part of an organization; the blood relationship clan controls is based upon biological imperatives (i.e. family relationships). In brief, most, if not all, of modern organizations rely to some extent on clan controls, although a clan exists on the ground that there exists shared values and beliefs and organizational commitment.

14.3.5.6 The politics approaches to control

The politics approaches to control in organizations consider control as much more of a political rather than an economic or social act (Pettigrew, 1979): that is, control involves working within the political system and moulding it rather than seeking to ‘knock it into shape’ (Pfeffer, 1980). From the political perspective, control in organizations becomes necessary not only because of the efficiency inherent from the ‘division of labour’ (Taylor, 1967), but also because of the reciprocal and/or conflicting needs between the controllers and the controlled due to the inequalities of power between them (Marx, 1973).

Seemingly, ‘division of labour’ signifies central authority engaging in setting up reward and sanction systems, appointing leaders, and establishing cultures; but the conflicting needs and wants for task accomplishment as well as for individual benefits, demand less formal and less hierarchical ways of getting things done. Literally speaking, the formal line of control has been essentially linked to bureaucracy (Weber, 1958); while in the less formal (or informal) line of control, scholarly attention has heavily drawn upon power and influence (Follet, 1987), and negotiations among organizational participants (Pfeffer, 1997).

Bureaucracy as a control device

Political control in the line of bureaucracy suggests that the more systematic way for any large organization to achieve effective control is control by the office or position rather than by a person or patrimonial (Weber, 1958). It is believed (e.g. Weiss, 1983) that bureaucracy essentially remains an effective control construct to ease an organization’s transition from small-scale entrepreneurial to large-scale professional management. It has been argued (Weber, 1958) that bureaucratic control is exercised upon the basis of knowledge and control is achieved through structural relationships and/or the co-relations between authority and activity. Weber (1958) postulates three pure types of socially acceptable (i.e. legitimate) authority, namely, (a) rational-legal, (b) traditional, and (c) charismatic.

In rational-legal authority, which is based on ‘legality or the right of those elevated to authority to issue commands’(Henderson and Parsons, 1947), the obedience of the controlled in an organization is owed to the legally established hierarchy such as a strategic business unit, an office in the headquarter, or a sub-business, and control in terms of obedience to authority flows through established positions and/or ranks. In the case of traditional authority, which relies on ‘a belief in the sanctity of immemorial traditions and the legitimacy of the status of those exercising authority under them’(Henderson and Parsons, 1947), control is obtained through
those persons who occupy the traditionally sanctioned position of authority. In charismatic authority, which rests on 'devotion to the specific and exceptional sanctity, heroism, or exemplary character of individual persons' (Henderson and Parsons, 1947), the controllers enjoying 'the gift of grace' achieve control by virtue of the controllers' personal trust and belief in the controllers' powers and revelations (Weiss, 1983).

For the Weberians (e.g. Weber, 1958; Weiss, 1983; Henderson and Parsons, 1947), the rational-legal authority provides the basis for a bureaucracy which directly facilitates administrative controls, while charisma or tradition as authority might lay down foundations for self-control or social control respectively. As regard the controllers in the bureaucratic control space, there are technical competences in leaders who can lead by virtue of fact and not whim, and by ability and not favouritism. Among Weber's essential elements of bureaucratic control are: (a) a division of labour in which authority and responsibility are clearly and legitimately defined for both the controllers and the controlled, (b) the offices or positions are organized in a hierarchy of authority resulting in a chain of command or the scalar principle, (c) all organizational members are recruited or selected on the basis of merits or by virtue of training or education, and (d) the rules, disciplines, and procedures set for the controllers and the controlled apply in all cases (Henderson and Parson, 1947).

Power as a control device

Political control in the line of power and influence suggests that 'being in control' means the controllers are 'actively engaged in applying power' (Storey, 1983), and that to control in organizations is to exercise power by the controllers so as to funnel the controlled into the production or service operation processes (Johnson and Gill, 1993). In general, the literature on power with particular reference to control in organizations seems to suffer from ambiguous definitions and applications deriving from conflicting philosophical assumptions including the functional, radical and plural (Clegg, 1989).

The functional interpretation of power rests on the assumption that the exercise of power remains something which benefits an organization's whole membership (Parsons, 1951), and power in this sense becomes a generalized resource created by organizations for regulating social relations and therefore relates to the collective ability of all organizational members to maintain a social system by achieving their common objectives. This unitary approach to power suggests that control in organization bears a non-zero sum effect and becomes inextricably linked to bureaucracy. Thus, effective control drives directly from effective authority in the interests of all, and any conflicts can be explained in terms of various pathological causes (e.g. ignorance or stupidity) rather than the rational, natural, or inevitable (Fox, 1974), regardless of the hierarchical nature of power and the clash of the divisions of interest which characterize the modern world (Knights and Willmott, 1985).

The plural interpretation of power emphasizes the zero-sum nature of the exercise of the power-related control (i.e. control benefits one group at the expense of another), and considers conflicts
not as abnormal between the controllers and the potentially controlled so long as they are not so
great that they cannot be accommodated and harmonized through compromising procedures
(Fox, 1974). To pluralists (e.g. Pfeffer and Salancik, 1978), power becomes a medium through
which conflicts of interests are resolved as individuals with conflicting interests secure and
mobilise different power resources in their pursuit of sectional or self interests, and there exists a
balance of power between these conflicting parties so that no group of members can dominate
others continuously (i.e. countervailing power). This suggests that administrative controls in the
line of bureaucracy can not function effectively until proper attention has been paid to both the
controllers and the controlled (Dahl, 1961), and encourages the pluralist controllers to consider
the effects of power as well as the distribution of power resources.

For example, Dahl's (1957, 1961) view on power based upon the power-effects research
suggests that control means being able to realize objectives in the face of oppositions, that is ‘A
has power over B to the extent that A can get B to do something that B would not otherwise do’
(Dahl, 1957); French and Raven’s (1959) analysis of power resources enlists a fivefold
classification which can be all possessed and used by the controllers to gain control over the
potentially controlled: (a) rewards such as cash, promotions, recognition and job satisfaction, (b)
coercive resources such as disciplines rested on the fear of psychological and material
punishment, (c) referent power such as charisma, (d) expert power associated with specialized
knowledge or technical skills, and (e) legitimate power derived from formal authority.

Hickson et al’s (1971) strategic contingency theory of intraorganizational power (i.e. ability to
cope with uncertainty, centrality, workflow immediacy and substitutability) suggests that there
exists such an imbalance in the interdependencies between organizational segments that, the
more central a segment is, the more uncertainty it can cope with and the less substitutable it is,
then the more power it can have; and Marchington (1982) recognizes that there exists a
potential gap between structural power-resource possession and the subsequent exercise of that
power (Figure 14-15), and proposes that the management might be able to attempt to control the
manifestations of such power via (a) reducing dependency on a particular group of members
such as stock-piling in the automobile industry, (b) inhibiting the development of solidarity and

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**Figure 14-15: The dynamics of intraorganizational power**

(Source: Adapted from Marchington, 1982)
beliefs in the legitimacy of industrial action such as the use of personal letters in times of conflicts, or (c) ensuring that, if power is tested, the outcome is to weaken rather than affirm the group’s perception of its power.

The radical interpretation of power also emphasizes the zero-sum nature of the exercise of the power-related control (i.e. control benefits one group at the expense of another), but considers conflicts between the controllers and the potentially controlled as fundamentally opposed and principledly abnormal due to their irreconcilable class-based vested interests (Brown, 1978; Clegg, 1979; Bachrach and Baratz, 1962; Lukes, 1974). In essence, the radical approach to control concentrates on the countervailing power of the members in an organization.

It has been claimed (Lukes, 1974) that there are arguably three dimensions of power, namely, (a) power of the controller over the controlled - whereas control aims at the overt conflicts in decision-making situations (Dahl, 1961), (b) the rebellion of the controlled against the benefits held by the controller relative to the controlled - whereas control refers to subtle and less visible activity such as agenda setting (i.e. output control) through which power is exercised to prevent decisions being taken over potential issues which can result in a conflict of interests (Bachrach and Baratz, 1962),75 and (c) the powerlessness of the controlled relative to the controller - whereas control means to shape preferences, perceptions, and cognitions so that the potentially controlled ‘accept their role in the existing order of things either because they can see or imagine no alternative to it, or because they see it as natural and unchangeable, or because they value it as divinely ordained and beneficial’ (Lukes, 1974).

Theoretically speaking, the multi-dimensional nature of power infers that exercising power through control of values, opinions, ideologies, and cultures eventually leads to socializing organizational members into their unquestioning acceptance of the traditional, natural order of things, and this multi-dimension view of power is coincidentally in parallel to Marxist analyses of the deeper roots of domination.

Practically speaking, however, the multi-dimensional nature of power draws much attention to the further aspects of the impact of output controls orientated towards avoiding the articulation of existing conflicts into organizational agendas and those of behavioural controls orientated towards forestalling conflict in the first place by means of shaping organizational members’ cognitions and preferences (Clegg, 1975),76 the latter of which pinpoints the role of ‘managerial prerogative’ - which refers to the management’s right to manage (Storey, 1983),77 and has been frequently likened to the ‘divine right of kings’ or the ‘calling’ by God or Heaven (Weber, 1958, Sunzi, 1992) - as fundamental basis of any managerial attempt at control in organizations (Storey, 1983).

It is believed (Storey, 1983) that, although the boundaries of managerial prerogatives which serve to delineate those functional tasks which in turn engender management its distinctiveness, are constantly shifting, depending upon the managerial ideologies,78 the controllers’ right to control remains somewhat taken-for-granted, that is, the sheer status of being an controller is
enough to ensure the compliance to orders of the potentially controlled. Some have attributed
this tendency of not challenging management prerogatives to the prior socialization of the
controlled, which promotes a tendency to accept most aspects of the status quo and to narrow
down any changes to ‘aggressive economism’ (Storey, 1983).

Evidence (Knights and Wilmott, 1985; Hammersley and Atkinson, 1983) seems to support the
importance of the managerial prerogatives which have been practically employed to
precondition the potentially controlled culturally into accepting their being controlled and the
controllers’ right to control. This leads management theorists to further suggest that
management’s control may become impossible without first establishing such a prerogative
which in some way legitimises the right to control, partly because the establishment of control
and prerogative largely relies on the dyadic cultural aspects of power, which, in effect, forestall
the generation of non-negotiable demands in the first place and in a way independent of
managerial strategies and actions (Storey, 1983).

As regards how to exert power to achieve effective control, Pfeffer (1992) has articulated a
number of tactics for exerting control via the use of power, and among the most useful are: (a)
those having to do with timing including delay, waiting, and moving first (Schwartz, 1974), (b)
interpersonal influence strategies such as social proof, liking, commitment, contrast, reciprocity
and scarcity (Kipnis et al, 1980; Cialdini, 1988; Schmidt, 1988), (c) strategic presentation of
information and analysis and selective use of data to strengthen one’s case (Pfeffer, 1997), (d)
reorganization to consolidate power or to break up the ability of one’s opponents to coalesce
(Pfefer and Salancik, 1977), (e) use of evocative, emotion-producing language to mobilize
support or quiet opposition (Rafaeli and Sutton, 1991), and (f) use of task forces and
committees to co-opt opposition (Gargiulo, 1993).

Negotiation as a control device

Political control in the line of negotiations emphasizes the cognitive biases inherent in the
process of interpersonal or interorganizational influence, and contrasts with the game theoretic
approach to analyzing strategic interaction in economics (e.g. the zero-sum or non-zero sum
paradigm) which implies that ‘the structure of the negotiation determines its outcomes’ (Neale
and Northcraft, 1990). This cognitive-bias approach also contrasts itself with the study of the
effect of personality and individual differences such as gender, locus of control, self-esteem, and
risk preference on negotiation processes and outcomes (Lax and Sebenius, 1986).

Broadly speaking, the cognitive bias approach is built upon the extensive work on biases in
decision-making (e.g. Tversky and Kahneman, 1974) under the premise that ‘negotiations
represent a special case of decision-making’ (Neale and Northcraft, 1990). It has been argued
that ‘a variety of heuristics have been identified which systematically distort the negotiation
process and potentially bias negotiation outcomes’, and among those most crucial cognitive
heuristics are framing, anchoring-and-adjustment, availability, and over-confidence ((Neale and
Evidence seems to support that, people who negotiate control tend to rely so much on available information that colourful, dynamic, concrete, or otherwise vivid or distinctive stimuli often disproportionately attract attention and influence decision-makers’ deliberation (Neale, 1984),\(^4\) that the same outcome can be framed as a gain or a loss depending on the control negotiators’ initial negotiating position and expectations in that they can become risk-averse when choosing between certain gains and the risk of larger or no gains, but become risk-seeking when choosing between certain losses and the risk of larger or no loses (Kahneman and Tversky, 1979), that an initial offer in bargaining which represents an arbitrarily chosen reference point can significantly anchor subsequent adjustments (Northcraft and Neale, 1987), and that control negotiators tend to build up overconfidence in their ability to accomplish their favourable outcomes (Neale and Bazerman, 1985), thus decreasing their willingness to make concessions (Neale and Bazerman, 1985), overlooking the opportunity to negotiate for mutual gains partly due to the assumption that the situation is zero-sum (Bazerman et al, 1985), as well as becoming trapped by previously chosen positions in a process of commitment (Northcraft and Neale, 1986).

Research evidence also shows that, control negotiators can achieve effective control by the presumed presence of a social context which makes the control negotiators accountable (Kramer et al, 1993) or by the induction of a particular social identity (Tetlock, 1985), because social identity and accountability, when accomplished on occasion by subtle changes in task structure (Larrick and Blount, 1985), can have significant consequences for activating cooperative or competitive behaviours (Kramer et al, 1993).\(^5\)

Moreover, it is also found that the induction of a positive mood facilitates integrative bargaining (Carnevale and Isen, 1986), and that control negotiators higher in self-esteem become more confident and optimistic prior to negotiating and more confident about their doing well in the negotiation process (Kramer et al, 1993). In brief, the negotiation approach to control through bargaining and compromise, remains one of the most effective, if not the only, processes by which control policy can be adjusted (Follett, 1987), however, the negotiation approach to control lies in the potential for managing self-enhancing or self-decreasing bias towards the relationship between the controllers and the potentially controlled.

14.3.5.7 The contingency approaches to control

Contingency theories can be regarded as being fundamentally based on the idea that organizations are not merely a social system, nor an information-decision system, but an open-ended system of many interrelated parts (Tilles, 1963); and they well reflect the recognition among numerous great thinkers (e.g. Follett, 1973, 1987; Taylor, 1967; Fayol, 1949; Sunzi, 1992) that there always exist different ways to organize and manage. This suggests that not only management techniques, but also principles, should be flexible (Sunzi, 1992) so that decision makers in organizations can literally act, decide, and do, all depending on the specific situation - there are no universals, no one best way (Odiome, 1966).\(^6\)

In essence, contingency theories echo the phrase ‘it depends...’ and denote that controllers have
to identify the variables in each control situation, understand the relationships between the variables and their interactions, and recognize the complexities of cause and effect in every control situation. Figure 14-16 is depicted to show possible environmental contingencies that might influence control in organizations.

Practically speaking, contingency theory implies possible procedural shifts of control mechanisms in the face of increasing uncertainty: control in organizations tend to shift from behavioural control, first by personal means and then by impersonal means reinforced by hierarchical supervision, to short-run output control with centralized coordination, and subsequently to long-run output control with decentralized coordination; eventually the uncertainty may become so great that output goals can no longer be set and the prime form of control shifts over inputs, especially personnel training and selection, and technology. Theoretically speaking, however, contingency theories can be argued to entail five approaches: technological contingencies, environmental contingencies, organizational fit, structural contingencies, and population-ecology (Tosi and Slocum, 1984).

The technological contingency theory

The technological contingency theory (Woodward, 1965; Perrow, 1967) corresponds to the belief (Frederick, 1963; Odiorne, 1966) that there exists a general theory of management but it hasn’t yet been uncovered nor described, and emphasizes that the answer to ‘it depends …’ in organization design lies in technology – that is, technology functions as the dominant control operator (please see Figure 14-16) consists of technologies (i.e. things).

By classifying organizations through the complexity of the technology, for example, Woodward (1965) proposes that technology influences organizational structure and consequently control
mechanisms: organizations with the less complex and more advanced technologies tend to exert less personnel control (e.g. less emphasis on precise job descriptions, loosely organized work groups, and more interests in self-controls); successful organizations with averagely complex technologies tend to exercise more administrative controls (e.g. closer supervision over personnel, and more elaborate control techniques). This leads management theorists such as Woodward (1965) and Perrow (1967) to assume that what matters in terms of organizational success is to adapt organizations to their technology, that is, to control is to be able to adjust readily to customers' needs through scientific advances in technology so as to gain suitable organizational flexibility in the competitive arena (Figure 14-17).

The environmental contingency theory

The environmental contingency theory (e.g. Lawrence and Lorsch, 1967) accords with the maxim that there is no one best way to control (Follett, 1987) and assumes that the solution to control problems depends on environmental exigencies such as the market, the technical-economic and the scientific. This suggests that the dominating control operator now consists of the interaction among those exigencies (i.e. events) closely related to the market, the marketing subsystem and the R&D subsystem – i.e. general economic conditions, capital, natural and human resources, culture, technology, market, industry, and government (Figure 14-18). 87

By using the term of 'differentiation' which refers to the degree of segmentation in an organization's subunits with respect to how they relate to the external environment and by using the term of 'integration', 88 which can be achieved either by more formal means (e.g. the use of formal management hierarchy of authority, plans, procedures, rules and other formal management practices), or by more flexible adjustments (e.g. the use of cross-functional means of coordinating efforts), Lawrence and Lorsch (1967) notice that the more successful organization are those which adjust themselves to their relevant environments: organizations featuring less differentiation can successfully achieve integration through more formal means of control while maintaining more centralized; organizations featuring more differentiation can
successfully achieve integration through more flexible means of control while maintaining more
de-centralized.

The organizational fit theory

The organizational fit theory, which is coined by Galbraith and Nathanson (1978), unnoticeably
echoes Follett's (1987) observation that effective control is bound to permeate all elements of
the undertaking including personnel, technology, execution of plans, quality of work, financial
activities, security and information. In essence, the organizational fit theory remains an extended
contingency theory which promotes the possibility control mechanisms, strategy, general
management and organization theory can be more closely incorporated (Wren, 1987).

For the organizational fit theorists, any way of controlling is not equally effective (Galbraith,
1973) and what contributes to an organization's successful control lies in its ability to maintain a
'match' or 'congruence' between varying factors such as structure, size, technology, people,
tasks, rewards, culture, and leadership (Galbraith and Nathanson, 1978). It thus seems that in
principle, successful control results from the fitness of the organization (Figure 14-19).

Structural contingency theory

Structural contingency theory remains an offspring of the organizational fit theory and
emphasizes the match between an organization's structure and other variables such as
technology, strategy, size, and environment. In principle structural contingency theory follows
Fayol's (1949) observation that an organization's structure has to be 'consistent' with its
'objectives, resources, and requirements'.

In practice, however, it has twofold implications: first, it indicates the consonance hypothesis
(Pfeffer, 1982) that 'organizations that have structures that more closely match' or fit 'the
requirements of the context, will be 'more effective than those that do not'; and it implies that
organizations adapt their structure by moving out of misfit so as to restore effectiveness and performance (Donaldson, 1995).

Evidence (e.g. Rumelt, 1974; Hage and Aiken, 1969; Child, 1973; Burns and Stalker, 1961) seems to suggest that, in general, organizational structure varies predictably in association with such variations like strategy, size, technology and environment - i.e. control operator consists of things and events (please see Figure 14-5): for example, more diversified organizations tend to adopt a divisionalized structure (Rumelt, 1974); larger organizations tend to be more formalized, more specialized and less centralized (Child, 1973); organizations employing non-routine, variable or unpredictable technologies tend to employ decentralized and informalized structures (Hage and Aiken, 1969); and organizations in a more stable and certain environment enjoy more bureaucratic structures (Burns and Stalker, 1961).

The research evidence has supported the view that the variation of organizational structure can significantly relate to the structure of control in that the structure of control is heavily 'nested' in organizational structures (Child, 1973; Mintzberg, 1979); and Tables 14-6 & 14-7 provide a bird's eye view of the possible relationship between the structure of organization and the structure of control.

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<thead>
<tr>
<th>Table 14-6: An overview of the major structural contingency theory (Source: Pfeffer, 1997)</th>
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<tbody>
<tr>
<td><strong>Major contingencies which affect structure</strong></td>
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<tr>
<td>Strategy: Product differentiation, price</td>
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<tr>
<td></td>
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<tr>
<td>Size</td>
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<tr>
<td>Technology: Production process, Information technology, amount of variability</td>
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<td></td>
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<tr>
<td>Environment: Amount of change, resource munificence degree of competition, unpredictability, uncertainty</td>
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<tr>
<th>Table 14-7: Structural contingencies and control mechanism (Source: Mintzberg, 1979)</th>
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<tr>
<td><strong>Organizational forms</strong></td>
</tr>
<tr>
<td>Simple structure</td>
</tr>
<tr>
<td>Machine bureaucracy</td>
</tr>
<tr>
<td>Professional bureaucracy</td>
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<tr>
<td>Divisionalized form</td>
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<tr>
<td>Adhocracy</td>
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</table>

*The population ecology view* (e.g. Hannan and Freeman, 1977; Aldrich, 1979), though still far from a theory which permits knowledge to be translated into action (Pfeffer, 1997), sees the environment in which organizations operate as more active in shaping and controlling the organization: environment provides a natural selection process for organizations, those which survive being ones which are suitable for the given environment (Hannan and Freeman, 1977); and thus organizations are seen as less able to adapt to the environment, and survival depends upon fitness for the changing environment (Aldrich, 1979).
In principle, the population ecology view supports the social Darwinists’ allegations (Hofstadter, 1945) that it is nature that provides that the ‘most fit’ in a competitive situation wins, and that through unrestricted competition, the fittest organizations or individuals survive and move up the social ladder of success and the unfit occupy the lower class structures and eventually be eliminated through evolution (Jones, 1968). As a theory of control, however, population ecology practically focuses on some factors - e.g. age, size and the number of competing organizations - which may be substantively significant but over which there is virtually no organizational control except to the extent organizations can choose their competitive niche arena. Population ecology indicates that, once a niche is chosen and inertia starts to build, an organization’s fate lies in the hands of others and selection forces which are outside of its very own control.

This suggests a paradoxical concern: control mechanisms which have insulated organizations from competitive pressure and therefore enhanced their life chance, can also insulate organizations from the selection pressures which foster learning – the choice posed is between enhanced survival and enhanced learning from competitive pressure. This implies that control in organizations can be just an illusion (derived from the common human desire for a feeling of mastery and control) that individuals act as if they have control even in situations where they don’t (Singh and Lumsden, 1990), and that there is never a best way to control – only a way which has out-controlled the controlled in the past, given the conditions of the environment which prevailed at that time (i.e. the control operator consists of change).

In short, contingency theory approaches to control may well explain that organizations prospered because of their successful matching between control structure and strategy or whatever, but it can not really predict what ‘fits’ will lead to successful control of organizational activities in the future. Therefore, the solution to control problems is more complex than ‘fit’ or ‘congruence’ between a definite number of factors between two ends of a continuum (e.g. hierarchies and markets); perhaps the best way to achieve control efficiency is to employ various levels of combination of all contingencies.

14.3.6 Control in organizations: the common problems in practice

Experience reveals that organizational control systems do not always function in the ways which are required or expected. It seems evident that control contains a limit to how much control can be exerted on organizations compressed by human needs, drives, biases and suchlike, because, perhaps due to natural selection, human beings living and working in today’s modern civilisation still retain such hardwired mentalities that, emotions can triumph over reasons, confidence over realism, and classification over calculus. This suggests that there exist some major problems for managing control in organizations which may run counter to the performances which the management are sought after.

First, control, inevitably (perhaps partially, though) relies on the existence of hierarchical levels formal or informal, and thus inhere the disadvantages of bureaucracy (Nicholson, 1998) which
include that establishing rules is always easier than discarding them and that there is always a
danger that organizational members become so used to automatically following rules that they
stop thinking and learning for themselves (Blau, 1955).

Second, control, related to the first problem, can especially lead to ‘rigid bureaucratic behaviour’
such that organizational members may undergo a natural selection process and behave in ways
required by the control systems or the leaders rather than in the absolute interests of the
organization as a whole, because it is normally the pre-set standards in the control process that
dictate what to do and who receives promotion (Lawler, 1976).

Third, control can lead to resistance to change when it threatens needs satisfaction or creates
hostility (Dunnette, 1976), and this can become commonplace, especially when the control
systems actually involve themselves in automating human skill and expertise, creating new
experts with new sources of power, disrupting social grouping opportunities, or reducing
opportunities for intrinsic need satisfaction (Ridley, 1998).

Fourth, control can become handicapped by the incompetent leaderships in that, for example,
control systems can fail under the direction of a leader who does not have the desire to lead or
the passion for efficiency (Wright, 1994).

Fifth, control can be initiated by poor objectives (such as those unmeasurable or unchallenging)
to such an extent that poor objectives directly linked to poor standards of performance for
comparison with actual results can make control systems improbable (Hrebiniak and Joyce,
1984).

Sixth, control involves management by negative exception and poor evaluation of performance
(such as concentrating on poor performance only), and this can exert a negative impact on the
control process in that successful control depends on an appreciation process premised on good
communication and sound evaluation of reasons underlying significant deviations from plans,
both positive and negative (Hrebiniak and Joyce, 1984).

Seventh, poor performance appraisal can be brought into the control process and jeopardise the
control systems because good performance demands that sufficient attention is paid to the
integration of short-and long-term organizational needs, and requires the reinforcement of
behaviour consistent with objectives (Hrebiniak and Joyce, 1984).

Eighth, control can become naturally involved in avoiding and embracing errors because control
practices can entail both a strict avoidance of error and a strict reinforcement of error-prone
rules, but avoiding and embracing errors can give rise to a strong concern with defensibility of
action and may foster conservatism and rigidity of behaviour (Hrebiniak and Joyce, 1984).

Ninth, control designs (plan and / or mode) may not always provide appropriate criteria for
action, and this is particularly true when organizations are dealing with complexity via
differentiated structures and procedures or when organizational members are not pursuing the
same goals (Hofstede, 1968).
Chapter 14

Tenth, control involves uncertainty avoidance in that organizational members can set out to avoid rather than engage in uncertainty especially when they cannot predict anything accurately (Nicholson, 1998), and this can lead organizations to create and mirror the varieties of chaos which they face such as letting uncertainty tumble in across their defences and randomly disturb what are believed to be orderly patterns (Schon, 1983).

Eleventh, the faulty information processing capabilities can be insufficient for the control process in that insufficient communications or poor operating structure can result in incomplete information due to the difficulties in collecting information (Hrebinjkiac and Joyce, 1984).

Twelfth, inaccurate information can be led into the control process, and it becomes even more likely to so happen when the measure is important or when organizational members feel that the standards of the control process imposed on them are unfair or unreasonable (Lawler, 1976).

14.4 Strategic control of investments: towards successful controllership

14.4.1 Controllership in organizations

However frightening, the above control problems can be managerially resolved in a composite manner (Emmanuel et al., 1990). For instance, the management can largely rely on an effective as well as efficient controllership, which, in theoretical terms, refers to a process by which a controller nurtures, exercises, and evaluates influence over and/or with the potentially controlled so as to help achieve pre-established performance, viz., management can simply try to avoid some behavioural problems by the use of good control problem-avoidance techniques, or, alternatively, if the above control problems simply remain, try to engage themselves proactively in protecting the organization against the remaining problems.

In practical terms, controllership pertains to the relationship between the controllers and the potentially controlled and permeates through all control activities, and, if effectively managed, controllership can actually enhance an organization’s chances of successful accomplishment of the goals of all organizational activities as well as increasing its ability to meet all the contemporary challenges including the need to obtain a competitive advantage, the need to foster ethical behaviour, and the need to manage a diverse workforce fairly and equitably.

However, a competitive controllership demands not only the qualities of some individuals or groups, or some systems that make them controllers, but also the willingness of the controllers and of the potentially controlled to exercise self-control such as giving modest instructions or complying with instructions. This implies that successful controllership in organizations should at least embrace imperial control principles, competent leadership styles, healthier control mentalities, structurally-fit control strategies, workable control techniques, suitable control processes, solid foundations for the implementation of control, and, above all, the effective as well as efficient management of varying control paradoxes in the full organizational context.
14.4.2 Successful controllership: the first principles

It seems that, a careful examination of various approaches relevant to control in organizations (please see Figure 2-5; Figure 3-2, Figure 4-3; Figures 12-3, 4, 5, 8, 9&10; Figures 14-5, 6, 7, 8, 9, 12, 14, 15, 16, 17, 18, 19; Table 5-3; Tables 14-5&6), gives rise to the concern that one of the most arresting elements of control lies in the fact that control has to be a continuing activity, a fact that corresponds with Follett’s (1987) more psychological attack on the problems concurrent with control in practices. Controllers in organizations can never really get out of the fallacy that they can solve problems until they look on control as a continuing activity, because they themselves are living, changing, developing and decaying organisms (Follett, 1987).

Besides, once a problem is ‘solved’, the very process of solving invites new elements or forces into the situation and thus ignites new problems which require new processes (Davis, 1951). This suggests a practical control paradox that men solve a control problem but create a new control problem. Thus, theories and processes can become obsolete after they are documented (Popper, 1959), and human’s only guides to actions rest on the first principles which may serve as convenient or shorthand method of thinking for people to observe the control world and to articulate new, more pertinent principles which might eventually contribute to the solution of the emerging problems.

It can be argued that, it remains unwise to pretend that the understanding of the principles relevant to control in organizations is as yet perfect, and that, even in their present incomplete form some principles are a far better guide to the effective as well as efficient integration of resources than personalities or politics or a precarious balancing of power between various vested interests. Among the articulated principles relevant to control in organizations are: uniformity, comparison, utility, the exception, and unity.

The principle of uniformity (Urwick, 1974) maintains that all figures and reports used for the purposes of control should be in terms of the organization structure. This suggests that authority and responsibility must correspond: because responsibility is accountability for the discharge of duties, the figures in which the accountability is recorded must equally correspond with individuals’ authority (Child, 1984). The managerial implication derived from this principle of uniformity is that no individuals’ effort should be expressed in any figures which they are not in a position to influence (Holbrook and Prichard, 1964).

The principle of comparison maintains that all figures and reports used for the purposes of control should be in terms of standards of performance required, and, where necessary, of previous performance (Urwick, 1974). This suggests that, no figures or reports remain very informative which merely show a comparison between performance in some arbitrary period and some other, equally arbitrary, period in the past; and, that, in contrast, figures set against pre-planned performance (e.g. behaviours and outcomes) which the management intend to reach at least exhibit whether the intentions are being realized or not and trigger enquiry into the why and the wherefore of discrepancies (Urwick, 1974). One primal practical implication of this
principle of comparison is that the controllers should always have a kind of mark to aim at and
force themselves to examine and to explain all the reasons for deviation from that mark, even
if the mark itself does not approximate an accurate estimate of what the actual achievement such
as in cases where common sense prevails in the face of reason (March and Sevon, 1984; Northcraft and Wolf, 1984).

The principle of utility (Urwick, 1974) maintains that all figures and reports used for the
purposes of control should have usable value directly associated with the appropriateness of the
period covered to the end in view as well as the time separating the end of the period covered
from their use. This suggests that figures and reports which are completed some time after the
close of the period to which they refer become progressively less useful with every second that
elapses, and, thus, the management need to engage in detailed and immediate control actions.
This principle of utility reinforces a lesson that a piece of information in time saves a great deal
of knowledge or capital, a lesson from which so many new business school MBAs or PhDs are
still learning; it also encourage professions such as management accountants to search for
figures of useful value and reports of practical value.

The exception principle (Taylor, 1967) dictates that the top management should process ‘only
condensed, summarized, and invariably comparative reports, covering, however, all of the
elements entering into the management’. This suggests that even those chosen summaries should
be ‘carefully gone over by an assistant’ to the top management before they reach the top; this
also suggests that the summaries should cover ‘all of the exceptions to the past averages or to
the standards pointed out, both the especially good and the especially bad exceptions’ (Taylor,
1967). The underlying implication of the exception principle is that the effective as well as
efficient control is more likely to be achieved by the management’s being free to consider the
broader lines of policy and to study the character and fitness of the controlled or being able to go
through in a few minutes a full view of progress which is being made (Taylor, 1967).

The principle of unity refers to the reciprocal relating, co-ordinating, unifying process in which
solution to problems depends on the interacting of the elements of an environmental complex
(Follett, 1940). It is held (Follett, 1987) that, the parts of an organization, ‘should so move
together in their reciprocally adjusting activities that they make a working unit, not a congeries
of separate pieces’, and that, the reciprocal activity of the parts changes the parts while it is
creating the unity. However, this bears an implication for the management that genuine authority
arises spontaneously in the process of building up an integrated unity — i.e. the show runs itself—all the management should do is to weave the accumulative authority out of the interrelated
experience of all those who are performing some functional part of the total activity in the belief
that the relating of different functions has a value beyond the addition of the parts.

14.4.3 Successful controllership: the competent leadership styles

Given imperial principles of control, the psychology of control will recede to occupy the whole
story of control in organizations although it still remains very important and relevant. Agreed
principles imply that organizational members can be entirely committed to management's goals and policies, and thus, the solving of control problems is simply one of finding a style of leadership which is acceptable.

Obviously, the power found in the controller is a key component of effective controllership because the wise use of legitimate, reward, coercive, expert, and referent power can significantly benefit control activities in organizations (French and Raven, 1959). Empowerment, which refers to expanding the tasks and responsibilities of the potentially controlled, can also be a useful tool of effective controllership (Simon, 1995). Traits and personal characteristics related to effective leadership such as intelligence, knowledge and expertise, dominance, self-confidence, high energy, tolerance for stress, integrity and honesty and maturity, can greatly, though not necessarily, contribute to effective controllership (Kirpatrick and Locke, 1991). Controllers engaging in both consideration (by means of trusting, respecting, and caring about the potentially controlled) and initiating structure (by means of ensuring that tasks get acceptably done and that organizational activities are effective and efficient) may also, though not sufficiently, contribute to effective controllership.

Effective controllership can also be obtained through taking account of the complexity surrounding controllership and the role of 'the law of the situation' (Follett, 1987). For example, Fiedler's (1967) study on leader style (i.e. relationship-oriented or task-oriented) and situational characteristics (i.e. leader-member relations, task structure, and position power) reveals that relationship-oriented leaders as controllers can greatly improve organizational effectiveness in situations where control by leading is moderately favourable and that the task-oriented leaders as controllers can significantly enhance organizational effectiveness in situations where control by leading is either very favourable or very unfavourable. House's (1971) path-goal theory suggests that, aided by four kinds of behaviours (i.e. directive behaviour, supportive behaviours, participative behaviours, and achievement-oriented behaviours), leaders as controllers can be guided to improve organizational effectiveness through (a) finding out what outcomes the controlled aim to achieve from the tasks and the organization, (b) rewarding subordinates as the controlled for high performance and goal attainment with the outcomes they desire, and (c) clarifying the paths to goal attainment for subordinates, removing any obstacles to high performance, and expressing confidence in the capabilities of the controlled. Kerr and Jermier's (1978) situational leadership model implies that sometimes the controlled can perform highly without the presence of controllership in that both personal characteristics of the controlled such as skills, abilities, experience, knowledge, and motivation and the situational characteristics such as the extent to which the task is interesting, enjoyable and fulfilling, can in general, though not necessarily, become substitutes for controllership (Podsakoff et al, 1993).

The transformational leadership of the controllers can also have dramatic effects on the organizational controllership as well as inspiring and energizing the potentially controlled to solve control problems and improve organizational performance (e.g. Bass, 1985; Miller, 1995): for example, by being a charismatic leader, by intellectually stimulating the controlled, by
engaging in developmental consideration, and / or by engaging in transactional leadership through the use of reward and coercive powers to encourage high performance, transformational leaders as controllers can, (a) make the potentially controlled aware of the importance of their tasks and the necessity of performance to the organization, (b) make the potentially controlled aware of their needs for personal growth, development, and accomplishment, and (c) motivate the potentially controlled to work for the good of the organization as a whole, not just for their own personal vested interests.

14.4.4 Successful controllership: the healthier control mentalities

A successful controllership rests on healthier control mentalities. A problem is not solved unless it does not start or until it is solved. Once a problem looms large, however, the solution rests on the ways the problem-solvers perceive and deal with the dynamics of the problem which per se evolves over time.

14.4.4.1 The ‘putting prevention first’ mentality

It seems arguable that the most efficient controllership rests on the mentality of putting prevention first in the work of control (i.e. preventionist mentality) simply because ‘a stitch in time saves nine’. Among techniques established to prevent control problems are (a) automation, (b) centralization, (c) risk-sharing, and (d) elimination of an entity or operation. Automation becomes more and more appealing by the advent of advanced computers and automata because the use of automation reduces organizations’ exposure to control problems due to human inconsistency, even though some times at the cost of de-humanization.

Top management can try to reserve some important control decisions to themselves and thus avoid some control problems which can deteriorate in the face of sophisticated inter-relationships, even though its effectiveness can be limited due to possible information overload. Risk sharing arrangements can be partly relied on to reduce the potential harm which might befall the organization if organizational members behave inappropriately. Elimination of control operations or duties by divesting the involved of the control activity or restricting them to activities that they have not been over confident or under confident, can greatly cool off the control problem and become effective, especially when the concerned do not seem to have a comprehensive understanding of the problems to be tackled.

14.4.4.2 The ‘putting process first’ mentality

It seems equally arguable that the most effective controllership rests on the mentality of putting process first in the work of control (i.e. protectionist mentality) because ‘a man reaps what he sows’. To prioritise process in resolving control problems, the controllers need to be aware of the fact that, desired solutions to control problems, can relate to, problem representation (please see Figure 2-5), problem-solving paradigm (please see Figure 2-1 for an example), and structure (please see Figure 2-6). It can, also, appear in varying patterns (please see Figures 2-4&8), demand unique techniques (please see Figure 2-9), require the adoption of varying strategies
(please see Figures 2-10&11). Moreover, this ‘putting process first’ mentality should also dig into the realm of cognitive traps (please see Table 2-4 for examples), contexts (please see Table 2-3 and Figure 3-1 for examples), and procedures (please see Figure 2-5 for an example).

Consider the operators (please see Figure 2-5), for example, emphasis on the process of events (i.e. the situationalist mentality) promotes self-fit and encourages integration of situational forces; emphasis on the process of ‘hard’ things such as technologies (i.e. the determinist mentality) promotes technologic development and encourages innovations and creativity; and emphasis on the process of ‘soft’ things such as structure and capital (i.e. the rationalist mentality) promotes competencies and encourages maximum utilization.

14.4.4.3 The ‘putting people first’ mentality

However, the argument that, the fact that problems can never be eliminated in that the solution to one problem will lead to the birth of another problem, is, because humans fail to discover uniformity (please see Table 5-2 and Figure 2-4), suggests that the most ultimate efficient controllership rests on the mentality of putting people first in the work of control (i.e. the determinist mentality) in that there is not any absolutely self-efficient or self-effective controllership in any control space, and, therefore, organisations need to constantly invest in people to improve their experience, and knowledge because it is people that ultimately create or discover solutions to problems and because human behaviours in organizations are still so hardwired as they were two hundred thousand years ago that both the controlling and the potentially controlled can work against their inner circuitry.

To put people first, the controllers need to look inward into their inner world as well as looking outward into the outside world surrounding them. Human beings are still seeking those traits which made survival possible long before and having an instinct to fight frantically when threatened. Consider the nature of humans as operators (please see Figure 2-5), for example, genetically potential emphasis on individuality (i.e. the individualist mentality) promotes self interests and thus encourages competition for scarce resources; genetically potential emphasis on collectivity (i.e. the communalist mentality) promotes common values and thus encourages cooperation; the emphasis on the combination of people, event, change and things (i.e. the pluralist mentality) promotes sectional interests and encourages conflict-resolving through the medium of power; and the emphasis on the interaction between people, event, change and things (i.e. the experimentalist mentality) promotes unbounded definition of interests and encourages non-relativist synthesis.

14.4.4.4 The ‘putting change first’ mentality

The argument that the problem can never be eliminated in that the solution to one problem will lead to the birth of another problem is because the environment is so turbulent that change becomes inevitable, suggests that, the most ultimately effective controllership rests on the mentality of putting change first in the work of control (i.e. the evolutionist or revolutionist mentality), because an organization, living in an environment sophisticated by the interactions
between people, event, things, change, has to be constantly strong, wise, fit, and leaner, viz., always seeking for the organization’s situational fit or optimisation.

To focus on change in the process of control, the controllers need to look at both the driving and constraining forces in the environment (e.g. historical, operational and social) in which control takes place. This suggests that the processes or driving forces that account for past successes must not be used without any doubt as the footprints which will be made in the future. Focuses on the process of change suggests that to control is to organize, disorganize, and reorganize activities so as to transform inputs and add value to them, depending on whether the environment surrounding the organization is stable or unstable, healthy or unhealthy, and progressive or malfunctional. For example, emphasis on the process of rapid change (i.e. the radicalist mentality) promotes destructive methods and encourages reorganization via revolution (be it quiet or abrupt); and emphasis on the process of steady change (i.e. the conventionalist mentality) promotes constructive methods and encourages reorganization via evolution.

14.4.4.5 Successful controllership: the structurally fit control strategies

Child (1984) looks at the selection of control strategies by focusing on organizational choices on control in respect of varying structural dimensions, and maintains that there exist several structural design dimensions which need to be consulted before an organization selects a control strategy to pursue effective controllership: (a) the degree of centralization and delegation, (b) the relative emphasis between formalization and informality, and (c) the degree of personal supervision. It is argued (Child, 1984) that the choice of control strategy (whether it is a single method or a combination of many methods) can be accordingly made dependent on the controllers’ judgment (which can be informed by theory and practice on the appropriateness of the intended as well as the alternatives) on the choices for particular situations.

It is argued (Child, 1984) that the choice between centralized and delegated control needs to be made first, in respect of the strategic importance of the decision, and second, for the whole range of organizational decisions in the light of varying contingencies and capabilities relevant to the full organizational context.

For instance, centralization strategy, which means that control is exercised by confining decision-making to a small group of senior controllers or even one controller (Child, 1984), is believed to be promising, under circumstances such as the following (Carlisle, 1974): (a) when the control situation demands co-ordinated activities of the sub-unit or individuals who report up to senior controllers, (b) when senior controllers are in a better position to know what is going on and how far it confirms to the organization’s chosen strategy, (c) when the control situation demands an appropriate balance among various functional areas of the organization (e.g. marketing, finance, operations, and R&D), (d) when it is desired to economize on managerial overheads, (e) when the control situation requires a significant amount of judgment and experience from the controllers.

Delegation strategy, which means that decision-making is passed downwards or outwards within
the formal structure given that there are strict limits imposed on the scope and the type of
decisions that can be made without referral upwards (Child, 1984), is also believed to be
appealing on occasions where, (a) there is a need to relieve senior controllers from becoming
over-burdened, (b) there is a surging need for motivational considerations, (c) there is a need for
judgment developed through appropriate experience to cope with uncertainty, (d) there is a
request for greater flexibility due to larger organizational size or geographical dispersion, (e)
there is a request for understanding of local conditions of the problem, and (f) there is a demand
for establishing relatively independent sub-units within an organization (Child, 1984).

It has been argued (Weber, 1969) that organizations tend to start in an informal way but become
more formalized as they grow. Formalization means that control is first established through
written policies, procedures, rules, job definitions and standing orders which prescribe correct or
expected action, and then backed up with systems for the documented recording of what has
taken place in the way of communication and performance results (Child, 1984). It can be a
complement to moves along the centralization – delegation horizon especially in conditions
where delegation becomes desirable, where relative stability in organization becomes substantial,
and where a framework of rules and systems is needed within which decision-making can be
delegated with reasonably predictable results (Child, 1984). However, informality can also
become beneficial on occasions where initiatives are superior to conformity, where spontaneous,
innovative, and organic type of approaches to problems are needed, and where informal ways of
doing things substantially improve coordination among organizational members (Child, 1984).

It is claimed (Child, 1984) that modern thinking of organization favours moves towards a
reduction of supervisory emphasis, by encouraging 'self-control' (Follett, 1940) among those
doing the work, or by substituting 'technological control' with the aid of microelectronic
technology for human supervision (Boulding, 1956). Supervisory emphasis generally refers to
superiors’ supervision of subordinates’ activities through the imposition of checks or limits on
the discretion subordinates can use.

It is believed (Child, 1984) that, personal supervision can be used as a complement to
formalization in situations where there is a need to check that the controlled are keeping to
formally laid down rules, procedures, or job specifications; that a high supervisory involvement
may also become necessary on occasions where the control situation requires that the controllers
coordinate widely disparate types of activity or remain on hand to discuss complex or novel
technical problems; that supervisory emphasis can become very suitable to situations in which
the potentially controlled are lacking in skill and commitment to their organizational roles; and
that human supervision can also become appropriate to periods of rapid development in which
formalization has lagged behind. However, supervisory emphasis can incur significant
disadvantages of overhead cost and attenuation of the hierarchy, and this inevitably leads to the
incorporation of human capability into the structural considerations of control – i.e. the study of
the optimum span of control.
14.4.5 Successful controllership: the optimal span of control

Span of control refers to the number of the potentially controlled for whose performance a controller is responsible. Seemingly the concepts of span of control and hierarchy are closely related: the broader the span of control, the fewer the number of levels in the hierarchy is required, and the fewer the number of relationships between controllers and the controlled exist at each hierarchical level.

This indicates that a narrow span of control creates vertical differentiation and a tall hierarchy which may facilitate promotion but may also deteriorate communication, and that a broad span of control encourages effective delegation and a flat hierarchy which may facilitate communication but can also hamper promotion (Huczynski and Buchanan, 1991). Evidence shows that organizational members enjoying high self-actualization needs prefer flat hierarchies with a broader span of control, while those focusing on security needs tend to gravitate towards tall hierarchies with a narrow span of control (Koontz, 1966).

Literature on the desirable span of control is inconsistent but generally recommends a span of less than twelve. Evidence shows that for the ancient Chinese, Roman, Incas, and Egyptian, the popular span of control is the ‘rule of ten’ (Polo, 1954; Thorndike, 1979; Flinders-Petrie, 1924). For the earlier industrial revolutionists, the span of control records an average of one first line supervisor for every 28 workers in British mining, construction, and textile organizations (Pollard, 1965). In the scientific management era, the span of control is reduced to ‘less than six, normally’ and ‘only the first line supervisor’ can have more’ (Fayol, 1949). In the social man era, the span of control recommended by the practitioners ‘seldom runs beyond six to twelve people’ (Dennison, 1931); for military leaders, whether the span of control is three, four, five or six depends on a by-law that ‘the smaller the responsibility...the larger may be the number of the group [of the controlled] – and vice versa...the nearer we approach the supreme head of the whole organization, the more we work toward groups of six’ (Hamilton, 1921); and for management theorists, according to Urwick’s (1938) principle of span of control, ‘no superior can supervise directly the work of more than five or six subordinates whose work interlocks’.

Experience reveals that the controllers in organizations are frequently hampered by trying to control (or lead, or supervise, or coach, or manage) too many subordinates, and this is reported (Gulick and Urwick, 1937) to be due to the controller’s desire ‘to enhance their prestige and influence’ by means of simply adding more subordinates and more departments to their responsibility. This ego bolstering can be deadly, from the standpoints of delays, lack of coordination and confusion resulted from trying to control too many subordinates, and this generates much support for the argument (Graicunas, 1937; Robbins, 1990) that a narrow or limited span of control can remain more desirable.

For example, Graicunas (1937), the American consultant, under the influence of Hamilton (1921) and Urwick (1938), generalizes from his observational data gathered from industrial managers that organizations need limited rather than broad span of control because that human brain can
not cope with too many variables at any one time and that there exists an exponential increase in the number of the total relationships (i.e. the sum of direct single relationships, direct group relationships, and cross relationships) between the controllers and the potentially controlled when the span of control increases arithmetically (Table 14-8 and Figure 14-20).

Table 14-8: Relationship between span of control, hierarchical level and total employees
(Source: Developed from Graicunas, 1937)

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Total hierarchical managers</th>
<th>Total shop floor workers</th>
<th>Total employees required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>( \sum N^{K-i-1} )</td>
<td>( M \times N^{K-I} )</td>
<td>( \sum N^{K+i} + M \times N^{K-1} )</td>
</tr>
<tr>
<td>If ( N=5, K=8, ) and ( M=12 )</td>
<td>19531</td>
<td>187500</td>
<td>207031</td>
</tr>
<tr>
<td>If ( N=8, K=8, ) and ( M=15 )</td>
<td>299593</td>
<td>2097152</td>
<td>2396745</td>
</tr>
</tbody>
</table>

Table 14-9: Span of control and total relationships (Source: Adapted from Graicunas, 1937)

<table>
<thead>
<tr>
<th>Span of control (N)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total relationships</td>
<td>1</td>
<td>6</td>
<td>18</td>
<td>44</td>
<td>100</td>
<td>222</td>
<td>490</td>
<td>1080</td>
<td>2376</td>
<td>5210</td>
</tr>
<tr>
<td>Increase in relationships</td>
<td>1</td>
<td>5</td>
<td>12</td>
<td>26</td>
<td>56</td>
<td>122</td>
<td>268</td>
<td>590</td>
<td>1296</td>
<td>2834</td>
</tr>
</tbody>
</table>

14.4.6 Successful controllership: criteria for selecting control techniques

Hofstede (1981) looks at the selection of appropriate control techniques by examining the ways in which organizational activities can / cannot be controlled, and articulates four criteria for selecting control techniques, namely, (a) whether the objectives of the intended activity are unambiguous or ambiguous, (b) whether the outputs of the intended activity are measurable, (c) whether the effects of the controllers’ interventions are known, and (d) whether the intended activity is repetitive. It is argued (Hofstede, 1981) that the selection of control techniques can be
accordingly made dependent on the extent to which all of these criteria are satisfied.

For example, according to Hofstede (1981), when all of the four criteria are met, the hill climbing techniques (Mayer, 1993) such as 'routine control' (Hofstede, 1981) with the aid of computers can become immediately useful; when control is of 'one-off' nature, such hill climbing techniques like 'expert control' can become more efficient (Hofstede, 1981); when the effects of intervention are unknown and the control activity is repetitive, the random trial and error techniques (Newell and Simon, 1972) - in terms of new controllers, new departments, new services and/or new treatments - can become effective (Johnson and Gill, 1993); when the output is measurable and the objectives are unambiguous, the means-ends techniques (Mayer, 1993) – in terms of management by objectives and budgetary control can become fruitful (Anthony and Welsch, 1971); when the effects of management interventions are unknown, but the activity is not repetitive, the intuitive control can become efficient (Bower, 1971; Hofstede, 1981).

14.4.7 Successful controllership: solid foundations for successful implementation

It has been argued (Emmanuel et al 1990; Jones et al, 1998; Huczynski and Buchanan, 1991) that control, as one crucial element of management (Argyris, 1960, 1977; Taylor, 1967; Fayol, 1949; Drucker, 1954), is still much needed in modern organizations. What seems to make control a necessary activity in today’s organizations include that, first, the control process provides organizational members with feedback on their performance (Huczynski and Buchanan, 1991) so that learning can be facilitated and performance can be further improved (Argyris, 1977); second, control processes give organizational members structure, define methods and indicate how their performance is to be measured (Emmanuel et al, 1990; Huczynski and Buchanan, 1991), and this can prove particularly useful for those who do not enjoy inborn personalities which contribute to effective self leadership (Wright, 1994); and third, control encourages dependency (Huczynski and Buchanan, 1991) in that it becomes inevitable, though rarely noticed, that some organizational members seem to enjoy much more by submitting themselves to authority rather than to challenge their instincts (Ridley, 1998).

However, what also seems apparent is that control processes, per se, no matter how advanced they are, do not guarantee sufficient problem solving simply because they do not correspond well to the principle of universality (Hume 1951, Russell, 1912) in that control processes which worked yesterday may not work today and can have little chance to be applicable tomorrow. As this author’s family motto (Zhang, 1988) says, ‘Wú Gang Wú Zhu, Wú Zhu Wú Gang; Wú Gang Wú Zhu, Wú Zhu Wú Gang’ – i.e. ‘no (or wrong) principle makes no (or wrong) principal, and no (or wrong) principal leads to no (or wrong) principle; principle worthies nothing without passionately determined principal, and principal is nothing without fitly determined principle’. This implies (Zhang, 1988) that, control with wrong principals or wrong principles yields wrong-or-anti control, and that control with uncontrolled principals or uncontrolled principles yields little or no control. This suggests that control has not only the authoritative but also the
psychological side: first class intelligence about competitors and admirable managerial know-
how about his own men help a man to win battles, but the true worth of such apparatus which
have proved to be absolutely essential and of priceless value for so many successful politicians,
generals, and businessmen, lies in not only what the man does about it, why he does it, and how
he does about it, but also in how it is practically and spiritually apprehended, how it is
operationally adjusted, and how it inspires men’s passions, enthusiasms and initiatives (Zhang,
1988).

The issues on ‘Gang’ and ‘Zhu’ – i.e. principles and principals suggest that, for principals (i.e.
controllers, administrators, headmasters, governors, head coaches, and business leaders, etc.),
the extent of control to be exercised will partly depend on how healthily desiring they want to
control, and partly depend on how far they can unite successfully the forces of nature around
them including men, ideas, capitals, positions, friendships and even gossips (Zhang, 1988). That
is, to put it differently, it is the desire for unity that makes the implementation of control perfect
in its own ways - ‘Bu Zhi Er Zhi’ and ‘Zhi Er Bu Zhi’ (Zhang, 1988) – i.e. no control (which
means not exercising the option of control from time to time) can mean effective control and
man-made control can lead to no control (which means using up the option of control) in the end.

Perhaps the best illustration of the psychology of control in this vein is the lecture delivered by
Follett (1987) in London in the 1920s in which she argued that control can be accomplished
through securing coordination, under the umbrella of four coordinating principles: direct contact,
early stages, reciprocal relating, and continuous process (Follett, 1940, 1987). The principle of
direct contact dictates that ‘adjustments should be made by direct contact between those who
exercise responsible authority in the matter concerned’ (Follett, 1987); it implies that, the
controllers need not only to delegate themselves well but also to ensure that each of the
potentially controlled delegates equally well, and that both the controlling and the controlled
need to endure a certain percentage of human errors partly due to the under-evolved hardwired
mentalities dating back to the Stone Age (Nicholson, 1998). The principle of early stage dictates
that ‘the direct contact should begin in the earliest stages of the process’ and that a control
decision is ‘only a moment in a process’ (Follett, 1987); it implies that it becomes
psychologically very difficult, if not completely impossible, for any organizational members,
who has failed to participate from the beginning in the processes of mental development out of
which the principle or decision has been built up, to enthusiastically commit themselves to any
new principle formulated or decision made (Urwick, 1974). The principle of the reciprocal
relating postulates that all the factors in a control situation are reciprocally related to one another
(Follett, 1987); it suggests that, ‘this interrelating of every part of an organization with every
other part and again with every other part as it has permeated by all the others’, remains a
reasonable and practical mark to aim at, an ideal that drives people crazy but never gets itself
perfectly realized in practice (Ackoff and Emery, 1972). The principle of continuous process
maintains that coordinating varying relationships remains a self-activity, going on all the time,
so that the process itself is not broken from planning to activity and from activity to planning
(Follett, 1987); the practical implication underlying this principle of continuous process rests on
the potential incentive to develop precedents (i.e. to discover the principles which can serve as guides for future similar cases) through first dealing with an individual problem, then classifying the problems, and eventually evolving any potential principles for tackling cases of similar kind.

Briefly put, the bases for implementing control seem to be within varying sets of continuums composed of polarised as well as neutral perspectives concerning all possible relations between the human and the nature, with each relation, especially the psychological, operational, economic, social, political or anthropologic, being a replica of its own limitations – that is, ruthlessly speaking, control can take organizations out of the problems, but control cannot take problems out of organizations.

14.4.8 Successful controllership: the contending processes

Control can be chaotic unless it has a clearly articulated process. It seems that the most economic way to look at the process of control is to break it into several identifiable steps. Seemingly, there exist numerous approaches following this line to portray the process of control (please see Figure 2-5; Figures 14-5, 6, 7, 12, 13, 14, 15, 16&19), and among the most distinctive approaches to the process of control existing in the control literature are the Lawler and Rhode’s (1976), the Child’s (1984), the Davis’s (1951), and the Otley and Berry’s (1980).

Lawler and Rhode’s (1976) four step model

Lawler and Rhode (1976) propose that the control process actually consists of four steps (Figure 14-21): establishing standards of performance, then measuring, comparing, and evaluating actual performance. Lawler and Rhode (1976) argue that the controlling process can be described as follows: initially, the controllers decide on the standards of performance, goals and such like that are to be used in the future to evaluate the performance of the potentially controlled – say, by focusing on efficiency, quality, responsiveness to stakeholders, and innovation (Hill and Jones, 1997); then they measure or evaluate the actual outputs that result from the behaviour of the controlled as well as the behaviours themselves102 – say, by using both output control and behavioural control (Ouchi, 1978); and then they evaluate whether and to what extent performance deviates from the previously chosen standards of performance – say, by raising them for the next time period to challenge the controlled if they are proved to be
higher than expected, or by deciding whether to take corrective action if standards are proved to be too high to reach or performance is too low and standards are not reached (Newman, 1975); and finally the controllers evaluate the results — say, by trying to solve the problem if they see that the level of performance is unacceptable, or by changing the way the resources are utilized if they see that something in the control situation is causing the problem (Anthony, 1988).

Child’s (1984) basic model

The process of control has also been vividly described in its basic terms, and one example of this is Child’s (1984) process of management control which, so argues Child (1984), applies to any authority or power-based relationship across one or more levels of formal or informal hierarchy. Child (1984) sees the process of control as consisting of two major parts (Figure 14-22), namely, executive instruction (featuring goals, standards, and operating behaviour) and feedback (featuring results, measurement, and evaluation and reward), which jointly enable that a management’s choice of control strategy is compatible with the requirements of the operating situation and with what best motivates people to carry out their tasks in a desired manner.

Davis’s (1951) two phase model

A more insightful view of the process of control, perhaps, goes to that of Davis (1951), a great engineer - turned management theorist and consultant, who proposes an eight step control process which entails eight control functions, namely, routine planning, scheduling, preparation, dispatching, direction, supervision, comparison and corrective action. Davis (1951) suggests that there are two distinctive phases of control, namely, preliminary and concurrent. Preliminary control aims to design in advance constraints and regulations which assures proper execution of the plan, and consists of routine planning, scheduling, preparation and dispatching; concurrent control operates while performance is in progress and consists of direction, supervision, comparison and corrective action (Figure 14-23).

Davis (1951) is probably the very first person in the history of management who highlights the importance of the timing of control, and recognizes that controlling remains a cyclical continuing activity with the corrective action completing the concurrent phase of control but starting the preliminary phase of control again through identifying deviations and through re-planning, resetting of objectives, or taking other actions to prevent recurrence of deviations.
Otley and Berry’s (1980) comprehensive model

The more comprehensive view about the process of control, perhaps, belongs to Otley and Berry’s (1980) model which views control operations from the organizational perspective covering a set of administrative and behavioural factors including objective setting, performance measurement, comparison of outputs with objectives, generation and evaluation of corrective actions, and implementation of corrective actions (Figure 14-24).

Consider implementation of chosen actions (the step which distinguishes itself from most of other approaches), for example, it is argued (Otley and Berry, 1980) that, for organizations to achieve effective control, the controllers need to ensure that available are corrective actions, which can include (i) actions which help change the control inputs, (ii) change the control...
objectives, (iii) change the activity under control itself, and (iv) change the predictive model in use, the measurement processes and the comparison processes.

However, practical experience shows that this kind of isolation can prove very costly - and if not as costly as other approaches - as costly as what many accountants have done by concentrating on the technical ease of accounting-derived feedback controls at the expense of their social as well as behavioural contexts.\(^{104}\)

14.4.9 Successful controllership: the effective and efficient management of control paradoxes

History has witnessed that control in organizations deeply reflects numerous paradoxes. This suggests that control in organizations can act as a double-edged sword. For example, control is frequently used by organizations to consolidate stability, continuity, and suchlike, but it is often the same control philosophy which brought prosperity to the organization that brings demise to the organization, because stability or continuity driven control can burn out the organization's kernel ability to cope with future instability or discontinuity, an ability that can be essential for its ultimate survival at crucial times. The short run 'must' can prove to be the long run 'mustn't'; the short run 'mustn't' can prove to be the long run 'must'. Thus, successful controllership demands successful handling of managerial paradoxes essentially related to control in organizations.

14.4.9.1 Controllership as both a process and a system to ensure desired performance

The first control paradox is that controllership in organizations can function as both a control process and a control system. Control in organizations, by definition, can mean a general process by which some individuals or some groups are able to initiate and regulate the conduct of activities so that their results accord with the goals and expectations; it can also mean a specific control systems (e.g. specific mechanisms) which are employed by some individuals or groups so as to convey information within a general process to assist the initiation and regulations of (rather than carry out) the activities.

Thus, successful controllership demands that control in organizations needs to be perceived as well as designed to incorporate both the content and the process dimension. Employing control as specific mechanism, which can be used to assist organizational fulfilment, is not complete; nor is devising control as an escorting process that ensures the realization of organizational intents. A winning package of controllership, thus, must entail both control systems and control processes so that the combination of them can better meet the needs of control in organizations.

14.4.9.2 Controllership as both influence and counter-influence

The second control paradox is that controllership in organizations can function as both influence and counter-influence between the controlling and the potentially controlled. This means that both the controlling and the potentially controlled actually attempt to exercise control, although the magnitude of influence that each side has can vary significantly, ranging from very little to
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extremely overwhelming. This suggests that where there is a control, there is a counter-control, although the latter of which, effect-wise, may not manifest itself significantly all the time. For example, control can be aimed at the subordinates by the superior, it can also be aimed at the superiors by the subordinates especially when there exist conflicting objectives between both sides of the control.

To compare it to a game of tennis, for example, one can expect a serve and volley game, a baseline rally game, a net game, or an all court attacking game. However, for a game to proceed on court, both players have to influence each other through controlled exhibition of, among other things, their experience and knowledge of the game, physical and mental strength, and predetermined as well as emergent strategies and tactics of the game. Even in an extreme situation where one giant server attempts to produce aces, the seemingly helpless receiver will tend to exhibit his or her influence through constant re-positioning, earlier preparation, and/or technical disguise in order to disturb the big server’s rhythm of serve.

14.4.9.3 Controllership as individual as well as total phenomenon

The third control paradox is that controllership in organizations tends to be both an individual and a total phenomenon. Follett (1987) illustrates this, perhaps, better than anybody else, by stating that in the domain of control there exists a total relativity expressing a relational total where each part has been permeated by every other part. This implies that control can not be regarded as being designed to succeed unless there exists influence from one factor (e.g. one organizational member) to another factor (e.g. another organizational member) with all factors each making their own contribution to the whole.

It is obvious that control relates to those who hold direct responsibility for the specific control situation such as the competing players on a tennis court who are trying their best to influence their opponents in order to achieve what is desired (e.g. to win, to compete, to enjoy, to lose, or to make a fuss), and that control relates to those who hold indirect responsibility for the specific control situation such as the audience of the game (e.g. friends, and foes) who cheer for or against the players. However, control also relates to other relevant factors which can affect the specific control situation: examples include the pre-match food and warm-up exercises, encouragement or discouragement from parents or coaches, match experiences, expectations of the players from the match such as rating points, and knowledge about the game and about the opponent’s strengths and weaknesses.

This suggests that control in organization needs to be considered in a total situation which entails not only control-specific situational factors (e.g. obvious, prompt, and direct influence) but also non-control-specific situational factors (e.g. indirect, less obvious, and accumulative influence). Thus successful controllership means getting all relevant factors into the control problem which each affect every one of the others.

14.4.9.4 Controllership as a two-way process for both the controlling and the controlled

It appears that control-orientated influence entails several stages which can be argued to include
participant’s self intents, reactions based upon his or her perceptions on the opponents’ actions and thoughts, resultant behaviours, and fulfilment as compared to his or her intents (Figure 14-25). However, the flow of influence can work both forwards and backwards, just like a two-way valve, and this gives rise to the fourth control paradox that controllership in organizations can be a two-way process for both the controlling and the potentially controlled.

This implies that, as can be seen in Figure 14-25, both the controlling and the controlled can influence their opponents in fundamentally different ways. For example, (please see the clockwise direction in Figure 14-25), they each can normally start from their own intents; then they engage themselves in influencing each other in varying ways each aiming for what they each perceive as valuable or beneficial, although they each may work under the same organizational banner; and then they react to what they perceive is going on and what they perceive is appropriate in regard to their counterparts’ thoughts and actions; and, eventually, they achieve some results and evaluate their fulfilment against their intents so that any deviation from the intents triggers the next round of adjustments of intents, influence attempts, reactions to perceptions, and evaluations of performance.

However, the flow of the process can also be reversed (please see the counter-clockwise direction in Figure 14-25): both the controlling and the controlled can reserve their options of influence and work backwards from perceiving what is achieved, what end behaviour can bring forth that achievement, what inputs in terms of action and thoughts are needed to enable the desired outputs, what kind of influence is required, and what intent needs to be addressed or aimed at, or what level of pre-fulfilment is required at the initial stage.

Moreover, this second possible flow of influence also gives rise to the third possibility that one side can follow the clockwise flow of influence and another side the counter clockwise flow of influence, viz., a combination of both processes of influence which makes control in organization more challenging (please see the counter-clockwise as well as the clockwise direction in Figure 14-25). This can be particularly true of people who prefer or have to adopt a working backward strategy in the hope that they can adapt themselves swiftly into the best fit position available.
14.4.9.5 Controllership as both a solo and a trilogy

As to the process of influence *per se*, it appears to be cemented by varying purpose-related variables (e.g., survival, economic, technological, political, cultural, and societal), engraved by operation-related variables (e.g., bureaucratic, marketed, and transactional) and ended up with effectiveness-related variables (e.g., the extent to which individuals’ or groups’ goals are achieved as reflected by the extent to which organizational goals are achieved) and efficiency-related variables (e.g., the extent to which organizational, group, and individual desires are satisfied). It is obvious that, while some of these variables are complementary, some are paradoxical; and paradoxical inputs can result in paradoxical processes of transformation.

Superficially, the processes of influence can be catalogued into three groups, depending on the control participants’ thoughts and actions: divergence, dilemma, or convergence. This gives rise to the fifth control paradox that controllership in organizations can be a solo like activity or a trilogy-like activity, viz., control activities can be regarded as possessing, spontaneously or separately, paradoxical tracks of influence: divergence, dilemma, and convergence, depending on, *inter alia*, the content, the process, and the contributions of varying relationships towards the organization (Figure 14-26).

As can be seen from Figure 14-26, when the control activities are mapped against their contributions towards organizational progress, there are at least eight significant generic scenarios of control, each of which represents a unique pattern of influence. As social and/or psychological contact takes place between the controlling and the controlled, there will be a net vector force resulted from the thoughts and actions of both the controlling and the controlled, and this net vector force can facilitate, hamper, or even bewilder organizational progress.

14.4.9.6 Controllership as periodic as well as continuous improvement to progress

Undoubtedly, all of the eight possible scenarios of influence in organizations (Figure 14-27) have an element of timing: they can each dominate the organization for a period of time; they
can become very versatile, temporarily switching from one to another; and, they could also co-exist with one being overt and another covert, or with one occurring to some organizational members and another to other members. This leads to the sixth control paradox that controllership in organizations can be task-specific improvement which lasts for a period of time and it can also be a continuous process of improvements to organizational progress throughout the organizational life from birth, growth, maturity, decline, to death.

Plausibly, it can be argued that the process of influence largely depends on how well both sides (i.e. the controlling and the potentially controlled) socially and psychologically communicate in respect to their perceptions, motivations and expectations. Theoretically, each pattern of influence can carry on and on, until either the pre-established intents are satisfactorily reached so that the organizational activities naturally end, or the process itself is disturbed, postponed, transformed, or even eliminated by externally or internally imposed forces due to unsatisfied match between the intents and the fulfilment.

Therefore, the existence of the controlling influence (be it any of the eight possible scenarios based upon divergence, dilemma or convergence) depends on the control situations: it is unwise to predict that certain cycles will exist forever along an organization’s life cycle, and that certain cycles have never lurked in the organizations. Perhaps, what appears to be acceptable is that, to a large extent, control in organizations involves a mixture of distinctive kinds of control activities so that continuous improvement becomes the norm and periodic flourishing is phenomenal. It is perhaps the interrelationships between these activities that make control in organization more complicated and organizations more liveable than what is conventionally perceived.

14.4.9.7 Controllership as a reality as well as an illusion

The seventh control paradox is that controllership in organizations can be both a reality and an illusion. Evidence suggests that control is attainable. The management can successfully initiate and regulate the conduct of organizational activities so that their results accord with the goals and expectations held by the organization, say, by use of specific systems (i.e. control) designed to convey information to assist the initiation and regulation of the activities. This suggests the specific reality of control is that control can be attained given a specific control situation.

What fascinates the management most and renders control in organisations most challenging, is, perhaps, the realization (especially among practitioners) that total control is an illusion in that the environment in which an organization operates is ever-changing despite the fact the idealization of it never stops in everyday life as can be reflected by such phrases as ‘everything is under control’. For example, either of the previously considered tennis players, can rely on a certain strategy or tactics to win a game but not necessarily the whole match; he or she can rely on certain control strategies to win a match against someone somewhere but not necessarily everywhere; he or she can win as many as possible matches against the same opponent and may lose control the next day.
Simply put, there exists a best controllership for an organization at a certain time, but exists no such best-for-all controllership for all organizations or for an organization throughout its organizational life. This implies that new ways have to be constantly sought for improving organizational effectiveness and efficiency, and that control in organizations is bound to be a continuously improving process.

14.4.9.8 Controllership as a medium for both success and failure

The eighth paradox of control is that controllership in organizations can lead to success but it may also lead to failure. Empirical evidence suggests that control leads to success in that control helps organizations achieve superior efficiency, quality, responsiveness to stakeholders, and innovation (Jones et al, 1998). Without control, organizations will have no idea how well they perform and how much they improve themselves, nor can they make continuous improvement to quality or raise the level of innovation in the organizations.

However, historical evidence suggests that the backward part of many civilizations new and old lies in the fact that most civilizations fail themselves right from the outset: people tend to fall into the trap of entropy, and so do the organizations. For example, organizations such as Qing Empire are idealistically built to survive and thrive, but are, considerably due to their ‘closed’ nature of control, actually doomed to lose their ability to control themselves and thus to dissolve and disintegrate.

14.4.9.9 Controllership as an open as well as a closed loop

The ninth paradox of control is that controllership in organizations can take the form of both an open or a closed loop. The open loop form admits that an organization makes an attempt to achieve some desired goal in a manner that no objective adjustments are made to its actions once the sequence of intended acts is under way. This open loop can be better illustrated by using an analogy of a tennis game: the server who attempts to serve an ace will take into account the opponents’ position, the hazards, the trajectory, and so forth, prior to smashing the ball; but once the ball is in the air there is nothing that the player can do immediately but pray that he did things right. This can be particularly true in organizations if the potentially controlled happen to be events or change or people rather than things: to control such control operators like events or people or change can, some times, prove to be simply fruitless.

The closed loop form of control refines the open loop by the introduction of a monitoring device for the continuing scanning of both the control situation (e.g. the external environment) and the control condition (e.g. the transformation process) or for the continual monitoring of the fulfilment against intents so that corrective actions can be taken if deviation exists. Consider the previously mentioned tennis game, once the server has served, it becomes an open loop. However, if the ball is blocked back the server has to end his or her dream of aces and modify either initial plans (e.g. from aces to stroked winners) or the transformation process itself (e.g. via a process of deciding the target, tossing the ball, dropping and raising racket head, powering into the ball, following the route, and splitting steps, to a process of anticipating the return,
move into attacking or defending position, preparing for the next to come stroke, striking, touching, or volleying the ball, and balancing himself or herself). Once a game is over, one needs to think for the set and for the match, the player needs to monitor from time to time the game results against his or her intended outcome and take, if necessary, corrective actions which can entail strategies, tactics, and the transformation processes. For example, the player can exploit his or her own superior strength, the opponent’s weaknesses, or even the control environment such as the wind, the sunshine, the court fence and suchlike.

This indicates that control in organizations can take the form of both open loop and closed loop, depending upon how adjustable organizational actions are and how predictable the resultant outcomes are. Given a full understanding of the processes and a high predictability of the future, organizations can rely on open loop systems to achieve the end which is desired (i.e. analogous to the service game in a tennis match); given a limited knowledge of the operating processes, increased complexity of the environment, and enhanced uncertainty that clouds the likely outcomes of future events, organizations may have to rely on the closed loop systems to achieve the end which is expected (i.e. analogous to the rally game in a tennis match).

14.4.9.10 Controllership as both rationality- driven and image- driven activities

The tenth paradox of control is that controllership in organizations can be both rationality driven and image driven. Experience tells that, in practice, there exist control situations in which the ‘closed’ framework is designed to enhance the controllability of organizational activities. For example, due to the scarcity of resources, the solution to control problems can rest on the concept of rationality exemplified by linear programming and games of strategy; successful controllership, then, means logical and methodical controllership by means of optimization or maximization. However, this logical and methodical controllership by means of optimization can also become the hotbed of failure, especially when control situation changes so much that the then dominating rationality becomes no longer fit for the organization.

Partly due to limitations of human cognition and the complexity of the milieus of interest, there also exist control situations reflective of controllers’ inability to recognize all goals and feasible alternatives. Such ‘growing’ control situations (Simon, 1957a), then, have to be considered as consisting of a complex mixture of many elements such as culture, aspiration, personality, politics, and structures. Successful controllership thus rests on what Boulding (1956) calls the images (which include more than just the objective facets of the control situation), such as perceptions (about people, roles and organizations), values, and emotions of both the controlling and the potentially controlled. Apparently, the open control framework not only offers a richer view about the dynamics of control process but also brings to bear the totality of forces to successful controllership.

14.4.9.11 Controllership as context-specific as well as context-synergic forces

The eleventh paradox of control is that controllership in organizations can be both a context-specific as well as context-synergic force. One of the most important milestones in the history of
management thought in respect to control in organizations, perhaps, lies in the management’s manifestation (Ackoff, 1971; 1995; Ackoff and Emery, 1972; Emery, 1981; Thompson, 1967) that control activities should go beyond how to influence behaviour within organizations to consider how to control the organization’s relationship with its external environment. This suggests that control activities requires consideration of the totality of forces and conditions that operate internally as well as externally to an organization but affect the management’s ability to acquire and utilize resources such as raw material, capital, human, time, management, technology, information, experience, and knowledge (Thompson, 1967).

This suggests that, as depicted in Figure 14-27, control can consist of three sets of forces (i.e. macro, intermediate, and micro) that each can affect control significantly, thus giving birth to many possible, distinctive concepts of control which include political control, legal control, economic control, technological control, philosophical control, socio-cultural control, demographic control, global control, control of competitors, control of suppliers, control of customers, control of distributors, control of workforce, control of investors, control of task-specific resources (e.g. inventory control), control of task-specific packages (e.g. standardisation), control of task-specific activities (e.g. quality control and JIT), and control of task-specific forces (e.g. self-control, collective control, and mental control).

![Figure 14-27: Control as a synergic force in the full organizational context](image)

It can be, then, argued, in this sense, that to determine the relative success of controllership is to consider how effective the management are at obtaining, and how efficient they are at using, scarce and valuable resources in the full organizational context. This implies that the relative success of control in an organization, eventually but primarily, rests on its synergic force in the full organizational context, viz., organizational efficiency and effectiveness are gained through synergy of the macro, intermediate and micro set of forces and conditions.
14.4.9.12 Controllership as both organization- and reorganization- oriented activities

The twelfth paradox of control is that controllership in organizations can become both organization-oriented activities and reorganization-oriented activities. The ‘open’ framework of control in organizations (Katz and Kahn, 1966) admits (Figure 14-28) that an organization remains an open system which takes in resources from its external environment and converts or transforms them into goods and/or services which are sent back to that environment, where they are directly or indirectly contributed to customers, citizens, suppliers, competitors, investors, or suchlike (Thompson, 1967; Katz and Kahn, 1966). From this viewpoint, therefore, organization-specific control conditions can be regarded as varying from time to time and from organization to organization, depending upon, amongst other things, the meaning and content of the pair of controlling vs. the controlled (e.g. the shift from some organizational members vs. other organizational members, to some organizational forces (e.g. the management) vs. other organizational forces (e.g. the bottom level employees, technology, and organizational designs)).

It seems that successful controllership demands that the management of control activities be done through organization (Follett, 1987), because proper, orderly arrangement of formal relationships remains perhaps one of the most efficient ways to rationalize resource utilization in organizations (Urwick, 1974; Mooney and Reiley, 1931), viz., due to the capability limit of human mind (e.g. Mead, 1934), organizational members genetically tend to prefer order and certainty and perform better within a well-structured system (e.g. Pinker, 1997). This suggests that successful controllership means organization via the practice of sound organizational principles.

Figure 14-28: Organization-specific control conditions - An open systems view
(Source: Adapted from Jones et al, 1998)

The environment in which an organization’s control activities take place

However, successful controllership also demands effective management of control activities in a continuing sense. Successful controllership demands flexibility and adaptability in that reorganization becomes an accepted beauty of modern times management, viz., change has become a necessity. This reorganization process can become extremely crucial for organizations to better insure economic survival when the organization is experiencing economically or politically difficult time within an economy (e.g. excess productive capacity due to an economic recession) or different phases of its own organizational life (e.g. general contraction in activities after the organization’s maturity). When ongoing activities are yielding unexpectedly unsatisfactory results or when there is a signal for management that the way the organization
operates needs to change, the management need to be able to reorganize organizational activities by first assessing the need for change, then deciding on the change to make, and finally evaluating the change, so that the organization can continue to thrive in the fast changing environment in which it operates (Figure 14-29).

**Figure 14-29: Control as a periodic shift between organization & reorganization - an open systems view**

14.4.9.13 Controllership as being shaped by both emergent and synergic conceptualization

*The thirteenth paradox of control* is that controllership in organizations is being shaped by both emergent and synergic managerial conceptualization. From Figures 14-28 & 29, it is not uneasy to sensitise that management of control activities in organizations finds its basis, not only in the economic acquisition and utilization of organizational resources (including human and physical) in order to attain organizational objectives, but also in the conceptual function (which are mirrored by the evolving management thoughts) of human’s moulding resources into an appropriate, organization-specific mix within varying facets of its environment (such as economic, social, and political, please see Figure 3-1 and Table 2-3 for further examples).

The evolution of management thoughts has seen the management of organizational activities covering if not trespassing more disciplines than any of the sciences or arts; and the ideas of management which are related to control in organizations evolve as technologies, institutes, and people change (please see Table 14-4). Internally, management thought has passed through phases of differing emergent emphases on the human and on the organizational and methods facets of the problems encountered in escorting goal-directed activities; while, externally, it has been affected by numerous emergent factors such as evolving technology (e.g. integrated circuit, and computers), the dynamics of economic, social, political and other emergent contextual values (e.g. utility and profit maximization), and shifting assumptions about the nature of people (e.g. X, Y, and Z theories).

However, today’s conceptualization of control always remains a synergism of all yesterday’s and tomorrow’s will be the same, although there is no doubt that today’s is not like yesterday’s, nor will tomorrow’s be like today’s (Figure 14-30). Besides, no matter how fast or diverse the evolution of control concepts is, what has constantly confronted nearly every organization new or old for centuries is the attainment and utilization of scarce resources to meet the manifold desires of human society, viz., put it euphemistically, organizations commit themselves to
practical conceptual problem solving in pursuit of organizational progress.

Figure 14-30: Control as synergism of the evolving conceptualization of human problem-solving

14.4.9.14 Controllership as stretching as well as balancing

It can be argued that, in general, controllership in organizations relates to the divergence and convergence of the nature of human problem-solving (please see Figure 14-26 for detail), and this inevitably links to the fourteenth paradox of control that control in organizations is both a stretching and a balancing act. This means any form of control can dominate the whole control process for at least a period of time, while the complete controllership rests on the proper balance between varying control devices.

Organizations need to stretch themselves to exert certain control mechanisms if it is absolutely necessary to do so. Organizations operating in a turbulent environment can often find themselves from time to time stretching for either organizational efficiency or organizational effectiveness. For an organization to continuously consolidate organizational members' contributions to the organizational progress, its management might stress, other things being equal, the role of such mechanisms like the systematic or cybernetic controls during the set-up stage of its organizational life in order to achieve both better organizational efficiency and better organizational effectiveness, or the role of such mechanisms like the economic or cybernetic controls during the maturity stage in order to achieve optimal organizational efficiency, or focus on political or anthropologic controls during the declining stage in order to achieve optimal organizational effectiveness.

Consider an organization's stretch towards optimal organizational efficiency via economic controls (please see the 3C model as being depicted in Figure 14-14) during the maturity stage of its organizational life, for example, the principal (or the legal owner) of the organization has legitimate rights to select his or her agents and specify procedures (i.e. production/service procedures and visibility-of-consequences-procedures) for the agents (i.e. the managers) in an efficient manner that the organization can actually stretch the organization's scarce resources to maximize the benefits of coordination between the principal and the agents. Figure 14-31 is depicted to illustrate how organizational control as stretch works in accordance with task-environment interaction, procedures specified, and visibility of consequences: for instance, given high complexity of task-environment, the principals will find it more efficient not to
specify production procedures (by, say, employing employees who can specify their own procedures) but to better and specify visibility of consequence procedures (by, say, dividing the organization into sub-components with authority patterns matched to the appropriate task-environment).

### Figure 14-31: Stretching organizational resources towards optimal organizational efficiency

(Source: Adapted from Becker and Neuhauser, 1975)

<table>
<thead>
<tr>
<th>Task-environment interaction</th>
<th>Proportion of production procedures specified</th>
<th>Proportion of visibility-of-consequences procedures specified</th>
<th>Visibility of consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Simple</td>
<td>Some high</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Complex</td>
<td>Some low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Complex</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

* Optimal organizational efficiency equals the highest proportion of discounted present value of benefits to costs

However, organizations also need to balance their control activities so that they can attain a solid basis for exercising control as well as gaining enough operational freedom to deal with future control problems caused by, *inter alia*, low visibility of the consequences of the action being taken; they also need to balance their control activities so that scarce resources can be more pertinently utilized in a continuing sense and future opportunities can be better exploited to achieve some sustainable goals that are desired. This suggests that in order to prevent the 'lock-out' effect (please see Figure 13-1), organizations need to find a balanced portfolio of control strategies entailing the systematic, the behavioural, the anthropologic, the political, the economic, the contingent, and the cybernetic (Figure 14-32), and the proportion of each component at each time (i.e. Pa, Pb, Pc, Pe, Ps, Pp, and Px as can be seen in Figure 14-32) will largely depend on the conditions of the demand and supply of the specific control situation.

### Figure 14-32: Control in organizations as the stretching as well as the balancing act
Controllership as both an ever-changing and a never-changing mind game

The fifteenth paradox of control is that controllership in organizations remains both an ever-changing and a never-changing mind game. Control is much needed in organizations in that practical human problem-solving necessitates it. The inputs of a control situation are changing; the outputs of a control situation are changing; the transformational processes of a control situation are also changing. Thus, control is an ever-changing game: today’s control is not likely to be the same as yesterday’s, nor will tomorrow’s be the same as today’s. Besides, people are learning and so are organizations. As time flies, control environment is changing, and so is control situation, control condition, control space, and control operators. With ever-improving knowledge, ever-updating technologies, and ever-enhancing human’s understanding of the nature, it is easy to prescribe that control in organizations as practical human problem-solving is an ever-changing mind game.

However, control, is also a never-changing mind game, and this is because of the limitations that humans have always had in themselves (please see Table 2-4 for further examples). Evolution has changed some part of the human nature; yet some part of it has not been changed too much despite millennia of natural selection. For example, it has been argued (Pinker, 1997; Ridley, 1998; Nicholson, 1998) that there is a limit to how much the human mind can be remoulded to offer and receive instructional orders because, due to natural selection, human beings living and working in today’s modern civilisation retain the hardwired mentality of Stone Age hunter-gathers in terms of thoughts and actions concerning needs, drives and biases.

Evidence generated by evolutionary psychologists (e.g. Wright, 1994) shows that organizational members tend to use emotions as the first screen for all conflicting information received: people may feel more comfortable in communities with no more than 150 members, - perhaps, particularly true of people in Western organizations; they can feel more self-confident than reality justifies; and, they may, also, quickly and often according to what they feel like, rather than in pursuit of time-consuming and nuanced analysis, classify - as obviously as academics do so in classifying theories - people, situations, and experiences into simple categories such as good or bad, in or out, and obedient or disobedient.

Evidence (Nicholson, 1998) also shows that, organizational members spend more time (and perhaps for some, even a life-time) participating in competition for status and chest thumping about their success - perhaps, particularly true of men in Far Eastern organizations: they can spend time enjoying gossiping about unofficial news along their own way to anticipate power shifts so as to position themselves into the right post at the right time; and, they can proactively but naturalistically seek superiority or security in hierarchical systems.

One thing that has never changed is that people in organizations can be easily caught in emotional battles (Pinker, 1997): organizational members genuinely attempt to avoid risky situations when feeling relatively secure, fight furiously when feeling threatened, or muddle through when feeling temporarily uncertain about future events.
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14.4.9.16 Controllership as everybody’s dream-machine but not everybody’s shot-gun

The seventeenth paradox of control is that controllership in organizations is every organizational member’s dream-machine but not every organizational member’s shot-gun. This is close to the eternal debate between nature and nurture in relation to leaders in organizations. To a great extent, to control is to lead. It has been argued (e.g. Levicki, 1998) that organizations can be led by varying leaders in different ways and have controllers of varying sorts. Experience reveals that everyone in organizations dreams of leading or controlling but not everyone is born to lead or to control, nor has everyone always had the passion to lead or to control.

It seems obvious that every organizational member attempts to put the total environment in which he or she lives (e.g. people, event, change, and things) under control in his or her pursuit of the vested interest and loss of control means loss of interests. Control appears to be the dream-machine that helps monitor that the dream comes true in that control leads to enhanced efficiency, improved quality, increased responsiveness to stakeholders, and continuous innovation (Jones et al, 1998).

However, it can be argued that controllers need to be born with a set of genetic characteristics which create the raw materials from which controllership may be nurtured, although it is not always clear that an organizational member is a born controller, nor can one always see clearly which organizational member has the potential to become a great controller. This implies that control may not be the shot-gun for every organizational member despite the fact that everyone is using it from time to time. Every organizational member can be highly driven if need be and have some good control skills; yet he or she might lack essential controllership skills which fail him or her in developing the guts of successful controllership even though he or she has climbed to the top controller position. Moreover, this nature of control has two practical implications: the first is that there can exist potentially successful controllers in any organization who seem to get to the controller position without training or management development; and the second is that people holding the controllership positions in an organization may be just mere holders of the position of controller.

14.4.9.17 Controllership as both an old and a new journey circulated by idealization and actualization

The blend of organizational environment of the expanding nature and the relatively non-expanding, hardwired nature of human beings, admits that, control in organization, can never be merely a means to an end, but is a prologue to an epilogue which serves as a new prologue to a new epilogue. In this sense, control is like the animal footprints in the jungle, with one linking to another; the hunters can try to locate the animal being chased via sensing and analysing its traces but often find himself or herself embarking on a new journey. This leads to the eighteenth paradox of control that controllership in organizations reflects both an old and a new journey circulated by idealization and actualization.

Theoretically speaking, an organization’s control towards progress can be regarded as an
idealization process in pursuit of the ideal states of GOOD, HOMONOMY, BEAUTY, and TRUTH (Ackoff and Emery, 1972; Emery, 1981), although this process which itself occurs in an infinite sequences (please see Figure 12-8) can be full of contradictions (e.g. orderliness vs. chaos in respect to BEAUTY, harmony vs. disharmony in respect to HOMONOMY, integration vs. disintegration in respect to GOOD, and change vs. stagnation in respect to TRUTH).

Practically speaking, however, control in organizations is more likely to become a process of actualization along the organizations’ progress towards ideals (please see Figure 12-8), and this actualization process is essentially a cyclical process which is essentially featured by varying, but often conflicting or paradoxical, facts and images that concern the nature of organizational activities. Following this logic, it can be generally argued that actualization generates facts and that idealization generates images. Yet, a set of facts and images that emerge at a certain period of time, serve as nothing but a prologue to the emergence of a new set of facts and images. This is because idealization inevitably leads to either re-actualization if the idealization is immediately adjustable or conceptualization followed by operationalization and then re-actualization if the idealization is not immediately adjustable (Please see Figure 12-5&8). Historical evidence in the light of the evolution of management thoughts shows that there can be four major categories of conceptualization, namely, orderliness, integration, harmony, and change, and these conceptualizations can be then operationalized under the name of organizational commitment which is used to measure the facts of nature and to process the images of nature (please see Figures 13-1&2), by the use of formal sciences such as philosophy and economics as well as the related disciplines such as methodology and accounting (Figure 14-33).

As can be seen from Figure 14-33, the varying facts and images (i.e. the direction of A, B, A&B, and C in Figure 14-33) of the nature of organizational control activities, deliver at least four important implications for organizations: (a) the organisational world is changing and evolving rapidly, control is necessitated by this somewhat chaotic nature of the organizational activities, and orderliness rather than chaos uplifts organizational efficiencies; (b) the relationships between organizational members become more and more versatile and sophisticated, control is necessitated by the expanding nature of human desires and interests, and integration rather than compromise or disintegration of conflicting interests among organizational members enhances organizational effectiveness; (c) the relationships between people and the organization in which they work become more and more complex so that organizational designs can hardly bring forth both individual and organizational satisfactions, control is necessitated by the disharmonious nature of people and organization, and harmony rather than disharmony between people and organization (e.g. structure) improves both effectiveness and efficiency; and (d) as the universe is expanding the organizational world is changing much more quickly than ever before - with new things coming out more frequently and old things dying out more quickly, control is necessitated by the ever-changing organizational environment, and change via reorganization rather than changeless iso-prototype organization is more likely to lead to improvement on organizational performance through the timely establishment of new equilibrium of productivity.
(which fits the control situation most).

Following this line, therefore, it can be argued that, control in organizations - as it was in the past, and, still will be in the future - becomes,

(a) a process or system which searches for harmony of people and organization, through a just adaptation of human needs and aspirations to the requirements and goals of the organization, under the assumptions that, organizational members genuinely anticipate a responsible position in the organization, that the premises the controllers made about the potentially controlled determine the potential managerial styles in the organization, and that an agreement between the parts of design or composition (i.e. people and organizational structure) offers a pleasing unity of effort and thus leads to improvement of performance;

(b) a process or system which searches for change through reorganization in terms of modifying the tasks, people, structures and the technologies of the organization, under the assumption that change is inevitable in organizational lives, and that change brings about positive consequences in relation to organizational performance;

(c) a process or system which searches for orderliness through management science (such as total quality management, operations management, management information systems, or quantitative management), under the assumptions that, organizational members unanimously feel relatively secure in terms of needs, share with the same goal in mind, and genuinely cooperate with each other in actions, and that the function of management can be decomposed into quantifiable variables so as to bring order from chaos by means of systematization; and,

(d) a process or system which searches for integration through conflict-resolving, under the assumptions that, organizational members each pursue varying objectives so that resistance and counter-control can prevail in organizations, and that the mutuality of interests leads to improvement of organizational performance.

14.4.10 Controllership as commitment to harmony between people and organization

The huge influx of the behavioural scientists into business schools has had a significant
contribution to the philosophy of organizational humanism which is set to further explore Barnard's (1948) issue on how individual and organizational goals can be met simultaneously and satisfactorily. Organizational humanism seeks to offset the alleged authoritarian tendencies of organizations, to provide for democracy and self-determination at work, to integrate individual and organizational goals, and to restore individuals opportunity for self-realization at work (Scott, 1967).

In essence, as can been seen in Figure 14-34, controllership in organizations refers to, what the organizational humanism has called for, redesigning organizations to promote individual maturity (Argyris, 1957), and posits that the assumptions people make about themselves (X, Y, Z theories) determine their managerial style (Davis, 1957). When viewed in the light of its foundations, harmony means a pleasing combination of related things or an agreement in interests, feelings or opinions, and thus, controllership in any organization becomes the organization's quest for the harmony between people and organization, viz., the quest for a just adaptation of human needs and aspirations to the requirements and goals of the organization.

14.4.11 Controllership as commitment to change in the organizational environment

"Change is the biggest story in the world today, and we are not coping with it adequately" (Bennis, 1969). It has become an accepted truth of our times that organizations have to adapt to a fast-expanding world in order to survive. However, saying to change is easy, but to practise it is not. If fact, evidence has found that it remains extremely difficult to bring about change in organizations. As one Chinese general manager put it, "To change is to fail earlier, and history is the mirror". This demands that organizational decision-makers have to commit themselves to be change initiators, change implementers, change controller, and change improvers.

Broadly speaking, change is needed because of, *inter alia*, managerial effectiveness criteria and employee criteria such as increasing the organization's capacity to provide desirable outcomes and satisfying work. Seemingly, it is pleasing for organizations to maintain consistency between elements of structure and strategy. However, as circumstances change, it remains incumbent on the investment decision-makers to examine the implications of the change for organizational operations. This suggests that controllership in organizations embraces the commitment of the
whole organization towards change, which is aimed at the improvements in efficiency or flexibility so that these organizations can enhance their capacity to absorb risks by, either reacting successfully to changes from the environments to secure desirable performances at the micro stage, functioning proactively on management’s part to seize new development opportunities at the intermediate stage, or looking forward about new ideas, subtle shifts in themes, and emerging environmental events to evolve organizational progress at the macro stage (Figure 14-35).

14.4.12 Controllership as commitment to orderliness in the organizational world

Humankind has always held a fascination for numbers: most people ascribe magical power to some numbers and malignancy to others. By doing this or that, throughout history, people treat numbers as symbols of the quest for knowledge in that they lend a preciseness and orderliness to human society. Observing the world around us carefully can lead to people’s inquisitiveness that there is a natural rhythm of all seasons, all organisms, and of all life and death in things, and this inquisitiveness can further urge us to identify, explore, and explain the inexplicable things or phenomena by searching for a great force which binds the complexities observed in human or environmental nature into certain rational order of events.

In the investment decision-making context, it can also be held that investment decision-makers commit themselves to bring order from chaos by searching for interrelationships between observed events occurring in the investment decision-making process and investment-related activities. This is to say that, although they can be curious and seek variety in investment decision-making, investment decision-makers can also be driven by a born need for closure, a self-energized need to bring observations about the investment situation into some unity of perception, because humans are basically orderly, rational beings who desire to control the environment insofar as it is possible. Therefore, it is not surprising to find that organizational decision-makers vigorously commit themselves to search for order by rationalizing investment opportunities, systematizing the workplace filled with resources, measuring organizational operations, and controlling the accomplishment of performance.

The search for orderliness demands the quest for quantification in terms of commitment to order
and predictability. It implies that investment decision-makers tend to commit themselves to Aristotelian scientific methods which have denoted a rational approach to problem solving through the articulation of hypotheses, the accumulation of data, the identification of alternative, the testing of the hypotheses, verification, and selection of a course of action (e.g. Figure 6-2). The search for orderliness can also be reflected by investment decision-makers' rigor to deal with challenges in such areas as productivity and quality. Orderliness in quality has been pursued by means of quality circle which has been nowadays planted everywhere, and the search for orderliness in productivity can be seen from organizations' increasing commitment towards the use of IT to deal with production and inventory planning and control. In fact, the advancements in IT and in the sophistication of quantitative methods have never been more encouraging to educate investment decision-makers to transform themselves through educational institutions or through self-learning into a generalist who can not only manage specialists but also integrate people and investment activities in an orderly, rational, systematic, goal-directed fashion.

14.4.13 Controllership as commitment to integration of interests among organizational members

Organizational life seldom falls short of conflict, and 'control must be seen in relation to conflict and sources of conflict and in relation to the potential terrain of compromise and consensus' (Littler and Salaman, 1982). It has been argued that organizational conflict occurs when both the controlling and the controlled perceive that one or both sides receive frustration (Littler and Salaman, 1982). Conflict can spring from a variety of sources, and to successfully deal with it requires a lot of human problem-solving skills. To a great extent, to control means to resolve conflict, given the fact that it is organizational conflict that truly makes control in organizations more and more complex and renders the task of management more and more challenging (Figure 14-36).

However, conflict has received differing attention in the literature of control in organizations. The traditional perspective, which is drawn on the non-zero sum assumption, holds that conflict represents a malfunction within an organization and should be avoided, because management practice starts from 'industrial peace' and individuals' effort has been welded into a common effort (Drucker, 1968). It also holds that the conflict-free organization involves goal-setting in agreement with individuals and groups, so that the conflict which does occur has to be explained away into, say, mismanagement, bad communication, or bloody-minded shop floor employees (Salaman, 1978).

The plural perspective, drawn on the zero-sum assumption, sees conflict as an inevitable, natural phenomenon existing in every organization, or as a means of balancing the status quo, or as a safety valve which assists evolutionary rather than revolutionary change and keeps organizations responsive to internal and external changes, so that individuals and groups can each pursue their own interests and objectives while an organization's essential elements such as the organizational hierarchy or power distribution are still retaining intact (Pondy, 1967). This
underlines the pluralist’s belief that conflict can be resolved through compromise which is acceptable and workable to all, and organizations have to achieve a compromise so as to maintain a viable collaborative structure within which all the stakeholders can each pursue their own aspiration with varying degree of success (Dalton, 1959).

Figure 14-36: Manifestations of organizational conflicts
(Sources: Varying materials including Child (1984), Thomas (1992), and Jones et al (1998))

The radical perspective, also drawn on the zero-sum assumption, views lack of conflict as a problem, and conflict as a way of instituting revolutionary rather than evolutionary change. This radical worldview maintains that organizational conflict remains a part of the inevitable struggle between the controlling and the controlled due to the disparity of power (Marx, 1973), and that organizations represent arenas of conflict for individuals and groups with choices of organizational structure and type of technology being part of the struggle for control by one individual or group over another (Salaman, 1981).

The interactive perspective, which is drawn on the assumption that what really matters in reality is that conflict should be identified and managed in such a way that the destructive win-lose outlook with its accompanying polarization of views is minimized, actually views conflict as an aid to the control process. It is maintained (Argyris, 1970), for example, that organizations without conflict can become apathetic and unresponsive to changing needs, and that an ongoing minimum level of conflict can be just sufficient to keep the organization viable, self-critical and creative. This implies that management should not seek to eliminate conflict but rather to create the right level of it so as to gain its benefits, especially when the organization needs to bring about change, increase group cohesiveness and improve group or organizational effectiveness
In regard to conflict-resolving, it seems evident that any conflict of interests can be resolved in any one of four ways (Figure 14-35): ‘voluntary submission of one side, struggle and the victory of one side over the other, compromise, and integration’ (Follett, 1924). However, it remains clear that both voluntary submission (either by one side or by both sides) and struggle-resulted victory are not always acceptable, although they do occur in practice, in a such fashion that an increase in control achieved by one side over an issue which is in dispute is at the expense of the amount of control available to the other side. Compromise, which means each of the two sides give up some aspect of their concern, can likewise be futile because it postpones the issues and because the truth does not lie between the two sides. Integration involves the finding of a solution which satisfies both sides without the sacrifice of one side to another, and, thus, in essence, remains the paramount way to resolve conflicts so as to achieve controlled performance.

As can be seen in Figure 14-37, too little conflict can cause performance to suffer: too little conflict arises when the management become so obsessed with the unitary worldview striving for agreement rather than effective decision-making, and this over-emphasized conformity at the expenses of new ideas usually results in resistance to change when it is needed and thus downgrades performance. Too much conflict can also cause performance to suffer: in an organization in which high level of conflict predominates, the management can become so obsessed with the radical worldview and so determined to struggle for victory through conflict that they become more and more willing to lever organizational resources into wining political battles or competing for self interests; and this struggle syndrome eventually makes them become too busy to do what really contributes to the organization’s sustainable advantage.

Since too little conflict results in the waste of organizational opportunities and inevitably lead to poor organizational effectiveness and too much conflict results in the waste of organizational resources and unavoidably leads to poor individual or organizational efficiencies, the immediate task of control for the management, therefore, rests on avoiding either too much or too little conflict, viz., putting it differently, searching for an optimum level of conflict (i.e. point D in Figure 14-37).
It can be argued that, given a control situation, there exists an optimum level of conflict (point D in Figure 14-37, before which performance increases as conflict increases and after which performance decreases as conflict increases), which leads to the optimum performance (i.e. line segment DK in Figure 14-37), even though it can remain tough to locate it in that this optimum level of conflict can vary from organization to organization depending on, inter alia, the internal forces such as organizational culture and management practices prevailing in the organization, and external forces such as macro-economic situations of the economy.

Seemingly, at the optimum level of conflict, both the controlling side and the controlled side become both the controller (to control performance as a result of the attempted mastery of nature) and the controlled (by the organizational control situation which is a part of the nature via the pursuit of balanced organizational purposes); and they both are likely to be open to, and encourage, a variety of worldviews in regard to conflict as well as to promote change efforts which can benefit the organization as a whole.

This corresponds to an organization’s progress orientation towards the pursuit of the ethicomoral state of GOOD (Ackoff and Emery, 1972) or HUMANITY (Emery, 1981). To visualise this pursuit, imagine control of an investment (please see Figure 1-4-5&8), in which the ethicomoral state of GOOD means increasingly intensifying organizational members’ interest to an end (such as growth, welfare, self-achievement, or profit) which is desired by all stakeholders including both the controller and the potentially controlled (please see Figure 14-27). For investment controllers, to integrate conflict is to recognize the existence of conflict in the work force in the hope that in the short run conflict can be constantly controlled at an optimum level at which the highest level of performance is achieved (i.e. line segment DK in Figure 14-37): they first conceptualize conflict-resolving by formulating an image of nature of the investment and of its environment, then operationalize it via the use of a set of formal sciences, actualize it by reaching certain level of conflict which is closer to the truly optimum point at which performance remains highest, and finally idealise it by re-actualising it if it is immediately adjustable or re-conceptualising it if it is not immediately adjustable; this perpetual commitment to the optimal point of each equilibrium of conflict between both sides of influence so as to promote in the highest degree regular realization of organizational objectives carries on and on indefinitely, moving towards the ethicomoral state of GOOD which is ultimately unattainable but always approachable in the organization’s life time.

Following this line (i.e. controllership as commitment to integration of conflicts), therefore, it seems that organizational controllership means co-control among organizational members over the control situation of interest rather than some organizational members over other members, although it also seems evident that each of the organizational members can specialise in a function or a part of co-actions which are demanded by the situation covering the whole range of organizational activities day-in and day-out. It remains arguable that control in organizations, can be regarded as organizational commitment towards optimal conflict-resolving (i.e. achieving an optimum level of conflict at which optimum performance can be effectively and efficiently
obtained) through integrative conflict-resolving processes which are of cyclical nature.

That is, control in organizations initiates itself by virtue of the fusion of knowledge as well as experience available in the organization, and is principally based upon opportunities which are created by the organization, or emerged from the situation, or infused by the bigger situation (e.g. global market or local economy). These opportunities give birth to varying levels of conflict in vested interests among organizational members and enable organizational members to influence each other through, among other things, open integration such as organization-wide disclosure of situational information on expectations, costs, and benefits. Organizational members, then, con-commit themselves so as to obtain the optimum level of conflict by organizational co-actions dictated by functions rather than sheer personalized, bureaucratic authorities so as to produce the optimum level of performance - or otherwise, if integration has not been perceived as worthwhile or visible, organizational members commit themselves to individual vested interests through furious coercion, or helpless, voluntary submission. As time goes by, organisational members escalate or de-escalate their commitment in order to smoke out the optimum level of conflict. As the situation evolves, and knowledge as well as experience accumulates, the accumulative knowledge as well as experience provides a new, circular response to the situation and helps identify or create new opportunities embracing a new set of conflicting interests.

However, in practice, the notion that control is organizational commitment towards integration so as to achieve optimal conflict-resolving, implies that a portfolio of, rather than just one, control strategies need to be adopted in an organization, so that different strategies are directed towards different issues according to the level of conflict and different strategies are followed by different individuals or groups within the organisation (Figure 14-36). Graphically speaking, it means not only that the performance curve alternates which results in variations of the optimal level of conflicts from time to time for the same organization, but also that there can also be sub-optimal levels of conflicts within each of the four zones of conflicts (submission, compromise, integration and struggle) at the same time. This suggests that, given control condition, organizations need to commit themselves to approach the most beneficial but practically available optimal level of conflict so as to achieve (sub-)optimal level of performance (Figure 14-38).
Chapter 14

On Strategic Control Of Investment

The cyclical process of optimal conflict-resolving implies that organizationally controlled performance will become impossible if control activities do not rest on self-regulating, self-directing individuals with their conflict in interests co-reconciled in the full organisational context in the light of perceived unity of organizational purposes. To achieve this organizational commitment towards integration-oriented optimal conflict-resolving in practical terms, organizations can actually engage themselves in promoting what is congruent with the organizational purposes, in preventing what is incongruent with the organizational purposes, or in nurturing organizational activities which are featuring zero-sum assumptions through evolution, convolution or revolution into those through which the win-lose zero-sum character disappears.

14.4.14 The meta-principle of strategic control of investments

The reasoning of the above-mentioned investment controllership in organizations, tends to suggest that, strategic control of investment, essentially becomes, the effective and efficient management of organizational commitment towards orderliness in pursuit of the ideal state of HOMONOMY; the effective and efficient management of organizational commitment towards harmony in pursuit of the ideal state of BEAUTY; the effective and efficient management of organizational commitment towards integration in pursuit of the ideal state of GOOD; and the effective and efficient management of organizational commitment towards change in pursuit of the ideal state of TRUTH.

As a whole, strategic control of investment remains the unifying of varying organizational commitment that escorts organizational progress. Therefore, the meta-principle of strategic control of investment lies in the principle of unity which acts to monitor the four major possible control operators in organizations, i.e. harmony, change, orderliness, and integration. Harmony reflects the principle of unity as primarily applied to the context of things (e.g. structure and factory). Change reflects the principle of unity as primarily applied to the context of changes (e.g. time and market). Orderliness reflects the principle of unity as primarily applied to the context of events (e.g. coordination and competition). Integration reflects the principle of unity as primarily applied to the context of people (e.g. workers and managers).

14.5 Conclusion and recommendation

As noted by Quinn (1980), Mintzberg and Waters (1985), Dermer (1988), and Hamel (1996), the concept of strategic control has evolved to show that forces other than senior management can and do shape strategic evolution, thus, for any organization, controllership of investments may be no longer goal-related but should be evaluated in terms of adaptability and, ultimately, survival. In practical terms, it suggests that the successful strategic control of investments should involve the use of first principles, competent leadership styles, healthier control mentalities, structurally fit control strategies, optimal span of control, clearly articulated criteria for selecting control techniques, solid foundations for implementation, and contextually fit control processes.
To achieve the goal of strategic control of investments, investment decision-makers are recommended to pursue effective and efficient management of control paradoxes. That is, to ensure desired performance, successful strategic control of investments requires that controllership, meaning both a process and a system, act as both influence and counter-influence; be both an individual and a total phenomenon; function as a two-way process for both parties involved in the process; reflect both a solo and a trilogy; remain both a periodic and a continuous improvement to progress; be both a reality and an illusion; perform as a medium for both success and failure; work as an open as well as a closed loop; be both rationality-driven and image-driven activities; behave like context-specific or context-synergic forces; involve both organization and reorganization activities; be shaped by both emergent and synergic conceptualization; be an art of both stretching and balancing; look like both an ever-changing and a never-changing mind game; act as every investment decision-maker’s dream-machine but not as everybody’s shot-gun; and, remain both an old and a new journey circulated by idealization and actualization.

In terms of research, future research needs to involve more empirical work to testify as well as advancing, by means of both qualitative and quantitative designs (e.g. case study, survey, oral history), the above-outlined propositions that successful strategic control of investments demands organizational commitment towards orderliness, harmony, integration, and change, in pursuit if the idea state of HOMONOMY, BEAUTY, GOOD AND TRUTH, respectively, that successful strategic control of investments as a whole essentially involves the unifying of varying organizational commitment which escorts organizational progress, and that the principle of unity assumes the meta-principle of strategic control of investments.

In addition, specific practice- or research- oriented considerations regarding strategic control of investments can include the following:

Q14.1. How do academics and practitioners portray the relationship between strategy and control? Should the relationship between strategy and control be both described with a focus on administrative planning and control systems and considered within a frame which embraces various important dimensions?

Table 14-10: The relationship between strategy and control

<table>
<thead>
<tr>
<th>A focus on administrative planning and control systems</th>
<th>A frame of thinking embracing varying perspectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being the prerogative of top management to ensure conformity with the central organization-wide intent of top management</td>
<td>Economic</td>
</tr>
</tbody>
</table>

Q14.2. What does business level organizational strategy mean in practice? Does it echo any of the connotations prescribed by various management thinkers?

Table 14-11: The meaning of organizational strategy

<table>
<thead>
<tr>
<th>A plan as the end product of strategy formulation</th>
<th>The attainment of organization objectives</th>
<th>The means for an organization to achieve certain ends</th>
<th>A formal logic which treads business activities</th>
<th>Organizational purpose</th>
<th>Competitive positioning</th>
<th>Incremental evolution</th>
<th>Revolution whereby an organization breaks the rules of competition</th>
<th>A game which people play</th>
<th>A label that applies to patterns in action</th>
</tr>
</thead>
</table>

Q14.3. What are the characteristics of the strategy adopted by the organization of interest? Can
it be stereotyped as classic, evolutionary, processual or systematic? What are the key approach, key rationale, key focus, key processes, and key influences of the chosen strategy?

<table>
<thead>
<tr>
<th>The stereotypes</th>
<th>Classic</th>
<th>Evolutionary</th>
<th>Processual</th>
<th>Systematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key approach</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Key rationale</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Key focus</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Key processes</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Key influences</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

Q14-4. What are the major concerns of the strategy adopted by an organization? Is it a version of analysis in the line of positions, processes, or the match between positions and processes?

<table>
<thead>
<tr>
<th>Themes Major concerns</th>
<th>Position</th>
<th>Process</th>
<th>The match between position and process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market niche, product-market domain, competitive position</td>
<td>Individuals or groups in an organization</td>
<td>Environmental niches, positioning strategies (prospectors, analysers, defenders and reactors)</td>
<td></td>
</tr>
</tbody>
</table>

Q14-5. What is the strategy situation of the organization of interest? Can it be viewed as a gaming process? If so, what are the specific components and/or parameters of the game?

<table>
<thead>
<tr>
<th>Game players</th>
<th>The choice environment</th>
<th>Availability of choices</th>
<th>Possible outcomes</th>
<th>The efficiency of an action for an outcome</th>
<th>The probability of choice of action</th>
<th>The relative value of outcomes</th>
<th>The probability of outcomes</th>
</tr>
</thead>
</table>

Q14-6. How is strategy made in an organization? Does it match any of the strategy-making stereotypes? Are the strategy-makers aware of the advantage and disadvantage of the particular strategy-making process the organization has followed?

<table>
<thead>
<tr>
<th>Stereotype</th>
<th>Conceptual</th>
<th>Formal</th>
<th>Analytical</th>
<th>Visionary</th>
<th>Mental</th>
<th>Emergent</th>
<th>Power</th>
<th>Ideological</th>
<th>Passive</th>
<th>Episodic</th>
</tr>
</thead>
</table>

Q14-7. What are the confusions that have really occurred in the strategy-making process? Does the strategy-making process change the things to be strategized such as the paradigm upon which strategy-making is based?

<table>
<thead>
<tr>
<th>Confusions</th>
<th>Purpose</th>
<th>Thinking</th>
<th>Structure</th>
<th>Style</th>
<th>Source</th>
<th>Complexity</th>
<th>Choice</th>
<th>Generics</th>
<th>Collectiveness</th>
<th>Integration</th>
<th>Change</th>
<th>Control</th>
</tr>
</thead>
</table>

Q14-8. Do confusions of strategy-making lead to further confusions of strategy-making? Which first principles can be most effective in solving the strategy-making confusions?

<table>
<thead>
<tr>
<th>Confusions</th>
<th>Which</th>
<th>What</th>
<th>Who</th>
<th>When</th>
<th>Where</th>
<th>Which way</th>
<th>Whether</th>
<th>why</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meta-principles</td>
<td>The principle of uncertainty</td>
<td>The principle of complexity</td>
<td>The principle of unity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
organization?

Table 14-18: The basis of control in an organization

<table>
<thead>
<tr>
<th>Basis of control</th>
<th>Coercive</th>
<th>Normative</th>
<th>Utilitarian</th>
</tr>
</thead>
<tbody>
<tr>
<td>In reality</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

Q14-10. How is control conceived by managers / accountants in the organization of interest? Is control viewed in positive, negative or neutral sense in the organization?

Table 14-19: Meanings of control in an organization

<table>
<thead>
<tr>
<th>Meaning of control</th>
<th>Positive (e.g. order, reliability, stability and predictability, with the absence of control implying chaos, disorder, uncertainty and anarchy)</th>
<th>Negative (e.g. domination, coercion, exploitation and manipulation, with the absence of control implying freedom, individuality, discretion, responsibility and autonomy)</th>
<th>Neutral (e.g. socialists’ value creation, capitalists’ profit-maximisation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In reality</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

Q14-11. From which angle is control most likely to be viewed in the organization of interest? Or from which perspectives has control been predominantly conceived by the managers and / accountants of the organization of interest?

Table 14-20: The specific views of control in an organization

<table>
<thead>
<tr>
<th>Dominant angle of views of control</th>
<th>Economist</th>
<th>Politician</th>
<th>Psychologist</th>
<th>Environmentalist</th>
<th>Strategist</th>
<th>Ideologist</th>
<th>Others</th>
</tr>
</thead>
</table>

Q14-12. What are the specific tasks of control in the organization of interest? Do they involve, as suggested by some management theorists (e.g. Thompson, 1967), the ‘satisficing’ of the establishment of purpose, the pursuit of effectiveness and the struggle for efficiency?

Q14-13. Which theory of control existing in the literature seems more relevant to the investment decision-making in the organization of interest? And which mechanisms or forms of control do the organization normally engage in? Are decision-makers fully aware of the principles for the proper functioning of the control mechanisms adopted in the organization?

Table 14-21: The control mechanisms which are functioning in an organization

<table>
<thead>
<tr>
<th>Control mechanisms</th>
<th>Cybernetic</th>
<th>Systematic</th>
<th>Organizational</th>
<th>Economic</th>
<th>Anthropological</th>
<th>Political</th>
<th>The contingency</th>
</tr>
</thead>
</table>

Q14-14. To what extent does the organization favour feedback or feedforward control in the light of cybernetic control? Are the guidelines for developing feedforward control useful in promoting cybernetic control in practice? And are the principles of effective feedback control pertinent to managing commitment in organizations?

Q14-15. To what extent do the five levels of hierarchies of systematic control manifest themselves in the investment decision-making process? Is it acceptable or meaningful in practice that the process of systematic control remains in essence a process of appreciation (Vicker, 1965)? Do systems ideas exert any influence on other disciplines related to the study of control in organizations such as social, political, ideological, economic and technological?

Table 14-22: The manifestation of systematic control in an organization

<table>
<thead>
<tr>
<th>Level of systematic control</th>
<th>Major functions</th>
<th>In reality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level one</td>
<td>Organization of divisional management via monitoring achievement, endorsing routine and determining actions</td>
<td>?</td>
</tr>
<tr>
<td>Level two</td>
<td>Transformation processes demanded by the whole system to prevent uncontrolled oscillation between divisions</td>
<td>?</td>
</tr>
<tr>
<td>Level three</td>
<td>Automatic maintenance of the stability of the internal environment of the organization</td>
<td>?</td>
</tr>
<tr>
<td>Level four</td>
<td>Organization wide maintenance of dynamic equilibrium with the external world</td>
<td>?</td>
</tr>
<tr>
<td>Level five</td>
<td>Organization wide self-conscious determination of goals via foresights</td>
<td>?</td>
</tr>
</tbody>
</table>
Q14-16. How can control situations in an organization be understood as well as explained (fully) in terms of the interaction of administrative, social and self-control, if organizational approaches to control are adopted in the organization of interest? Which one of the behavioural control mechanisms appears to be the most dominant one in the organization? Do investment decision-makers' motivation, expectations and perceptions all correlate to organizational performance?

<table>
<thead>
<tr>
<th>Table 14-23: Behavioural control mechanisms at a glance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavioural control mechanisms</strong></td>
</tr>
<tr>
<td>Rules and procedures</td>
</tr>
</tbody>
</table>

Q14-17. Is the problem of moral hazard arisen more from hidden information or more from hidden actions? Can both behaviour contracts and outcome contracts provide appropriate measures and rewards for investment decision-makers in the organization of interest, and what are the roles they each play? Can the 3C control model (please see Figure 14-14) be utilized to ensure that the "agents" pursuing their own individual self-interests will also pursue the collective interests?

<table>
<thead>
<tr>
<th>Table 14-24: The 3C model of agency theories to solve the moral hazard problem in an organization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The 3C control model</strong></td>
</tr>
<tr>
<td>First C</td>
</tr>
<tr>
<td>Second C</td>
</tr>
<tr>
<td>Third C</td>
</tr>
</tbody>
</table>

Q14-18. Are cultures, ideologies and values - which prevail in the organization of interest - proactive tools, constraining influences or spontaneous devices of control? How might the role of cultural control evolve along the life-cycle of the organization? How does the relationship between ideologies and likelihood of control actions manifest across various stages of the life-cycle of the organization? And which form of the clan control (i.e. economic, social or blood relationship) plays a dominant role in the organization?

Q14-19. Are there any practical reasons - other than the efficiency inherent from the "division of labour" (Taylor, 1967) and the reciprocal and conflicting needs between the controllers and the controlled due to the "inequalities" of power between them (Marx, 1973) - why politics approaches to control can dominate organizational decision-making? On which occasions does bureaucracy, power or negotiation become the more systematic device for an organization to achieve effective control?

Q14-20. Which contingency theory to control has been approached by the organization of interest? Are there possible procedural shifts of control mechanisms in the organization – e.g. from behavioural control (first by personal means and then by impersonal means reinforced by hierarchical supervision) to short-run output control with centralised coordination and eventually to input control (especially in the form of personnel training and selection, and technology)?

<table>
<thead>
<tr>
<th>Table 14-25: The contingency theory to control in an organization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contingency approaches</strong></td>
</tr>
<tr>
<td>In reality</td>
</tr>
</tbody>
</table>

Q14-21. What are the control problems for managing organizational commitment which have occurred to the decision-makers in the organization of interest? To what extent do they affect organizational performance?

<table>
<thead>
<tr>
<th>Table 14-26: The common control problems in an organization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
### Table 14-27: The first principles of successful controllership in an organization

<table>
<thead>
<tr>
<th>First principle</th>
<th>Uniformity</th>
<th>Comparison</th>
<th>Utility</th>
<th>The exception</th>
<th>Unity</th>
</tr>
</thead>
<tbody>
<tr>
<td>In reality</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

### Table 14-28: The healthier control mentalities in an organization

<table>
<thead>
<tr>
<th>Control mentality</th>
<th>Putting prevention first</th>
<th>Putting process first</th>
<th>Putting people first</th>
<th>Putting change first</th>
</tr>
</thead>
<tbody>
<tr>
<td>In reality</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

### Table 14-29: The structurally fit control strategies selected by the organization of interest

<table>
<thead>
<tr>
<th>Control strategy</th>
<th>Centralization</th>
<th>Delegation</th>
<th>Formalization</th>
<th>Informalization</th>
<th>Self-control</th>
<th>Supervision</th>
</tr>
</thead>
</table>

### Table 14-30: The extent to which the criteria for control techniques are satisfied in an organization

<table>
<thead>
<tr>
<th>Criteria for control techniques</th>
<th>Whether the objectives of the intended activity are unambiguous</th>
<th>Whether the outputs of the intended activity are measurable</th>
<th>Whether the intended activity is repetitive</th>
<th>Whether the effects of the controllers' interventions are known</th>
</tr>
</thead>
<tbody>
<tr>
<td>In reality (%)</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>
Q14-29. Does the implementation of control in the organization of interest have solid foundations? Does the control process provide organizational members with feedback on their performance, structures, and the methods of measurement of performance? Does the control process encourage dependency, inspire organizational members' passions, enthusiasm and initiatives? To what extent are Follett’s (1987) four coordinating principles (i.e. direct contact, early stages, reciprocal relating and continuous process) applicable in practice?

Q14-30. What does the control process in the organization of interest look like? Does it mirror any of the four classic models (or others) prescribed by some management theorists?

| Table 14-31: The control process in an organization demystified |
|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Control process     | Figure 14-21    | Figure 14-22    | Figure 14-23    | Figure 14-24    | Others (e.g. Figure 12-3,4,5,7,8,9&10) |
| In reality          | ?               | ?               | ?               | ?               | ?               |

Q14-31. Does it make sense that successful controllership in organizations demands effective and efficient management of control paradoxes? Are the pre-articulated control paradoxes relevant to the control practice in the organization of interest?

| Table 14-32: The practicality of management of control paradoxes in an organization |
|-------------------------------|--------------------------------|
| No.                           | Control paradoxes               | In reality |
| 1                             | Controllership as both a process and a system to ensure desired performance | ? |
| 2                             | Controllership as both influence and counter-influence | ? |
| 3                             | Controllership as both an individual and a total phenomenon | ? |
| 4                             | Controllership as a two-way process for both the controlling and the controlled | ? |
| 5                             | Controllership as both a solo and a trilogy | ? |
| 6                             | Controllership as both periodic and continuous improvement to progress | ? |
| 7                             | Controllership as both a reality and an illusion | ? |
| 8                             | Controllership as a medium for both success and failure | ? |
| 9                             | Controllership as an open and a closed loop | ? |
| 10                            | Controllership as both rationality-driven and image-driven activities | ? |
| 11                            | Controllership as both context-specific and context-synergic forces | ? |
| 12                            | Controllership as both organization-and reorganization-oriented activities | ? |
| 13                            | Controllership as being shaped by both emergent and synergic conceptualization | ? |
| 14                            | Controllership as stretching as well as balancing | ? |
| 15                            | Controllership as both an ever-changing and a never-changing mind game | ? |
| 16                            | Controllership as everybody’s dream-machine but not everybody’s shot-gun | ? |
| 17                            | Controllership as both an old and a new journey circulated by idealization and actualization | ? |

Q14-32. Does successful controllership really mean organizational commitment to redesign organizations to promote individual maturity? To what extent is control in the organization of interest a process or system which searches for harmony of people and organization? Do organizational members genuinely anticipate a responsible position in the organization? Do the premises the controllers made about the potentially controlled really determine the potential managerial styles in the organization? Does an agreement between the parts of design or composition (e.g. people and organizational structure) exists that offers a pleasing unity of effort and gives rise to improvement of performance? Is the harmony achievable by means of a just adaptation of human needs and aspirations to the requirements and goals of the organization? Does the optimum level of individual maturity exist in organizations, if so, does it lead to high performance?

Q14-33. Does successful controllership really mean organizational commitment to bring about improvement in efficiency and flexibility? To what extent is control in the organization of interest a process or system which searches for change through reorganization? Is change really inevitable in organizational lives? Does change always bring about
positive consequences in relation to organizational performance? If not, how can positive consequences of change be accomplished in the organization of interest? Do the organizational decision-makers have to commit themselves to be change initiators, change implementers, change controllers and change improvers.

Q14-34. To what extent is control in the organization of interest a process or system which searches for orderliness? How can orderliness be better achieved in the age of unknown and unreason? Do organizational members feel secure in terms of needs? Do they share with the same goal in mind? Do they genuinely cooperate with each other in actions? Can and should the function of management be decomposed into quantifiable variables? Can systematization bring forth order from chaos?

Q14-35. Does successful controllership really mean organizational commitment to integration-oriented conflict-solving? To what extent is control in the organization of interest a process or system which searches for integration through conflict-resolving? Do organizational members each pursue varying objectives? Do resistance and counter-control prevail in the organization of interest? Does the mutuality of interests necessarily lead to improvement of organizational performance? How does conflict manifest itself in the organization? Does an optimum level of conflict exist in the organization? How can it be identified and located in the organization? How does controllership exhibit itself as organizational commitment to a portfolio of sub-optimal conflict resolving?

Q14-36. To what extent does the practice of strategic control of investment in organizations reflect that the meta-principle of strategic control of investments lies in the principle of unity? How relevant are the four major possible control operators in organizations (i.e. harmony, change, orderliness and integration) to the principle of unity? How can these control operators be practically monitored in the world of investments?

1 For example, Friedman (1953) famously argues that it hardly matters if decision-makers do not rationally profit-maximize so long as competitive markets ensure that only those who do somehow achieve the profit-maximizing position will survive over the long-run.
2 The right-handed planners refer to strategic programmer who deal with machine bureaucratic contexts which are relatively simple and stable or at least predictable.
3 There are arguably three waves of the positioning school's analytical process: the first wave refers to the 'military maxims' with conclusions on strategy being expressed in imperative terms (e.g. Sunzi, 1992; von Clausewitz, 1962a, 1962b), the second wave is composed of efforts by consultants (notably the Boston Consulting Group) to prescribe strategic behaviour (Henderson, 1979), and the third wave consists of more systematic study to uncover 'research contingencies' - essentially which strategies work best where - finally gives the prescriptive side of the strategic management field the viability it so badly needs (Porter, 1980).
4 It has been argued (Mintzberg and Waters, 1982) that there are at least three themes which seem to be most consequential for strategic management: strategic vision, startup, and turnaround.
5 It might seem ironical, for example, that one of the most important findings for strategy-making - on the role of the mute right hemisphere of the human brain in the processes of visual perception as it relates to synthesis - comes not from cognitive psychology but from physiology (Sperry, 1974).
6 For example, strategic initiatives can emerge and develop lower down in the organizational hierarchy and are then championed or given impetus by the middle management who seek the approval of the top management (Bower, 1970).
7 It has been argued (Weick, 1979), for example, that, because 'all understanding originates in reflection and looking backward',...
organizations learn by acting first, then finding out what happens, and then making sense of that in retrospect, and finally retaining the behaviours which seem desirable.

8 The non-purely-economic ways can include, for example, both clandestine arrangements to subvert competition (such as establishing cartels or monopoly) and cooperative arrangements which have the same effect (such as joint ventures or strategic alliances).

9 Here 'organizational culture' represents the 'organization's mind' with regard to shared beliefs, typically reflected in traditions and habits as well as more tangible manifestations such as stories, symbols, creeds and the like which are prevailing in an organization; and 'organizational ideology' stands for a strong set of beliefs shared passionately by the members of a specific organization which distinguish itself from all other organizations (Schein, 1985; Mintzberg, 1990). For example, McDonald's organizational ideology is associated with an almost fetish belief in efficient service and cleanliness.

10 For example, using the well-known variation-selection-retention model (Weick, 1979) but with different foci, Aldrich and Peffer (1976) draw a passive conclusion that organizations as members of the populations, are born, find ecological niches, and eventually die, but only those organizations which fit the environment will survive in the long run. This well justifies the argument that 'even the largest and most powerful organizations fail to survive over long periods' (Hannan and Freeman, 1977).

11 By Goodl's (1980) 'punctuated equilibrium', organizations' life remains a story of intricate branching and wandering with momentary survivors adapting to change local environments, and thus strategy-making appears, at least in ecological terms, to be fast, cataclysmic rather than gradual full of 'sudden appearance' and 'fully formed'.

12 It has been argued (Mintzberg, 1990) that what distinguishes strategy making from others in management lies in its very focus on strategic choices - how to find them, where to find them, how to create them when they cannot be found, and how to exploit them.

13 Among the best known typology of organizations is Mole and Snow's (1978) description of prospectors, defenders, analyzers and reactors.

14 For example, the debates about the relationship between strategy and structure (e.g. Chandler, 1962; Hall and Saia, 1980; Mintzberg, 1990) have been causing increased confusions: between the 'structure follows strategy' maxim (Chandler, 1962), and 'strategy follows structure' notion (Hall and Saia, 1980), comes Mintzberg's (1990b) assertion that that strategy and structure remain inextricably reciprocal so that 'strategy may follow structure and structure may follow strategy'. The real solid contribution lies in, perhaps, the enriched vocabulary: for instance, Chandler (1962) has developed his famous theory of strategy and structure in a sequence of four distinct stages - accumulating resources, rationalizing the use of resources, continued growth, and rationalizing the use of expanded resources.

15 It has been argued (Huczynski and Buchanan, 1991) it is the preoccupation with controlled performance that sets organizations apart from other forms of social arrangement, although social sciences have never found it easy to define just what constitutes an organization.

16 Evidence suggests that the Chinese started to control their organizational activities by means of accounting 2000 years ago and most organizations at the time were specialized into three major departments: accounting, safety and security, and production.


18 Gat's (1919) and Taylor's (1967) attempt to internalization of goals as both a motivating and as a control device obsolete the premise that internal goals reduce the need for external control devices.

19 The very control devices having potential for increased efficiency carry within them their own self-destruct mechanisms.

20 However, it has been argued that both the institutionalization and individualization of control can give rise to dysfunctional consequences for the human and the organization.

21 This is because cybemation resulted from advancing technologies will make possible a greater emphasis on external control devices, but human values decreed internalization of goals and self-control.

22 Post-modernity originally means, among other things, randomness, anarchy and fragmentation (Clegg, 1990).

23 Modern control concepts (e.g. systems) can also pose their great threat precisely in their potential as a means for extending the control from man over man.

24 An organization can rely on a belief system to communicate core values such as collective pride in engineering quality, financial success, responsibility or integrity; these inspirational beliefs can be offset by clear boundaries such as imposed limitations on actions which might jeopardize the organization's belief; more control can be gained through the use of a variety of diagnostic controls such as objectives, budgets and profit plans; control can focuses attention on the strategic uncertainties which need to be monitored such as the organization's reputations.

25 Thompson (1967) argues that efficiency and effectiveness can only be discussed relative to a bounded system and purpose, as the product of interwoven social interaction by its nature, tends to be unbounded. Take survival - perhaps the minimum overall goal most organizations exhibit concerns to achieve, for example, remaining in existence is essential, but it can not be sustained unless effectiveness and efficiency: organizations do not record positive outcomes (e.g. Net Present Value) will struggle and eventually born out themselves, and organizations do not record high efficiency (Return On Investment) will be squeezed out by the more efficient competitors.

26 For example, the specific purpose-oriented goal states can be reflected by Etzioni's (1975) classification of organizational goals (stated or actual) involving (a) order goals, (b) economic goals, and (c) culture goals. There can be four specific goal states each of which can involve several factorial variables (Butler et al, 1993): namely (a) the definition state which contains consequence due to (i) failure and (ii) fit with regard to business strategies, uncertainty in terms of (iii) rarity and (iv) performance, and disagreements in terms of (v) personality and (vi) project objectives; (b) the strategy state which contains computation in terms of (vii) rate of return and (viii) reported profit, judgment in terms of (ix) personnel, (x) image, and (xi) judgment, negotiation in terms of (xii) overall negotiation, and inspiration in terms of (xiii) overall inspiration; (c) influence in terms of (xiv) internality and (xv) externality, and (d) timing in terms of (xvi) deliberation.

27 For example, the efficiency specific path constraints can be reflected by specific process-oriented goal states in accordance with Emerson's (1913) twelve principles of efficiency, which contain (i) 'clearly defined ideals' aimed to reduce intraorganizational conflicts, vagueness, uncertainty and aimlessness, (ii) 'common sense' aimed to exhort members of an
organization to take a larger view of problems and their relationships, (iii) 'competent counsel' aimed to build competent human resources, (iv) 'discipline' aimed to provide obedience and adherence to organizational rules, (v) 'fair deal' aimed to establish a system of justice and fairness in all dealings with the resources, (vi) 'reliable, immediate, accurate, and permanent records' aimed to facilitate the information and accounting systems, (vii) 'dispatching' aimed at planning and routing of work, (viii) standards and schedules' involving methods and time for tasks, (ix) 'standardized conditions', (x) 'written standard practice instructions', (xi) 'standardized operations', and (xii) 'efficiency rewards' or incentive plans.

The control space can be represented by either Hopwood's (1974) typology of control in organizations (i.e. administrative, social and self-controls) or by Dalton and Lawrence's (1971) terminology of control (i.e. organizational, informal and individual controls); and control states can be reflected by (i) value premises of behaviour such as training, recruitment, selection and information disclosure, (ii) output consequences influenced by means such as budgets, MBO, and piecework, (iii) how tasks are performed in terms of rules and procedures, (iv) informal socialization such as group norms, and (v) internalization such as personal motives.

Cybernetic control assumes that control is exercised from outside rather than inside the control system.

It has been argued that there are four necessary control conditions (Tocher, 1976, 1970): namely, (a) the existence of an objective which is desired, (b) a means of measuring process outputs in terms of the objective, (c) the ability to forecast the effect of potential control actions, and (d) the ability to take actions to reduce deviations from the objective.

It seems that steps 1, 2 and 3 form an open-loop control by which no adjustments are made to actions once the sequence of intended acts is underway; while steps 1, 2, 3, 4 and 5 form a closed-loop control by which adjustments can be made to actions along the sequence of intended acts.

Step N stands for the last step by which desired outputs are to be satisfactorily achieved.

A comparison of strengths and weaknesses of both feedforward and feedback control reveals (Cushing, 1982) that feedback control tends to be more economic and easier to implement but allows variations to exist for as long as it takes to detect and correct them; feedforward control tends to be more efficient although it does depend critically for its effectiveness on the predictability of future process outputs.

It has been argued (Berry et al, 1993) that the 'soft' systems have most to offer to the study of management control.

For example, Boulding (1956) advocates that systems may be arranged in a hierarchy derived from an inherent distinction of complexity: namely, (a) static frameworks, (b) dynamic systems with predetermined motions, (c) closed loop control or cybernetic systems, (d) homeostatic systems such as biological cells, (e) the living plant, (f) animals, (g) human beings, (h) organizations, and (i) transcendental systems.

The social aspects of control, in the light of social systems, can involve 'personnel control', action control, and/or results control, the latter of which represents an approach which holds members of an organization accountable for achieving particular results and then rewards them for their achievement.

However, Hopwood's (1974) classification is not the only one; similar typologies of control in the organizational context can include that of Dalton and Lawrence's (1971) which contains organizational, informal and individual controls.

This is because, as argued by Ouchi (1979), goal congruence through rules, procedures, or output control can be difficult to achieve especially when outputs are unmeasurable in any meaningful sense and when tasks are unpredictable. Thus, hidden forms of administrative control focusing on the basic value premises which surround members' behaviour can prove to be more appropriate than methods obtrusively congruent with actual behaviour or the outcomes of that behaviour.

For example, some control packages (such as 'scientific management' - i.e. gathering workers together in one place, setting performance standards, dictating work times, using personal supervision to ensure diligence, and the enforcement of rules against distractions like talking, smoking and drinking), which are used by superiors in an attempt to disseminate or transmit cultures through consciously designed, planned strategy so as to regulate and inculcate particular systems of belief and means in subordinates, can actually entail all three types of control.

It has been argued (Ouchi, 1980) that social control through the informal transmission of particular values, beliefs, attitudes and expectations is not just exercised 'horizontally' among hierarchical peers - it can also occur 'vertically' between hierarchical superiors and subordinates.

However, training and culture can be well linked in that, for example, training may be seen as socialization processes instilling organizational culture into a new recruit.

Blau and Schoenherr (1971) argue that management can achieve control by use of such obtrusive mechanisms like bureaucratic hierarchy of authority, explicit rules and regulations, traditional incentives and machine pacing that the recipients of control can actually feel that they have been controlled; management can also achieve insidious control by designing controls in ways (e.g. the use of expert power, selective recruitment and the allocation of resources) that make them unobtrusive as well as apparently neutral.

Laboratory evidence suggests that there is a positive correlation between the use of sanctions (such as warnings and dismissals) and unit (or departmental) performance (O'Reilly and Weitz, 1980).

For instance, research evidence seems consistent with the social facilitation prediction that computer aided surveillance decreases organizational performance on more sophisticated tasks while it can increase performance on very simple tasks (Aiello and Svec, 1993).

Salancik (1977) argues that, no choice means no implication of the behaviour for individuals' beliefs and perceptions, that puliceness makes it harder for the individuals to deny having done the action and thus binds individuals and their choices made more closely together, and that explicitness means that behaviours are more committing to the extent they have a clear, logical relationship to subsequent behaviours and attitudes.

Empirical research on commitment, which is most often associated with some kind of organizational or individual pathology (i.e. some error in decision-making) such as escalation to failing course of action and seduction by cults (Barker, 1984), seems to appeal for building organizational commitment as safeguards for voluntary turnover, desirable performance, and organizational citizenship (O'Reilly and Chatman, 1986, 1996; Shore and Wayne, 1993). For example, through recruiting the potentially controlled the controllers may further cement their own attachment to the organization through the activity of proselytizing (Barker, 1984; Galanter, 1989; O'Reilly and Chatman, 1996).

For example, effective socialization (referring to the systematic means by which organizations bring the potentially controlled into their culture) can be accomplished through a seven step process (Pascale, 1985) which consists of (i) careful selection of

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entry-level candidates, (ii) humility-inducing experiences in the first months on the task, (iii) thorough training through expose
field to the organizations’ operations and individuals who exemplify the organizations’ values, (iv) paying close attention to
systems measuring operational results and rewarding individual performance, (v) strict adherence to the organizations’ core
values, (vi) developing reinforcing folklore, stories and legends that validate the organizations’ culture and its aims and that
interpret history in ways consistent with its values, and (vii) building consistent role models and consistent traits associated with
those recognized as on the fast track. The socialization can be achieved by means of six tactics (van Maanen and Schein, 1979)
as being depicted along a bipolar continuum involving (i) collective vs individual (are new comer grouped together or handled
individually?), (ii) formal vs informal (are the new comers separated from the rest of the organization or not?), (iii) sequential vs
random (is there a fixed sequence of steps required to assume a new task role?), (iv) fixed vs variable (is there a specified
timetable for the socialization process?), (v) serial vs disjunctive (is the new member socialized by an experienced member?),
and (vi) investiture vs divesture (are the newcomers’ identity and personal characteristics affirmed or stripped away?).

Ebers (1995) has developed a typology of organizational cultures which entails legitimate culture based upon ideological
pressures for conformity, efficient culture based upon social and material sanctioning, traditional culture based upon
internalization, and utilitarian culture based upon calculations of consequences.

For example, it has been argued (O’Reilly and Chatman, 1986) that, although commitment remains one important mechanism
through which strong cultures may be built, the concept of culture incorporates more than simply commitment, covering from
symbols, languages, ideologies, rituals, and myths (Petigrew, 1979).

O’Reilly and Chatman (1996) identify four mechanisms through which organizations can attempt to manage culture: (i)
systems of participation of decision-making in that the provision of a feeling of making choice enhances individuals’
commitment to the organization and the decision-made (Walton, 1985), (ii) dispatch of signals about what is important and
valued (Pfeff, 1981), (iii) shared social information – informational influence (Deutsch and Gerard, 1955), and (iv) shaping
behaviour through reward systems such as recognition of achievements, awards and tour visits from charismatic leaders (Biggart,
1989).

Cultural control can become superior to external control because cultural control comes from the internalization of values and
from peer enforcement and is thus able to overcome some problems inherent in external control (Kunda, 1992): for example,
external control normally requires foresights on what behaviours or outcomes are important and are to be rewarded, and this
foresight can become impossible due to task complexity and unanticipated circumstances; relying external rewards and sanctions
requires supervisory effort or surveillance, and this reliance can be both costly and counterproductive; and external controls
tend to evoke psychological reactance particularly when such controls are first introduced into a control situation, and this
reactance can result in individuals’ feeling of losing freedoms.

For example, Meindl et al (1985), in their study of the romance of leadership- an elevated belief in the efficacy of leaders
and leader behaviour, propose that there will be more interest in leadership when economic conditions are worse and extreme
performance outcomes are more likely to result in attributions of leadership effect.

For example, Eccles and Nohria (1992) compare the language of Jack Welch, CEO of GE , who led GE through an important
transformation, with that of Roger Smith, CEO of GM, who is generally acknowledged not to have helped GM become better at
competing in the automobile industry. They find that the GE’s CEO’s language conveys “an imaginative vision of the future, a
realistic portrayal of the present, and a selective depiction of the past which can serve as a contrast to the future”, while that of
the GM’s CEO externalizes GM’s problems and never provides enough detail to his vision of building a 21st century
corporation to inspire actions.

Significantly control is rarely considered as being an endogenous feature of economic systems; In fact, control in main stream
economics has been traditionally seen as something exercised from outside rather than inside the economic systems.

In literature, there are two versions of contractual theory – agency theory and transaction cost theory (Seal, 1993): from a
systemic perspective, the agency vision views an economy as a network of interlocking contracts (Jensen and Meckling, 1976),
while the transaction cost perspective views the economy as a mixture of “markets and hierarchies” (Williamson, 1975). However, one
theoretical interpretation of the push for marketization is that the agency approach has triumphed over that transactions cost
approach (Seal, 1995).

It has been held that agency relationship is universal (Ross, 1973) and ‘exists in all organizations and in all cooperative
efforts- at every level of management in firms’ (Jense and Meckling, 1976).

It has been held (Tiessen and Waterhouse, 1983) that there can be two major types of contract, namely behaviour contract and
outcome contract, with both designed to ensure that the principals’ and agents’ efforts are unanimously directed at achieving
outcomes and behaviour which is consistent with the interests of wealth-maximizing owners. However, behaviour contract
typically links the agent’s (normally fixed) remuneration to their performance of the responsibilities and duties specified for the
agent; while outcome contract typically links the agent’s (normally non-fixed) remuneration to external indicators such as share
price performance.

Cultures are seen (Schein, 1985) as patterns of basic assumptions; ideologies remain expressible through special languages,
organizational stories, rituals and ceremonies, sagas, and physical arrangements such as dress, and begin to emerge as
organizations establish itself and their actions become diffused with values (Mintzberg, 1983); and shared values consist of
openness, trust and creativity (French and Bell, 1973).

Integration regards cultures as integrating mechanism with an emphasis on harmony, homogenization, and consensus and
indicates that integration through controlling or managing cultures gives rise to increased managerial control; differentiation
acknowledges that organizational cultures reflect a variety of values and beliefs typical of most contemporary, complex
organizations, and implies that because of the multicultural nature managerial control through manipulating cultures can be
nearly impossible to achieve; ambiguity emphasizes on consensus, co-operation, harmony and denial of ambiguity, and implies
that managerial control can be achieved through spontaneously arising social control.

For example, cultural control can be achieved through socialization by means of staff selection, apprenticeship, and staff
training, although the process of which can be tenuous.

‘Organization development’ originated from Lewin’s (1951) and Roger’s (1951) work, was once part of the liberal agenda of
the Fifties and Sixties which later incorporated work humanization and declined in the late Seventies. However, it still finds a
prominent place in some organizations’ human-resource management functions.

In fact, Bennis (1966) argues that the only way that changes organizations is cultural changes because organizational
Chapter 14 On Strategic Control Of Investment

hindrances to humans' capacity for growth need to be unblocked if organizations are to be healthy and effective (Argiris, 1964).

However, it also makes sense that ideologies once developed can remain very difficult to change if particular ideologies are not that which is needed (Clark, 1972).

Taylor (1967) acknowledges that workforce needs to be clearly separated in the interests of efficiency, and thus the legitimate function of control becomes necessary for the controllers to handle the complex tasks of achieving effectiveness.

The controllers in a capitalist organization, according to Marx (1973), cannot rely on the willing cooperation, commitment and loyalty of the potentially controlled, but turn to exploitative forces. This is because (Braverman, 1974) that, inequalities of power in organizations, lead to inequalities of other resources, increase the chances of resistance to management, and eventually give rise to conflicts between the two class which beget themselves perpetually in the capitalist system; and this need of the controllers to maintain a disciplined workforce results in a continuing process of control which, per se, becomes perpetually refined and intensified.

It has been supported by modern management theorists (e.g. Miller, 1963) that, in any organizational life cycle, an organization can exercise control in a more personalized fashion especially in the entrepreneurial phase, then control becomes less personal as the organization grows, and finally 'office' fashion tends to prevail over the personal. This, perhaps, justifies why large-scale capitalist organizations such as those market-driven but subject to government regulation, need stable, strict, intensive, and calculative management.

It is also acknowledged (Weber, 1958) that authority, in reality, may be legitimated on a combination of rational-legal, traditional and charismatic authority.

This is because that, rational-legal authority best provides a basis for continuity of administration, it remains reasonably rational in that leadership is chosen on the basis of competence with respect to duty performance, it supplies the controllers with legal means for exercising authority, and all authority are clearly defined and carefully delimited to the functions necessary to achieve the organizational objectives (Weber, 1958).

Other elements of Weber's bureaucratic control include (Henderson and Parson, 1947): (a) officials of varying ranks are appointed rather than elected, (e) the controllers are not an owner of the unit being administrated, and (f) the controllers work for fixed salaries.

Underlying the functionalist approach to power related control is the reification of notions that organizations are harmonious, consensual phenomena existing for the pursuit of common purposes and that there is no inherent conflicts of interest between the controllers and the controlled (Fox, 1974).

The pluralist approach to power has received severe attack from theorists having a radical fame of reference (e.g. Brown, 1978; Clegg, 1979; Bachrach and Baratz, 1962; Lukes, 1974) who insist that the persistence of marked inequalities in the distribution of material and symbolic power inevitably results in situations in which the controllers impose their will on the controlled whose interests can be inherently antagonistic to and ultimately irreconcilable with those of the controllers.

However, this is not a complete picture of power resources. More relevantly, Batstone's (1978) overview of power resources identifies four sources of power which can be used to reassert control in organizations, namely (i) the extent to which organizational members have skills which cannot be replaced easily, (ii) the extent to which organizational members occupy a position in the production / service process which is crucial to that process, (iii) the ease with which organizational members can disrupt the production / service process, and (iv) the extent to which organizational members can create or cope with uncertainty in the production / service process. To illustrate this matter, for example, one can argue that power can derive from control over information and/or uncertainty (Pettigrew, 1973), from technical abilities to, say, rectify mechanical breakdowns (Crozier, 1964), from doing favours for others (Wade et al, 1990) such as contracts which pay off executives if they lose their job because of a change in control of the corporation, from self-perpetuation through the effective use of the resources so acquired (Boeker, 1989), from informal structure such as individuals' centrality in social networks (Brass and Burkhardt, 1993), from provision of resource (Salancik and Pfefler, 1974), from personal characteristics such as the articulate, sensitive, socially adept, competent, and popular (Allen et al, 1979).

However, Hickson et al's (1971) underlying assumption that there is consensus over interests and goals within each segment has received attack for its failure to recognize the impact of internal hierarchical relationships on organizational members' behaviour in an organizational segments (Marchington, 1979).

For example, there exist occasions where individual members' or groups' action exerts control by supporting the non-decision-making process such as excluding items from the agenda of formal meetings and rubber-stamping in the formal meeting critical organizational decisions informally pre-made by some elites (Schattschneider, 1960).

For instance, the operation of any administrative controls may weave into the organizational members' consciousness concepts of the status quo as, in some sense, inevitable and thus rational so that organizational members can become entrapped in a 'Psychic prison' (Morgan, 1986), which takes the interests vested in that status quo as legitimate rather than threatening (Fay, 1975).

Managerial prerogative follows the maxim that 'management must manage' in that the controllers (e.g. owners or managers) have control over their own assets, they are supported by the statutory law of organizational responsibility, and the argument that it is in everyone's economic interest that controllers who are chosen for their merits should be left free to control as they think best.

Managerial ideology, according to McGivering et al (1969), refers to a set of beliefs which management seeks to propagate in order to inspire acceptance and approval of managerial autonomy by the general public and/or by specific groups of organizational members.

For example, Willis's (1977) empirical study suggests that people can become trapped and disempowered by their very rebellion such as counter-cultural values or opposition to authority in their earlier days, because, those counter-moves, partially but nearly unavoidably lead to further entrenchment in terms of qualifications favourably required by the society, and eventually contribute to the painless transition of those with counter-cultural values into less desirable work, thus forming the attitudes of the then counter-cultural towards the work and, perhaps, even the celebration of the work over other contemptible but unrealistic work.

It has been noted that waiting is a form of investment and increases the value of the object being sought in that 'the subjective value of the gain is therefore given not only by the objective value of the service but also by the amount of time invested in its attainment' (Schwartz, 1974).
Eight dimensions of influence have been extracted to understand influence tactics and they include assertiveness, ingratiation, rationality, sanctions, exchange, upward appeals, blocking, and coalitions (Kipnis et al, 1980), and evidence shows that, the higher the status of the target person (superior, peers, or subordinate) the greater the reliance on rationality tactics (e.g. writing a memo, using logic, or making a plan), that the lower the status of the target person, the greater the reliance on assertiveness, that exchange is most frequently used among peers, that personal assistance prompts the use of ingratiation while efforts to improve a target individual's performance tend to rely on assertiveness and rationality, and that some behavioural tactics such as the use of ingratiation, assertiveness, exchange, and coalition with others significantly relate to perceptions of power (Kipnis et al, 1980). Moreover, Kipnis and Schmidt (1988) has identified four types of influence styles used by subordinates on their superiors to affect salaries, evaluations, tension, stress and the suchlike: (i) shotgun typified by those who tend to use all of the influence strategies almost indiscriminately, and are particularly high on the use of assertiveness, (ii) ingratiator typified by those who score high on friendliness and have average scores on the other scales, (iii) bystander typified by those who score low on their use of all of the influence strategies, and (iv) tactician typified by those who score high on the reason or rationality strategy and have average scores on the other scales. It has been found (Kipnis and Schmidt,1988) that those who employ the tactician strategy earn more than those using other strategies and the shotgun style tends to be associated with stress and tension.

It has been argued that both expressed positive emotions and expressed negative emotion can serve as tools of social influence in that 'stimuli that are presented before, during, or after a given stimulus shape its meaning' (Rafaeli and Sutton, 1991). For example, expressed emotions such as anger, irritation, and mild disapproval can serve very well as tools of negative reinforcement. Moreover, Rafaeli and Sutton (1991) have identified five emotional contrast strategies which can be employed as tools of social influence, namely, (i) the sequential good in contrast to the bad, (ii) the simultaneous good in contrast to the bad, (iii) one person playing both the good and the bad, (iv) the good in contrast to the hypothetical bad, and (v) the good contrast to the expectations of the bad. It is reported (Rafaeli and Sutton, 1991) that there are three workable mechanisms which can affect the amplification of expressed emotion by means of emotional contrast strategies: (i) when there is a contrast, the experience may occur of accentuated anxiety in response to the bad and of the accentuated relief in response to the good; (ii) the contrast may accentuate the targets' perceptions that the good are kind and helpful, and the targets tend to feel pressure to reciprocate the kindness by complying with the wishes of the good; and (iii) accentuated feelings of relief in response to the good can lead target people to develop trust in the good.

Gargiulo (1993) finds that organizational members may tend to build ties of interpersonal obligation with people who directly affect their performance in the organization, and that, when such direct ties can not be built, because of interpersonal friction or fundamental differences about policy, effective organizational members can use a two step process in which they build co-optive relations with others who could affect the behaviour of the person on whom they depended.

For example, opportunity costs (i.e. the costs of alternative forgone), which remains much less vivid than out-of-pocket costs, are normally not given enough weight in negotiation (Northeast and Neaale, 1986).

For example, Kramer et al's (1993) study supports that control negotiators, when accountable to constituents who monitor their performance, are more likely to engage in noncooperative behaviour during the negotiation process, partly because accountability to constituents induces concern for appearing strong by refusing to make concessions (Tetlock, 1985).

For example, Odiore (1966) argues that management situations are too complex for precise principles and propositions which would yield a 'general theory' (Frederick, 1963) because successful decision-makers are all too busy existing to spend much time on theories which would explain their success, leaving principles there uncovered nor described.

For Lawrence and Lorsch (1967), the word environment incorporates triple meanings: it means the market which, in business terms, corresponds to the sales / services or the marketing / servicing subsystem of the organization; it means the technico-economic environment which corresponds to the production / service operations subsystem of the organization; it also means the scientific environment which corresponds to the R&D subsystem. Further, they have proposed three characteristics of these environments: the rate of change in conditions, the certainty of information available, and the time span of feedback of results on decisions made or action taken.

For Lawrence and Lorsch (1967), integration refers to the coordination or achieving unity of effort.

There are obviously some variables other than strategy, size, technology and environment, which can affect the structure of control in organizations, and an example of this goes to culture (e.g. Emmanuel et al., 1992).

However, not all theories of organizational structure are contingent: for example, the M-form hypothesis that the multidivisional structure is more efficient than either a holding company or a functional structure (U-form), can be confirmed in organizations large and small (Williamson, 1975), predicts that the advantages of the M-form remain largely non-contingent (Pfeffer, 1997). To illustrate this, consider the problems of commitment to unprofitable lines of investment in organizations, the multidivisional form helps control organizations' escalation of commitment by separating the resource allocation function which is performed at headquarters, from the operational management concerning operational efficiency which is located in the divisions.

Organizational ecology investigates the role of selection processes (Singh and Lumsden, 1990): it studies populations of organizations with the individual organization as the unit of observation, and views that changes in organizational populations arise largely through the processes of organizational birth and death as contrasted with the adaptation of individual organizations.

The Darwinist thoughts renowned by 'struggle for existence' and 'survival of the fittest' (Darwin, 1859) may well explain the 'robber barons' phenomenon (an analogy to the feudal lords who built castles along the Rhine River (Germany) in order to exact tolls from whoever passes by) that entrepreneurs may behave in socially irresponsible ways such like bribery of legislation, 'watering stock', stock manipulation, and conspiracy. However, it has also been argued that the unsavory practices could have been initiated by other motivations such like gaining economies of scale (Chandler, 1984) as contrasted to cutthroat competition (in the case of Rockefeller who contrived with the railroads in the late 19 th century) or bargaining with corrupt legislation (Becker, 1943).

It is believed (Wittgenstein, 1958) that examinations of the reasons for deviations remain the route of suggesting necessary
modifications.

For example, house (1971) claims that (a) directive behaviour may become advisable when the controlled are having difficulty completing assigned tasks, (b) supportive behaviours are often beneficial when the controlled are experiencing high levels of stress, (c) participative behaviours can become particularly useful when support of a decision is required from the controlled, and (d) achievement-oriented behaviours can be promising when those controlled with high capabilities are bored from having too few challenges.

For example, Fayol (1949) argues that, provided 'the work is simple', a foreman is capable of handling 20-30 workers. Fayol (1949) actually proposes his scalar growth process on the basis of 15 workers to a foreman and a ratio of 4 supervisors to every other supervisor, and this progression enables that the number of levels in an organization can be kept to a minimum.

For example, it has been argued (Ridley, 1998) that there is a liner relationship between the brain size and troop size of social primates and this implies (Wright, 1994) that, given human being's brain size, the maximum number of people with varying interlocking relationships that can be enrolled in any organization is 150 (Pinkier, 1997; Semler, 1995). This perhaps partially explains why so many modern organizations with an employment of far over 150 people are struggling with the tendency of people to break off into cliques, or of functions, departments or even teams to come into conflicts with one another (Nicholson, 1998).

To illustrate, Graicunas's (1937) direct single relationships, from an open systems vantage point, can be reflected by either a 'line' relationship, a 'staff' or 'lateral' relationship, a 'functional' relationship, or an 'authority' relationship (Urwick, 1974; Huczynski and Buchanan, 1992).

That is, the number of the total relationships a controller has with his or her potentially controlled at a certain hierarchical level, equal to \( N^2 \cdot 2^{N-1} \), whereas \( N \) stands for the number of the controlled, \( K \) stands for the number of hierarchical levels required or expected, and \( M \) represents the total number of bottom line workers of whom each of lowest ranked supervisor is in charge. The total number of the workers needed amounts to \( M^*N(K-1)^2 \), the total number of hierarchical controllers totals \( \sum N(K_i-1) \), and the number of employees totals \( \sum N(K_i-1) + M^*N(K-1) \).

108 However, Graicunas (1937) notes that exceptions to this argument are permissible in the case of routine work at lower organizational levels (e.g. shop floor) where the controlled work relatively independently of each other, where the controller have less complex responsibilities, or where the controlled have little contact with others.

109 In terms of measures of performance, the financial ones can include profit ratios such as return on investment (net profit before tax divided by total assets) and gross profit margin (the difference between sales revenue and cost of goods sold divided by sales revenues), liquidity ratios such as current ratio (current assets divided by current liabilities) and quick ratio (the difference between current assets and inventory divided by current liabilities), leverage ratios such as debt-to-assets ratios (total debts divided by total assets) and times-covered ratio (profit before interest and tax divided by total interest charges), and activity ratios such as inventory turnover (cost of good sold divided by inventory) and days sales outstanding (account receivable divided by the total sale and then times 300).

110 In a sense, it can be argued that Child's (1984) model of control process can be regarded as a functionally operationalized version of that of Davis (1951).

111 Otley and Berry (1980) believes that a cybemetic model of this kind (i.e. Figure 14-24) can be possibly used to analyze such organizational phenomena as administrative, social and self controls, although it best fits for the administrative controls.

However, immortality can remain far beyond reach in reality. For example, in human history, very few organizations have survived more than half a century. Evidence shows that many organizations develop, mature, saturate and die in accordance with route of their cultures, leadership, and competitive advantages.

114 This is because organizations operate in a closed system (i.e. a self-contained system which is not affected by changes that occur in the external environment) can fail to acquire inputs and eventually experience 'entropy' due to ignoring the external environment (Thompson, 1967). The downfall of Qing Empire, the last Chinese dynasty, in the 20th century remains a typical example of this entropy due to the closedness of its foreign and domestic policies.

115 It has been argued (Becker and Neuhauer, 1975) that the procedures which the principal can specify can be divided into two categories: those concerned with production/service activities and those concerned with visibility of consequences. Production/service procedures are those which are directly related to the production/service process and directly facilitate the manufacture of good and the provision of services by the organization; typical examples of these include operating speed of the production/service machinery, and the number of work hours per week. Visibility-of-consequences procedures are those which are designed primarily to make the principal aware of the degree to which his or her organization is meeting its objectives; and typical examples of these include the one that calls for a weekly compilation of cost reports and for sending them to the headquarters.

116 It is argued (Jones et al, 1998) that there are at least six sources which have potential for conflicts: (a) overlapping authority which refers to situations where two or more controllers, departments, or functions claim authority for the same activities or tasks; (b) task interdependencies which refer to situations where some organizational members are dependent on other's contributions to complete the tasks; (c) incompatible evaluation or reward systems which refer to situations where the evaluation or reward systems become obsolete or inappropriate for current practices, (d) scarce resources, (e) incompatible goals and time horizons, and (f) status inconsistencies which refer to the situations where some individuals, groups, teams or departments within an organization are more highly regarded than others in the organization. As regards the variety of organizational conflicts, there are four basic types: (a) interpersonal conflict which exists between individual members of an organization because of differing goals or values, (b) intragroup conflict which arise within a group, team, or function, (c) intergroup conflict which occurs between groups, teams, department, and (d) interorganizational conflict which arise across organizations.

117 Integration simply assumes that the whole is a configuration greater than the sum of the parts, even though the action of integration may not be visible or practically possible in every case. Moreover, integration can be more possible than people realize in that people can, as they do in practice, create events in order to make things better and this creative experience can make integration happen more possibly than what is normally perceived.
15. The Epilogue: The Philosophic Controllership

"The inherent preference of organization are clarity, certainty, and perfection; but the inherent nature of human relationships involve ambiguity, uncertainty and imperfection; and thus, how one honours, balances and integrates the needs of both is the real trick of management"


15.1 Introduction

This final part of the thesis aims to reflect the research dialectically before it turns into the next round of 8Cs. It aims to establish a link between the style of strategic control and the worldviews of each investment decision-maker. Structure-wise, it first provides a critical review of the research, then offers some historical reflections on theories of investment and organizational commitment in decision-making, and finally gives a portrait of differing philosophic controllership.

15.2 Conclusions and recommendations to the research

There is little point in conducting research unless one can rely on the quality of the findings it generates. To ensure quality the research must be carefully planned and the methods used must be both productive and reliable. Thoroughness is important in order to avoid overlooking important aspects of the problem but one also needs to draw the line somewhere for one cannot afford to devote unlimited amounts of resources to the research.

This study has completed one round of the research cycle featuring conceiving, contriving, controlling, co-ordinating, calibrating, conducting, collecting, and concentering. However, when this researcher pulls the plug, he realizes that, just like the Chinese boxes game, everything re-starts again, with acquired experience and/or knowledge being stored in people's memory, in textbooks, or in computerized files, and with new experience and/or knowledge being further accumulated in the next round, despite the fact that the researcher or practitioner may be different, the research or practice space may be different, and the research or practice time may be different (Figure 15-1).

In summary, the researcher reviewed the literature and found that the existing literature is discrete and inconsistent. The literature was synthesised via meta-analysis and it was found that the explanatory power of existing mechanisms explaining escalating commitment is not influential. The researcher investigated an entrapped investment via a longitudinal case study
and found that the escalating process is cyclical and dynamic partly due to the interweaving nature of investment decision-makers’ conflicting perceived utilities of an investment. The researcher investigated de-escalation practices via two field experiments and found that previously established de-escalation mechanisms require re-examination. The researcher investigated the strategic control practices via interviews and found that more emphases need to be placed on the conceptualization and operationalization stages of an strategic control programme. The researcher restructured the theories on investment decision-making, organizational commitment and strategic control of investment and found that more empirical work needs to be done.

However, as a direct result of the research, the researcher has re-discovered several critical principles of learning which have all too often been overlooked in the past, and among them are (a) learning happens most effectively in the process of encountering real situations, (b) real situations demand the integration of multiple disciplines and skills, and (c) generalization of learning happens through the interplay of theory and practice, and (d) the challenge to learning lies in knowing the underlying concepts and competencies which will not be bound either to the current issues or to the specific details of its past.

As to recommendations for the future (please see Q12-1 to Q12-15 in Chapter 12, Q13-1 to Q13-20 in Chapter 13, and Q14-1 to Q14-36 in Chapter 14 for detail), it seems that, in general, future practice should focus on the effective management of investments in a way which integrates differing rationalities in the full organizational context; that future practice should address the dynamics of organizational commitment in the decision-making process in a broader way which covers perspectives of, inter alia, psychological, political, operational, economic,
Chapter 15 The Epilogue: The Philosophic Controllership

environmental, social, cultural, and institutional; and that future practice should emphasize both external and internal strategic control factors inherent in the decision-making process in a manner which echoes the principle of unity. Meanwhile it also seems plausible that future research should include a new research inquiry system or a more comprehensive research framework (e.g. general systems methodological framework), new research techniques in both the laboratory (e.g. virtual reality) and in real world settings (e.g. longitudinal observation), and new research dimensions (e.g. cross-cultural comparative studies).

15.3 Reflections on theories of investment

It can be held that every theory of commitment escalation, commitment de-escalation, and strategic control is at most just a model of the expanding world of investment, which itself is just a model of the universe or a restricted part of it, and a set of rules that relate quantities in the model to observations that we make. It can also be held that, at least from Popper's (1959) point of view, any of the escalation, de-escalation, and strategic control theories exist only in academics' or practitioners' minds and do not have any other reality, so that such theories are only provisional in the sense that they are only hypotheses and can never be proven - no matter how many times the results of observations, experiments and surveys agree with them - and that one can never be sure that the next time the results will not contradict the theories - one can disprove a theory by finding even a single observation which disagrees with the predictions of the theory.¹

Therefore, a good theory of strategic control of investments must satisfy two requirements: it has to accurately prescribe a large class of observations on the basis of a model that contains only a few arbitrary elements, and it must make definite predictions about the results of future observations. It turns out to be very difficult to devise such a theory to prescribe investment decision-making in the marketplace in one go. The approach most often adopted, as did by this researcher in this study, is to separate the problem into parts or break the problem up into bits and invent a number of partial theories, with each of these partial theories describing and predicting a certain limited class of observations and neglecting the effects of other quantities or representing them by simple sets of numbers.

Thus, most theories are fated to fade away, and it is just a matter of time. For example, as far as this researcher remembers, in a 300 page thick advanced economics textbook which describes dozens of economic theories on investment decision-making, only four of them are “good” theories which directly relate to investment decision-making: (a) people face trade-offs, (b) people respond to incentives, (c) people incur costs for what they get, and (d) rational people act to margins. These four theories are in fact economic principles which each enjoy philosophic
foundations, and what this tells is that good strategic control of investments must be philosophically rooted.

15.4 Reflections on organizational commitment in decision-making

In Western society it is customary for practitioners and academics, politicians and economists, scientists and artists alike to answer, with a shrug or an appeal to vaguely recalled religious precepts, such questions as why do previously successful organizations, groups or individuals often fail or how is it, if there was order earlier, that there is chaos later? This is because, although equidistant from atoms and stars, people inevitably confine themselves to the limitations of human understanding and are not willing or able to expand their exploratory horizons to embrace the very small and the very large.

One view which can be superficially held is that organizational commitment actually acts as both an expansion and a contraction of organizational strategies and the theories underlying them (Figure 15-2). Thus, escalation and de-escalation of commitment actually reflect the call of time, the only resource which humans can use but never conquer. For example, one has to wait to see whether an escalation or de-escalation of commitment is good or bad in that only time really tells.

Obviously organizational commitment is a very large concept which can cover over a hundred meanings. However, these is a small part of it which seems missing in most if not all of the organizational commitment studies. That is, to which sub-concept or rationality does organizational commitment really refer in the decision-making process? These sub-concepts or rationalities can range from too simple to mention to too complicated to realize. To put it differently, to exert effective strategic control over an investment, one can almost always match the investment decision-makers’ control style with a certain kind of philosophically-rooted control stereotypes.

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**Figure 15-2: Commitment as expansion and contraction**

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15.5 Reflections on strategic control of investments: philosophic controllership

Believe it or not, investment decision-makers often end up with a certain kind of philosophic control without knowing or being known. Investment successes happen as they do in the world of investments, not only because investment decision-makers planned well, and implemented well, but also because they controlled well. Therefore, it seems plausible to link practical control styles of investment decision-makers with varying philosophic visions of investments so as to help investment decision-makers to reach a better position or to re-position themselves according to the ever-changing investment environments. There are arguably 16 philosophically rooted stereotypes of investment controllership which are briefly illustrated below.

The Aristotle vision of investments - the organization-oriented controllership: It is imaginable for some investment decision-makers to think that their investments are comparably stationary, so that stakeholders of investments (e.g. employees, the management, the suppliers, the shareholders, the governing bodies, the competitors, and the customers) all move in circular orbits about the organizations. It is arguable that in some circumstances stakeholders of an investment do move in smaller circles attached to their respective organizations. Thus, organization-oriented controllership dictates that commitment be directed at the so-called fixed stars-like organization. This suggests that existing investments always stay in the same positions relative to each other in the organizations even if they rotate together across the marketplace.

The Copernicus vision of investments - the customer-oriented controllership: It is also imaginable for some investment decision-makers to think that the customers of an investment's products or services are comparably stationary so that investments and other competing organizational activities move in a circular or elliptical orbits around the customers. The customer-oriented controllership dictates that organizational commitment be directed at the customers. This also suggests that customers are the central focus of investment, and small satellite-like organizations or networks, the governing bodies, the management, the employees, the suppliers, and the financiers, all orbit around them.

The Newton vision of investments - the profit-oriented controllership: It can be argued, that all investments attract each other in making profits and thus can not remain essentially motionless but compete head to head. The profit-oriented controllership dictates organizational commitment be directed at profit-maximization. This suggests that the employees, the management, shareholders, governing bodies, competitors, suppliers and customers of any investments are all dynamically competing with each other for profits so that the marketplace is to a great extent under perfect competition. However, this may mean that investments might all fall together (economic recession) at some point when there is only a finite number of
investments distributed over a finite region of the marketplace, and that this collapse would not happen if there was an infinite number of investments distributed more or less uniformly over an infinite marketplace. This also implies that whenever an investment is not acted on by any force it can keep on moving in a straight line at the same speed, and that an organization may accelerate or change its speed at a rate which is proportional to the force.

The Hubble vision of investments — the global-oriented controllership: One could reason that a static marketplace would soon start to contract under the influence of profit-making-sunk cost gravity. But supposing instead the marketplace is expanding and it is expanding fairly slowly, the force of profit would cause it eventually to stop expanding and then to start contracting. If it is expanding at more than a certain critical rate, profit would never be strong enough to stop it, and the market would continue to expand forever. Firms have a built-in tendency to expand their commitment towards investments, and this could be made to balance exactly the attraction of profit-making luring all organizations. Wherever one looks, the marketplace is expanding. Distant investments are moving rapidly away from the investments in which the organizations are currently engaged. This suggests that markets are expanding globally and thus strategic control should be directed at the globalizationized expanding of the marketplace.

The Maxwell vision of investments — the speed-oriented controllership: Organizational commitment towards investments can travel fast and this combined force of physical and psychological activity could travel at a fixed speed, like ripples on a pond. This suggests that effective controllership in any organization means timely management of crises and corrective surgeries, otherwise it can become too late for organizations to learn or to take corrective actions.

The Einstein vision of investments — the quantification-oriented controllership: No investment can grow or evolve at a speed over a limit which applies to all organizations. This indicates that all investment activities can be measured. Profit is not a force like other forces, but is a consequence of the fact that space-time is not flat but curved. Investments are not made to move on curved orbits by a force called profit; instead, they follow the nearest thing to a straight path in a curved space which is called a geodesic — the shortest or longest path between two nearby points. This suggests profit is not the ultimate purpose but an immediate end and sequentially means towards the ultimate purpose of the investment.

The Laplace vision of investments — the determinism-oriented controllership: The success of economic theories, particularly the theory of profit maximisation, can give rise to the illusion that the marketplace is completely deterministic so that there should be a set of scientific laws which would allow people to predict everything which would happen in the marketplace if these
people knew the complete state of the marketplace at one time, and that there are similar laws governing everything else including investment behaviour. For example, the idea of the deterministic controllership can mean that, if investment decision-makers know the positions and the growth rate of their own organization and its major competitors at one time, then they can calculate the state of the organizational commitment of the organization in the specific market at any other time.

The Feynman vision of investments: - the sum-over histories-oriented controllership: People or organizations are not supposed to have a single history or path in space-time, and nor do investments, as they would in a non-quantum theory. Investments and their decision-makers are supposed to go from A to B by every possible path, and along each path they are associated with two numbers: one represents the size and the other represents the position in the cycle (i.e. whether it is at a crest or a trough). The probability of going from A to B is found by adding up the probabilities for all the paths. In general, however, if one compares a set of neighbouring paths, the phases or positions in the cycle will differ greatly.

The Heisenberg vision of investments - the uncertainty-oriented controllership: Humans certainly cannot predict future events exactly if one cannot even measure the present state of the marketplace precisely, although some might claim that there is a set of laws which determines events completely for some supernatural being who could observe the present state of the marketplace without disturbing it. The uncertainty controllership dictates that organizational commitment be directed at employing the principle of economy known as Occam's razor and cutting out all the features of the theory that cannot be observed. This introduces an unavoidable element of unpredictability or randomness into investment decision-making. Heisenberg's uncertainty principle remains a fundamental, inescapable property of the world of investments.

The Pauli vision of investments - the exclusion-oriented controllership: The exclusion controllership suggests that two similar investments cannot exist in the same state. They cannot have both the same market position and the same growth rate, within the limits given by the uncertainty principle. This explains that the reasons why identical competitors can co-exist lies in the fact that they have different growth rates even if they have nearly the same position.

The Dirac vision of investments - the anti-self -oriented controllership: The anti-self controllership implies that every investment has an anti-investment with which it can annihilate itself or others. There could be anti-worlds, anti-organizations, and anti-people. Worlds, organizations, people, and investments would vanish in a great flash of light if they shake hands with their anti-self. However, the good news is that there seem to be many more investments
than anti-investments, more organizations than anti-organizations.

**The Symmetry T vision of investments — the anti-T-oriented controllership**: The symmetry T suggests that if the direction of commitment is the same to all investments and anti-investments, the system should go back to what it was at earlier times, i.e. the laws are the same in the forward and backward directions of time. However, as time runs forward the marketplace expands and if it ran backward the marketplace would be contracting.

**The Michell vision of investments — the cycle-oriented controllership**: An investment which is sufficiently massive and compact would have such a strong profitability field that any commitment could not escape. This suggests that any outbound commitment emitted from the organization would be dragged back by the organization’s profitability attraction before it could get very far: the black holes of investments. An investment is a bit like a balloon — there is a balance between the pressure of the air inside (market penetration, competitive advantage, etc.) which tries to make the balloon expand, and the tension in the rubber (e.g. dividends, welfare, work conditions) which is trying to make the balloon contract; the investment will remain stable like this for a long time with self-generated levity heat to balance its down-dragged profitability attraction until the investments runs out of its fuels. Paradoxically, the more fuel an organization starts off with, the sooner it runs out.

**The Chandrasekhar vision of investments — the limit-oriented controllership**: When an investments runs out of fuel it starts to cool off and so to contract. When the investment becomes smaller, people and business units get very near each other and, therefore, according to the exclusion principle, must have very different growth rates, and this makes the investment expand. The investment can therefore maintain itself at a constant radius by a balance between the attraction of objectivity and the repulsion arising from the exclusion principle just as earlier in its profitability gravity was balanced by the levity heat generated by its own fuels. If the mass of an investment is less than the limit it can eventually stop contracting and settle down to a possible final state as a ‘white dwarf’; if the mass of an investment is above the limit it might have a big problem when it comes to the end of its fuel - it may explode or investment decision-makers may have to attempt to throw off enough mass to reduce its mass below the limit and so avoid catastrophic profitability / goal attainment collapse.

**The Hawking vision of investments — the principle-oriented controllership**: If investment decision-makers do believe that the marketplace is not arbitrary but is governed by definite laws, they ultimately have to combine the partial theories into a complete unified theory which describes everything in the marketplace. The principle controllership can be considered as based upon Darwin’s principle of natural selection, which implies that some investments decision-
makers, due to variations in their genetic material and upbringing, might be better able than others to draw the right conclusions about the marketplace and to act accordingly so that such investment decision-makers - having survival advantage conveyed by intelligence and scientific discovery - will be more likely to survive and reproduce and so their pattern of behaviour and thought will come to dominate for a certain period of time.

The Guth vision of investments – the inflation -oriented controllership: Investments might go through a period of very rapid expansion which is said to be inflationary, as they expand they would cool and organizational commitment will go down. Eventually there would be what is called a phase transition. It is like freezing water when it is cooled down. In quantum theory particles can be created out of energy in the form of particles / antiparticles pairs. But where does the energy for organizational commitment come from? The answer is that the total energy of the universe is exactly zero, and presumably, commitment to the future is positive energy and commitment to present is negative energy.

15.6 Conclusion

It can be held that every investment decision-maker is a philosophic controller. He or she can be organization-oriented, customer oriented, profit-oriented, global-oriented, speed-oriented, quantification-oriented, determinism-oriented, sum-over-histories-oriented, uncertainty-oriented, exclusion-oriented, anti-self-oriented, anti-T-oriented, cycle-oriented, limit-oriented, principle-oriented, or inflation-oriented. The critical question is whether he or she knew which one he or she was when he or she committed the organization’s resources to a chosen investment and whether the stereotype he or she exhibited matched what was required for the decision situation. Thus, by examining the decision situation, analyzing opportunities and threats, balancing different rationalities, integrating different conflicting utilities, and matching what is demanded with what can be supplied, the investment decision-maker should be able to become a competent philosophic Chinese boxes game player in the investment decision-making process.

\[\text{For example, the results of the de-escalation study conducted by this researcher did not support the theory that sunk cost effects lead to escalation of commitment (Arker & Blumer, 1985).}\]
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A pilot study in China

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<tr>
<th>Case company</th>
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<tr>
<td>Nature of study</td>
<td>Semi-structured interviews</td>
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<tr>
<td>Time</td>
<td>Morning &amp; Afternoon, 3, 5 Nov. 1996</td>
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<td>Place</td>
<td>Junwon's Office Building &amp; Golden Triangle Restaurant, Daqing</td>
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<td>Interviewer</td>
<td>Q. Zhang</td>
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<td>Interviewees</td>
<td>Mr. J Duan, President; Mr. L. Xu, Managing Director; Mr. J. P. Zhou, vice president</td>
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<td>Access</td>
<td>Agreed before hand; supported by Professor Tang, one of my most intimate ex-bosses, who chairs DPA at this moment.</td>
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<tr>
<td>Note</td>
<td>Additional help from Ms Gong, Ms. Kang, Ms. Xing and Mr. Wang, Mr. Shi; Mr Zhu; Ms Tu, etc.</td>
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Background

Daqing Junwon Textiles is a joint venture between WPS, China and Junwon, Korea. It was set up in 1986 with an initial investment totaled $2 million. It is the biggest textile company in Northern China, the richest industrial region in China. It has two workshops each of which exceeds 3200 square meters. Its products have been sold all over the world.

Professor Q. Tang, Chairman & President of WPS had chaired the board of directors from 1986 to 1995, with Mr Liang - Chairman of Junwon, Korea - as vice Chairman. Mr Duan who was the managing director of Daqing Junwon from 1986 to 1995 succeeded Prof. Q. Tang in 1995.

Daqing Junwon enjoys its most advanced textile design and manufacturing technology but suffers continuing financial losses year after year. Two presidents (one Korean and one Chinese) of Da Qing Junwon have been removed as a result from the post since its existence. Mr. L. Xu, with a very good track record took over its presidency in 1994.

Interview in process: prelude

The joint venture has experienced 3 different periods since its existence. The researcher has been fortunate to have the opportunity to work along with his team to consult on its businesses during each period.

First, in 1989 the researcher was urgently called by Professor Q. Tang who Chaired WPS where the researcher chaired the management division which functionally monitored
Daqing Junwon, to lead a team of 9 experts of a vast diversity to examine its strategy and diagnose the company’s business routine. It was proposed that (a) the venture should be receive further financial leverage to support what was then called a new thing, and (b) the venture should diversify its business so as to become financially self-reliant.

**Second,** in 1993 the researcher, as his first official assignment after his MBA study abroad, was nominated by the Chairman & President of WPS to undertake a research based consultation on Daqing Junwon’s performance. It was proposed that (a) the venture’s management should be strengthened and (b) the venture should stretch its resources to emphasize its marketing operations (distribution channels & oversees promotions); or otherwise, (c) the venture should be sold or simply privatized, and (d) the joint venture should be cooperatively and financially ended.

**Third,** in late 1996 the researcher was commissioned by WPS to act as the principal consultant and later the co-runner of the joint venture to revitalize the venture. It was proposed that (a) the venture should be functionally and financially re-organized (i.e. merge or privatization), and/or (b) the venture should be market-orientated and focus on its core businesses (existing or potential), or otherwise, (c) the venture should be completely abandoned.

The researcher has acquainted Professor Tang, ex-chairman, Mr. Duan, chairman and ex-managing director, Mr. Xu, president, and Mr. J. Zhou, ex-president for nearly 14 years.

**Interview in process: introduction**

With personal advice in mind from Professor Q. Tang and lessons learnt from Riskcare (UK) and CNAS (PRC) days ago, The researcher approached Daqing Junwon friendly and diplomatically.

The researcher did a brief introduction on his doctoral research in the UK. His interviewees are all informed that his research concerns strategic control over investments and is about escalating commitment, de-escalation strategy and strategic control in the investment decision-making process.

The researcher was widely welcomed, fully supported and open to all data required and in return was sincerely invited to consult on its business and participate in its operations.
Interview in process: questions and answers

Q1. You are all pioneers in promoting new things in northern China and both have actually witnessed Daqing Junwon’s existence. What’s your hope for the existing business? How should it look like in future near or far?
   A. Healthy and profitable and makes people happy who work here.

Q2. Shall we say that Daqing Junwon’s business at the moment is not quite healthy or unprofitable or does not make all people happy?
   A. It is not very healthy. We have lots of people who want to resign or leave. You can not make all people happy, can you?

Q3. By ‘unhealthy’, does it mean that the firm has incurable problems or that it does not fit?
   A. Oh, the textile section records losses every year while other services wipe the red tape. The firm has lost its attractiveness for quite a long time.

Q4. What do you mean for ‘quite a long time’? Some people joked it was attractive only before it was implemented. Does that indicate anything - e.g. the project should not be started from the very beginning.
   A. We do not think so. It has been nasty for a very long time, but not that long.

Q5. It can be very helpful if I can have your annual records for both textiles and services. I am sure none of you will mind, will you?
   A. Not really. As soon as you are willing to help us through, Ms Kong will be at your disposal.

Q6. Did Daqing Junwon conduct economic appraisal before the investment was decided?
   A. Yes, we had everything before the decision was made?

Q7. What had you had? Can you list as more as possible?
   A. Sure. We had a proposal covering market research which was conducted by the Korean, a feasibility report by both the Korean and us, a schedule for implementation.

Q8. Does Daqing Junwon have and/or use financial models of investment appraisal which help guide the organizational control of the then on-going venture?
   A. We don’t really know.

Q9. I know few companies in China have management accountants, how about Daqing Junwon?
   A. We kept our own eyes on as many things as possible and that’s it.

Q10. Does that mean that the existing accounting system is inappropriate?
   A. We would say so. The accounting system is keep changing for our accountants are forced to have study leave every year.

Q11. Does Daqing Junwon realistically analyze the cost incurred against budget when the project is running?
   A. Yes. But most times we need to spend up to the budget otherwise we are risking of losing future funds.

Q12. Do managers at Daqing Junwon all know what’s exactly going on in relation to the venture.
   A. Not always.
Q13. Are you suggesting that you, or at least not all of you, are not open to unambiguous feedback? Can you give me an example.
A. Since the Korean company in Korea does the trading and we receive orders from their headquarters. We sometimes even do not know that the more we have manufactured the more loss we are going to gain. That is, we have control over manufacturing but have given up control over sales.

Q14. Which do you think is failing, the joint venture or the project itself, or both?
A. We would say both. The project declines faster than the joint venture.

Q15. Is WPS still as fond of the project as it was when implementing the project? How about you?
A. WPS treats it as an experiment, but we want a successful story for our staff.

Q16. Does Daqing Junwon re-evaluate the project during and after the implementation of the project? Who are actually doing this?
A. Yes. Our corporate economists and WPS’s group accountants and group auditors.

Q17. Is this approach effective? Why?
A. Not really. Outsiders can do a better job. Because not every insider speaks his whole mind. Besides insiders can be obsessed with current difficulties or short term success.

Q18. Do you all know entrapment or escalating commitment and how do you view it?
A. Our corporate culture demands commitment. The Chinese proverb tells ‘persistence is victory’. It will be unfortunate to justify the means by the end. If you look at the world dialectically you would agree that things can be turned around naturally or dramatically.

Q19. Do you infer that decision-makers at Daqing Junwon do not always behave in an economically rational way when making sequential decisions? Is that because it is impossible? Or what?
A. We had tried our best. Sometimes we do not have enough time or are unable to think economically about costs and profits. Prediction does not always work.

Q20. Are you suggesting that the environment tends to be uncontrollable?
A. Exactly. Things changes quickly.

Q21. Is it also due to the complexity of business or the uncertainty of future events.
A. Yes. It’s interesting, isn’t it?

Q22. Management theorists suggest that some other factors also prevent decision-makers from behaving economically: the human ego, the project itself, organizational structure, and market competition. Will you agree that all these applies to Daqing Junwon? Which are the most important factors?
A. Do doctors always treat patients economically. Doctors who spend most time thinking about themselves when undertaking a surgery can not be well regarded. What can happen is that different profit centres may pursue their own course of action regardless of others. We think organizational structure and market competition are most important factors which hampers Daqing Junwon’s performance.
Q23. Can you catalogue those managers who tend to escalate commitment in entrapping situations?
   A. The more aspiration one has for achievement the more likely he is to overcommit himself to a chosen course of action. People who see task as duty will commit more than those who see task as a routine.

Q24. Do people at Daqing Junwon revise their beliefs, value systems along with the success or failure of project.
   A. Human beings learn from experience and failure. But belief and value systems are too vague or too big for us. You can discuss this with Ms Tu, the party secretary at Daqing Junwon.

Q25. Do decision-makers at Daqing Junwon emphasize the prospects of the project before making sequential decisions? Any other factors which matter a lot?
   A. We certainly ration a decision prospectively. That is the way to leave past regrets behind you. Working opportunity for every staff is also important for we can not afford to let our staff do nothing but chat.

Q26. Am I right that Daqing Junwon are more care of staff than capital?
   A. Definitely.

Q27. Does Daqing Junwon think that it can remain competitive in the marketplace?
   A. Nobody can win them all. If you can not gain in this market (e.g. textile) you can possibly gain in other markets (e.g. services).

Q28. In the West there is a theory called Agency Theory which pertains that managers may act in their own self-interest at the expense of the sponsors of the project. Does this apply to Daqing Junwon.
   A. Yes. It is somewhat more obvious for joint ventures like Daqing Junwon. But in the other side of the shield, investing companies may have muti-purposes to set up joint ventures as an alliance does not necessarily indicate a cooperative synergy resulted from genuine necessity.

Q29. How will Daqing Junwon solve its own problem if both investing partners are assumed to value the joint venture as a hostage to fortune?
   A. More dialogues lead to more communication which leads to more sharing of information and more understanding of business, and all this gives rise to more cooperation.

Q30. Does Daqing Junwon’s promotion, reward, or penalty system encourage short-term performance?
   A. Yes. It is still a winner takes all society. However reward and penalty are not well balanced.

Q31. Does Daqing Junwon have contingent incentive systems which align the interests of the alleged agents and principals (e.g. project managers vs. senior executives; the management team vs. sponsors of the project)?
   A. No. It is an interesting idea. Can you advice?

Q32. Does Daqing Junwon feel escalating commitment always unhealthy? Should it be cured and how? What has Daqing Junwon done? Were them successful? If not, why?
   A. It is unhealthy especially when you cannot do anything about it. Some escalation should be stopped and some should not be stopped. In terms of
cures for escalating commitment Daqing Junwon has tried various remedies which include (a) distancing responsibility to performance, (b) encouraging criticism and self-criticism among staff, (c) seeking outsiders to help diagnose the business, (d) fastening information flow, and (e) facilitating organizational learning. It does not seem to be extremely successful because what is demanded at the root of all these cures is a firm's operational strength by which it can exploit the markets. For example, we can make profits via service operations contracted to the local economy; but we failed to market our own branded product to other corners of the world for our goods are sold under others' name. We simply do not enjoys full decision-making power. We took it for granted that someone is coming to us to buy our quality products. Another important reason is that we do not have state policy leverage in import and export operations.

Q33. Is textile industry more prone to escalating commitment comparing to other industries?
A. Not a clue. But we guess intensive competition drives people to risk their investments and technology intensive industries are prone to escalation.

Q34. Daqing Junwon is a small-sized joint venture. If it were bigger in terms of financial input would it be more prone to escalating commitment?
A. Do not know. We have doubts about it.

Q35. How about situations where more people got involved in decision-making?
A. It is a double-edged sword. With more people participating in the decision-making, the firm will have more chance of achieving harmony but it can meantime have more useful debates.

Q36. Did the overturning of the Korean appointed president lead Daqing Junwon to better off? Why?
A. No. It was beating around the bush. It calmed Daqing Junwon but it did not prevent problems.

Q37. Has Daqing Junwon ever considered bifurcating decision procedures?
A. Yes. We did so. As a result our services operations outperforms textiles products. But the textile problem remains unsolved.

Q38. Does Daqing Junwon permit excuses, de-binding or scapegoating for failing investments?
A. Yes. As the Chairman of WPS commented before long that a firm may afford to lose an investment but cannot afford to lose its knowledge men.

Q39. Should a firm support failure, and why?
A. Yes. Profitable investments never runs smooth in a competitive world. Therefore to support failure is to support success. Organizational learning becomes priority for most firms nowadays.

Q40. Has Daqing Junwon brought forward phase-out costs? Why?
A. Decision-makers have maintained wary of costs of withdrawal. However, a firm has to take risks in a business world.

Q41. Has Daqing Junwon been de-institutionalized? If so, was it easy?
A. Yes, WPS treats Daqing Junwon as an experiment aiming to procure knowledge of strategic alliance and expand its business horizon. It is justifiable at the corporate level but not at the business level.

Q42. How is Daqing Junwon’s investment strategy formulated?
A. It is based upon elite’s vision to stretch the firm’s skills and resources to first explore and then exploit the marketplace.

Q43. In Daqing Junwon, is enough attention paid to the control process of the investment?
A. We have TQM. A posh word, isn’t it? We do not think we have enough control over the joint business.

Q44. Can you list some of the mechanisms used in Daqing Junwon to secure effective control over investments?
A. We employed following methods during the process: (a) setting upper and lower limits for decision-makers to stick to, (b) presenting monthly progress report and undertaking half a year re-assessment, (c) publicize evaluation results to employees WPS’s employees, and (d) combining outsiders’ and inner quality circles’ consultation.

Q45. Consider Daqing Junwon, how can it exercise strategic control over investments? What are the message Daqing Junwon can deliver?
A. Daqing Junwon should have been better if it had monitored the validity of assumptions previously imposed during the selection and implementation of the project (e.g. the operational issues such as free access to Junwon’s global distribution channels), had identified the causes of discrepancies between actual and anticipated outcomes in the implementation process (e.g. state limitations and marketing dilemmas), and had monitored the investment decision-making process in a broad way (e.g. the acquisition of first hand information on the progress of investment). The message Daqing Junwon can deliver is that one ought to take a systems view to approach strategic control over investment decision-making process for it has to be examined in a full organizational context covering strategy, operation, economics, finance, work psychology, technology, ideology, and business culture, etc.

Research review: some propositions

**Escalation**

Proposition1: Chinese corporate culture is in favor of escalation of commitment
Proposition2: Decision-makers whose leadership is task oriented tend to escalate than those who are relationship oriented.
Proposition3: Escalating commitment tends to loom large when market competition becomes increasing intensive.
Proposition4: Escalating commitment is more likely to occur in projects involving more than one investor (such as joint ventures).
Proposition5: The less decision-making power a firm has the more likely the firm is to escalate commitment to its chosen course of action.
尊敬的（当今或未来）企业家，

您好！

鼓励自主是当前时代的要求。下岗分流和再就业工程已是遍地开花，硕果累累。我们所在行业冗员现象仍然比较严重。为响应上级号召，跟上时代的步伐，公司正在竭尽全力从财力、物力、人力等各方面对创造新的就业机会大开绿灯。

经过不懈努力，公司财政部门已筹备好人民币 100 万投资资金。公司再就业开发部门也已通过市场调研、科学论证、充分选优，开发出 5 个石油化工系列投资项目（即防腐剂、解堵剂、添加剂、除锈剂、活性剂）。基于多年的改革实践，公司已在石化行业涉足很深，公司旗下的化工厂已初具规模，拥有固定资产 2000 万，并具备好原料、地理、管理及市场营销优势。

公司管委会初步决定所认定项目中每个项目各拨预算人民币 20 万（其中建设资金 10 万和生产经营资金 10 万），统一归化工厂管理。这五个投资项目均可采用化工厂的生产线，只是每个项目皆需添置不同的附加设备（约 10 万）。

这些投资项目所生产的产品在中国南方地区已有存在，且在市场中获得成功者居多，但在本地区尚属首倡，东北市场的类似产品均为外购。各个项目技术含量高且属劳动密集型。另外，各个项目的衍生产品较多，因此这五个投资项目既可自成体系发展系列品种，又可相辅相成构成集约优势。

虽然公司此举旨在创造更多工作机会，但企业的经营绩效乃立厂之本。本公司可努力争取在集团公司的范围内在先期（如一到三年内）予以政策倾斜，保护内部市场，为新企业不断改善质量文化并争取外部市场送上一程。但是新企业日后的生存和发展应以市场经济规律为准绳。新企业的发展不仅应着眼于当前主业分流的客观需要，还应本着解放思想，实事求是的原则，为企业的未来、子孙后代的未来而未雨绸缪。

请问，假如您作为该投资项目的主要决策人，您将如何解决这一管理问题呢？笔者认为这既是一个经济问题，又是一个心理问题，还是一个组织问题和社会问题。因此，笔者希望您作为一个时代的佼佼者——众人仰美的企业家，能够仔细阅读这一案例并认真审时度势，并积极加入到百花齐放、百家争鸣的行列，团结起来，和衷共济，共同为公司及公司里的你我他她它的现在和未来而贡献才智。

本研究全篇探讨，所有数据及信息绝对保密，而最终研究成果特为公司在再就业工程方面的投资决策提供参考。

感谢合作，并预祝您成功！

此致

敬礼！

张 清

于大庆，中国
一九九八年九月九日

□ - 8
情况介绍

现有化工厂的生产能力过剩很多。化工厂现有资产 5000 万元，现有产品品质优良，市场占有率很高。厂内秩序井然，面貌新、士气高、素质高，管理强。
化工厂已争取到公司所注的 100 万元投资资金。化工厂可以在近期上五个项目（每项目的预算为 20 万人民币，其中 10 万为建设资金如采购设备等，另外 10 万为经营资金如采购原料等）。
您现在作为公司新委任的投资项目总决策人，可以在权限范围内全权审批任一投资项目。即，防冻剂、解冻剂、添加剂、除锈剂、活性剂项目可逐一定批。资金限额为每次 20 万元，总共不超过 100 万元。

请写下您先审批的项目：（请在虚线上写出名称）

写完后，请打开下页。

化工厂主管会计师和主管投资副厂长向您报告

您所固定并批准的投资项目的建设现已竣工。但小批量试生产和试销售证明：外部市场活力很大，但目前难以突破，而内部市场的销售却难企项目保本经营。化工厂通过分析和市场公关，决定封存项目，以待今后。否批，化工厂的年度经济效益将受重挫。

您现在的决策处境是：

第一个投资项目开发可能如愿以偿，项目夭折。
该项目有关情况：审批 20 万，节余 10 万，成本 10 万。

请问：1. 针对上述情况您重新审批一个新项目（从剩下的四个项目中）的可能性大约为多少个基准点？（请在虚线上打分表上---附表一---画圈，其中，0%为肯定不审批，50%为模棱两可，100%为肯定审批）。
2. 与第一道题无关，您觉得新审批的项目能够在投产后达到保本的可能性大约为多少个百分点？（请在以下打分表上---附表二---画圈，其中，0%为肯定不保本，50%为模棱两可，100%为肯定保本）。
3. 您将审批哪一个：（请在虚线上写出名称）

写完后，请打开下页。
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您所固定并批准的投资项目的建设现已竣工。但小批量试生产和试销售证明：
外部市场虽潜力很大，但目前难有突破。而内部市场的营销收入却难令项目保
本经营。化工厂通过仔细分析和市场公关，决定封停项目，以待后用。否折，
化工厂的年终经济效益将受重挫。

您现在的决策处境是：
第一和第二个投资项目都在项目竣工后夭折。投资决策失败。
本项目有关的情况： 审批 20 万元，开销 10 万元，累计总成本 20 万元。

请问，1．针对上述情况您重新审批一个新的项目（从剩下的三个项目中）的可能
性大约为多少个百分点？（请在以下打分表上---附表一--画圆，其中，0%
为肯定不审批，50% 为模糊两可，100%为肯定审批)。
2．与第一道题无关，您觉得新审批的项目能够在投产后达到保本的可能性大约为多少个百分点？（请在以下打分表上---附表二--画圆，其中，0%
为肯定不保本，50% 为模糊两可，100%为肯定保本)。
3．您将审批哪一个：（请在虚线上写出名称）

写完后，请打开下页。

实验 I-3

化工厂主管会计师和主管投资副厂长向您报告

您所固定并批准的投资项目的建设现已竣工。但小批量试生产和试销售证明：
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本经营。化工厂通过仔细分析和市场公关，决定封停项目，以待后用。否折，
化工厂的年终经济效益将受重挫。

您现在的决策处境是：
第一、第二和第三个投资项目都开发失败，投资决策失误。
该项目有关的情况：审批 20 万元，开销 10 万元，累计总成本 30 万元。

请问，1．针对上述情况您重新审批一个新的项目（从剩下的两个项目中）的可能
性大约为多少个百分点？（请在以下打分表上---附表一--画圆，其中，0%
为肯定不审批，50% 为模糊两可，100%为肯定审批)。
2．与第一道题无关，您觉得新审批的项目能够在投产后达到保本的可能性大约为多少个百分点？（请在以下打分表上---附表二--画圆，其中，0%
为肯定不保本，50% 为模糊两可，100%为肯定保本)。
3. 您将审批哪一个：（请在虚线上写出名称）

附表一在此
附表二在此

写完后，请按要求送至笔著办公室。

化工厂主管会计师和主管投资副厂长向您报告

您所固定并批准的投资项目的建设现已竣工。但小批量试生产和试销售证明：
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本经营。化工厂通过仔细分析和市场公关，决定停停项目，以待后用。否折，
化工厂的年终经济效益将受重挫。

您现在的决策处境是：

第一、第二、第三和第四个投资项目皆未能成功，投资失败惨重。
该项目有关的情况：审批 20 万元，开销 10 万元，累计总成本 40 万元。

请问，1. 针对上述情况您重新审批一个新项目（从剩下的最后几个项目中）的
可能性大约为多少个百分点？（请在以下打分表上——附表——画图，其
中，0%为肯定不审批，50%为模棱两可，100%为肯定审批）。
2. 与第一道题无关，您觉得新审批的项目能够投产后达到保本的可能性大约为多少个百分点？（请在以下打分表上——附表二——画图，其中，0%为肯定不保本，50%为模棱两可，100%为肯定保本）。
3. 您将审批哪一个：（请在虚线上写出名称）

附表一在此
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情况介绍

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质优良，市场占有率很高，厂内秩序井然。面貌新，士气爽，素质高，管理强。
化工厂已争取到公司所筹的 100 万元投资资金。化工厂可以在近期上五个
项目（每个项目的预算为 20 万人民币，其中 10 万为建设资金如采购设备等，另
外10万为经营资金如采购原料等。

您现在作为公司新委任的投资项目总决策人，可以在权限范围内全权审批
任一投资项目。即，防腐剂、解堵剂、添加剂、除锈剂、活性剂项目可逐
审批，资金限额为每次20万元，总共不超过100万元。

请写下您先审批的项目：（请在虚线上写出名称）

写完后，请打开下页。

---------------------------------------------------------------------------

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您所固定并批准的投资项目的建设现已竣工。但小批量试生产和试销售证明：
外部市场虽潜力很大，但目前没有突破。而内部市场的销售收入却难令项目保
本经营，化工厂通过仔细分析和市场公关，决定封停项目，以待后用，否折，
化工厂的年终经济效益将受重挫。

您现在的决策处境是：

第一个投资项目开发未能如愿以偿，项目夭折。
该项目有关的情况：审批 20 万元，节余 10 万元，累计沉积资本 10 万元。

请问：1．针对上述情况您重新审批一个新项目（从剩下的四个项目中）的可
能性大约为多少个百分点？（请在以下打分表上---附表---画圆，其中，0%
为肯定不审批，50%为模糊两可，100%为肯定审批）。
2．您将审批哪一个？（请在虚线上写出名称）

写完后，请按要求送至笔者办公室。

---------------------------------------------------------------------------

化工厂主管会计师和主管投资副厂长向您报告

您所固定并批准的投资项目的建设现已竣工。但小批量试生产和试销售证明：
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本经营。化工厂通过仔细分析和市场公关，决定封停项目，以待后用。否折，
化工厂的年终经济效益将受重挫。

您现在的决策处境是：
第一和第二个投资项目都在项目竣工后夭折。投资决策失败，本项目损失 10 万。
本项目有关的情况：审批 20 万元，开销 10 万元，累计沉积资本 20 万元。

请问，1. 针对上述情况您重新审批一个新项目（从剩下的三个项目中）的可能性大约为多少个百分点？（请在以下打分表上——附表——画圈，其中，0%为肯定不审批，50%为模棱两可，100%为肯定审批）。
2. 您将审批哪一个？（请在虚线上写出名称）

附表——在此

写完后，请按要求送至笔者办公室。

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化工厂主管会计师和主管投资副厂长向您报告

化工厂主管会计师和主管投资副厂长向您报告

实验II-3

您所固定并批准的投资项目的建设现已竣工。但小批量试生产和试销售证明：
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本经营。化工厂通过仔细分析和市场公关，决定封停项目，以待后用。否折，
化工厂的年经济收益将受重挫。

您现在的决策处境是：

第一、第二和第三个投资项目都开发失败，投资决策失误，本项目损失 10 万。
该项目有关的情况：审批 20 万元，开销 10 万元，累计沉积资本 30 万元。

请问，1. 针对上述情况您重新审批一个新项目（从剩下的两个项目中）的可能性大约为多少个百分点？（请在以下打分表上——附表——画圈，其中，0%为肯定不审批，50%为模棱两可，100%为肯定审批）。
2. 您将审批哪一个？（请在虚线上写出名称）

附表——在此

写完后，请按要求送至笔者办公室。

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实验II-4

化工厂主管会计师和主管投资副厂长向您报告

化工厂主管会计师和主管投资副厂长向您报告

您所固定并批准的投资项目的建设现已竣工。但小批量试生产和试销售证明：
外部市场虽潜力很大，但目前难有突破，而内部市场的营销收入却难令项目保
本经营。化工厂通过仔细分析和市场公关，决定封停项目，以待后用。否折，
化工厂的年经济收益将受重挫。

您现在的决策处境是：
第一、第二、第三和第四个投资项目皆未成功，失败惨重，本项目损失10万元
该项目有关的情况：审批20万元，开销10万元，累计总沉积资本40万元。

请问，1. 针对上述情况您重新审批一个新项目（从剩下的最后一个项目中）的
可能性大约为多少个百分点？（请在以下打分表上---附表一---画圈，其
中，0%为肯定不审批，50%为模棱两可，100%为肯定审批）。
2. 您将审批哪一个？（请在虚线上写出名称）--------------------------。

写完后，请按要求送至笔者办公室。

附表一：投资资金审批可能性固定表

<table>
<thead>
<tr>
<th>范围（%）</th>
<th>十位数</th>
<th>个位数</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>0</td>
<td>肯定不</td>
</tr>
<tr>
<td>10-19</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>20-29</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>30-39</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>40-49</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>50-59</td>
<td>5</td>
<td>模棱两可</td>
</tr>
<tr>
<td>60-69</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>70-79</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>80-89</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>90-99</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>10</td>
<td>肯定</td>
</tr>
</tbody>
</table>

附表二：投资项目追加资金后保本概率固定表

<table>
<thead>
<tr>
<th>范围（%）</th>
<th>十位数</th>
<th>个位数</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>0</td>
<td>肯定不</td>
</tr>
<tr>
<td>10-19</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>20-29</td>
<td>2</td>
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<tr>
<td>30-39</td>
<td>3</td>
<td>0</td>
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<tr>
<td>40-49</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>50-59</td>
<td>5</td>
<td>模棱两可</td>
</tr>
<tr>
<td>60-69</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>70-79</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>80-89</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>90-99</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>10</td>
<td>肯定</td>
</tr>
<tr>
<td>项目</td>
<td>内容</td>
<td>简要说明</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>1</td>
<td>及时性</td>
<td>项目定性评估的及时性</td>
</tr>
<tr>
<td>2</td>
<td>可视化表</td>
<td>及时性是重要的，但可视性是一般重要的重要性</td>
</tr>
</tbody>
</table>