The competitive strength of Asian network airlines in competing with low-cost carriers and the use of low-cost subsidiaries

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The competitive strength of Asian network airlines in competing with low-cost carriers and the use of low-cost subsidiaries

by

James Pearson

A doctoral thesis
Submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy of Loughborough University

July 2015

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I am enormously and sincerely grateful for many people’s help – in whatever way – on my PhD journey. Firstly, I must raise a pint of real ale to David Pitfield, my main PhD supervisor. While I entirely acknowledge that I did not overly like his characteristically forthright manner in the early days, I grew to like him and I enjoyed our trips to the Organ Grinder and the Swan in the Rushes and our more frequent coffees. He occasionally even paid. I am sure that David will concede that I required very little help – even with the various journal papers I did alongside my PhD – and that he appreciated my ‘get on with it’ nature. I am grateful for David’s suggestions, comments, and humour, and, in particular, his apparent willingness to readily reply to my questions via Facebook even on Friday evenings, weekends, and during holidays. I am sure I got him into trouble with his wife. Thanks are also due to Tim Ryley who provided constructive and thought-provoking criticism throughout, even when he moved to Australia. I am grateful for his assistance throughout.

But more than any other, I am immensely grateful to my wife and our two sons, Harry and Charlie, the latter born in the second year of my PhD. (Coincidentally, Harry was born while undertaking my undergraduate degree, also at Loughborough. Perhaps it’s fate.) You are all continual inspiration, and while I have often had work to do – I assure you that I always felt guilty saying ‘I have work to do’ when I should have been playing – you will not know the full gratitude that I have for your loving, caring, and motivating nature.

My wife, Natalie, is without question much brighter than I am, and she went above and beyond with her assistance – often at the sacrifice of her own work. Having now had our family, Natalie is beginning to embark upon her proper career, starting with an MSc, which may also see her undertake her own PhD albeit in an entirely different sphere. I quietly hope that if she pursues this she does so at Oxford or Cambridge – because she deserves it and can do it, about which I have no doubt. To all three, I thank you repeatedly and hope that my diverted attention and missed opportunities to play will all be worthwhile.

In recent years I have been increasingly concerned about the opportunity cost while at university and that students often do not meaningfully earn money or begin to develop experience and knowledge and do not start to develop a reputation. It is frequently said that to divert one’s attention from a primary goal could be counterproductive. However, I hope that my achievements alongside my BSc, MSc, and PhD go some way in disproving this. My opinion is simple: find an area with which you are naturally obsessed and motivation and intuition will spring forth like water down a Scottish waterfall in the depths of winter. I am fortunate: I have been obsessed with aviation for over 20 years, and all of my higher education and most of my employment has been within it.

To one and all, I thank you. I am sure it has been time well spent.
ABSTRACT

While 3.3 billion people flew worldwide in 2014 a large number of these were from developed countries. It is emerging countries which offer the greatest potential for future air traffic growth, with forecasts suggesting that 7.3 billion people will fly by 2034. The greatest proportion of this traffic will be in the Asia-Pacific region where there is already high low-cost carrier penetration. Given increasing price-based competition within short-haul markets, there are many significant challenges in terms of how Asian network airlines respond to LCC competition, and a popular response is the use of low-cost subsidiaries. Thus, the aims of this research are to establish the sources of competitive advantage of Asian airlines generally, and to examine the competitive responses of Asian network airlines and the strategic capabilities of them in competing with low-cost carriers, with a particular focus upon the use of low-cost subsidiaries.

This research is underpinned with competitive advantage theory, particularly the resource-based view which concerns the internal environment of firms where each firm possesses a collection of unique resources and capabilities that provide the foundation for competitive strategy. For this research, data were collected from 49 senior airline management personnel using questionnaire surveys, resource surveys, and semi-structured interviews. The data were then analysed using VRIN analysis, the importance and difficulty of 37 competitive responses, strategic capability analysis, and the product and organisational architecture model.

The results found that both a strong strategy and stable leadership are crucial. The strategies of Asian network airlines must be flexible to respond appropriately to competitive threats as they materialise, with this responsiveness contributing to the attainment of competitive advantage. Out of an analysed 36 intangible resources, the top resources for competitive advantage and responding to competitive threats for Asian airlines generally are slots, brand, and product and service reputation, with the importance of these based more on being hard to copy than valuable. Each analysed airline business model has a relatively distinct core bundle of intangible resources which explains the internal sources of their competitive advantage.

The need for Asian network airlines to strengthen their competitive advantage and their ability to compete is because low-cost carriers impact them in many ways, most notably through a reduction in market share and reduced yields given the key motivation of customers within short-haul markets and economy class is now price and value-for-money. Asian network airlines are most likely to respond to low-cost carriers if they focus upon their core markets, grow their market share, and target the core higher-yielding passengers on which network airlines rely. In such instances, Asian network airlines should respond by focusing more on their brands and meeting the needs of their core targeted market segments.

There is a strong positive correlation between profit margin and the strategic capability to compete with low-cost carriers. Yet, Asian network airlines have relatively weak capabilities overall. While Vietnam Airlines, Malaysia Airlines, and Garuda Indonesia are reasonably well placed to compete, network airlines from Northeast Asia, in particular, must strengthen their capabilities especially as Japan, China, and Taiwan are witnessing fast low-cost carrier growth. However, the possession of a strong capability does not mean it is fully or properly leveraged.
To compete more effectively with low-cost carriers, the most important competitive responses, based upon analysis of 37 responses, are the ability of management to quickly introduce changes, leveraging brand strength, and increasing aircraft utilisation. Based on the relationship between the importance and difficulty of responses, the most crucial responses for competitive advantage of Asian network airlines are reducing costs to within 30% of LCCs and increasing aircraft utilisation. If achieved, these should lead to meaningful sustained advantage.

Low-cost subsidiaries are easier to implement than for network airlines to significantly reduce costs, change to one fleet, or reduce the use of direct distribution, which may explain their popularity within Asia and them being a borderline very essential competitive response. For network airlines, low-cost subsidiaries are a more effective way to compete with low-cost carriers, to participate in the growth of the budget segment, a means of operating uneconomic routes, and to remove unprofitable customers. Network airlines can then focus upon their core market segments and their core competencies. However, their creation is reactive and not proactive which undermines their effectiveness, likewise that low-cost subsidiaries suffer from poor profitability, higher costs, and much smaller size and scale than their key low-cost competitors.

This research recommends that Asian network airlines strengthen their existing and primary sources of competitive advantage while pursuing new sources of advantage. While the strategic capabilities of Asian network airlines have strengthened over time, it is essential that they are further strengthened and fully acted upon given increasing competitiveness. The use of low-cost subsidiaries will continue, but it is crucial for themselves and their parent network airlines that they improve their ability to compete and thereby their performance.
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1.0 INTRODUCTION

While 3.3 billion flew worldwide in 2014, a disproportionately high degree of these were from developed countries (IATA, 2015a). However, it is emerging countries which offer the greatest potential for future air traffic growth, with forecasts suggesting that 7.3 billion people will fly by 2034 (IATA, 2014). This development is predominantly from economic growth and the consequences of it, particularly higher disposable income from better education, higher employment, globalisation, and urbanisation. Indeed, while the inhabitants of economically developed countries undertake two trips per annum, those within developing nations have a considerably lower propensity to fly. As emerging countries represent 70% of the world’s population yet 35% of its GDP (McKinsey & Company, 2012), the potential from emerging nations is clear: “emerging markets are regional economic powerhouses with large populations, large resource bases, and large markets. They are the world’s fastest growing economies and are, therefore, becoming critical participants in major political, economic and social affairs” (Airbus, 2006, p.8).

The significance of emerging markets is particularly the case for Asia, with this continent home to 55% of the world’s population with four billion inhabitants (AAPA, 2014). At the same time, many countries within Asia are growing strongly economically each year, such as Macau¹ (11.9%), China (7.7%), Cambodia (7.4%), Sri Lanka (7.3%), Philippines (7.2%), and India (6.9%) (World Bank, 2015a). Aided by increasing open skies, particularly the ASEAN agreement which is anticipated to be implemented by the end of 2015, spread-out geography, and large populations yet often comparatively poor surface modes, it is this which helps to explain why Asia is forecast to have the second-highest growth in traffic each year until 2033 of 5.7% (IATA, 2014b). Indeed, Asia recorded a 5.8% increase in traffic in 2013, which surpassed Europe and was double that of North America (IATA, 2015a), and airlines within Asia carried over one billion passengers in 2014. It is therefore not surprising that by 2033 Asia is expected to have a greater percentage of total world airline traffic than all other geographic regions while mature Europe and North America both decline (IATA, 2014b). Supported by a backlog of aircraft orders for Asian airlines of 3,517 against 2,236 for second-placed North America (CAPA, 2014a), there is a growing new world order.

¹ Macau is a special administration region of China, like Hong Kong.
Despite the many significant roles played by airlines and their consequent high growth, which will continue but notably within emerging markets, comparatively poor financial performance is characteristic of airlines. While airlines within Asia-Pacific collectively achieved a mean profit margin of 6.3% between 2010 and 2014 which surpassed all other regions, poor performance is no different within Asia. Indeed, Dunn (2014a) found that of the top-150 airlines worldwide by revenue in 2013, 30 airlines from Asia-Pacific had lower total operating profit than in 2012. Furthermore, in 2013 airlines from Asia-Pacific significantly underperformed in terms of total operating profits relative to those from North America and Europe, with profits halving from $8 billion to $4.2 billion (Dunn, 2014a). In contrast, profits at least doubled in this period for all other world regions. Airlines from Southeast Asia are especially hard hit, with profits halving between 2013 and 2014 (CAPA, 2014b). The underperformance of Asian airlines in the past two years in particular is because of many shorter- and longer-term challenges, including the growth of the ‘Middle East Big Three’ (MEB3), Emirates, Etihad, and Qatar, which are competing fiercely between Asia-Pacific and Europe from lower-cost platforms and with often higher-quality products and stronger brands, and, within short-haul markets, low-cost carriers (LCCs).

Numerous industries, including car manufacturing, banking, chemical production, and health care, are increasingly witnessing growing penetration from low-cost competition, with incumbent firms facing an increasing threat from them. This is no different within the airline industry, with LCCs responsible for 25.9% of all seats flown worldwide in 2014 (CAPA, 2015a). This is virtually identical to the LCC penetration within Asia-Pacific, which has increased from just 3.4% in 2003. More significantly, the degree of LCC penetration varies widely within Asia, with South and Southeast Asia having twice as great a penetration (56.3% and 57.0%) as the mean within Asia. South and Southeast Asia have the highest penetration by seats from LCCs of all world regions, with Western Europe and North America, for example, having 44.0% and 30.1% respectively (CAPA, 2015a). Given the penetration of LCCs within South and Southeast Asia, it is not surprising that many countries there have high LCC presence, notably Malaysia (56.0%), Indonesia (52.7%), Thailand (42.1%), Philippines (41.5%), and India (41.2%). The dominance of LCCs within these countries and South and Southeast Asia generally will only increase, for LCCs there have 1,255 aircraft on order predominantly for growth and not fleet replacement. Despite the continuing argument by incumbent firms that the products and services offered by low-cost
competitors are inferior and less appealing, their ‘good enough’ offers are attractive for substantial segments of specific markets, hence their insatiable growth.

1.1 The rationale for this research

With over a quarter of seats across Asia provided by LCCs in 2014, Asian network airlines, or full-service airlines, have never been so exposed and so vulnerable to lower-cost competition. The threat posed by LCCs generally and specifically within Asia is typified by Pearson et al. (2015, p.1): “never before have network airlines, or full-service airlines, been so exposed and vulnerable to low-cost carriers.” This corresponds with Doganis (2006, p.22), who showed that: “the most threatening challenge to be faced will be the irresistible rise of the low-cost sector.” As Taneja (2010, p.xxxiii) indicated, this threat is real: “LCCs represent an increasing and significant threat to the long-term viability of network airlines.” That LCCs are a growing and emerging phenomenon within Asia exacerbates this difficulty still more (Graham and Vowles, 2006). This is further compounded because established LCCs within this continent, particularly AirAsia, Jetstar, and Tigerair, are evolving by moving away from the simplicity afforded by the ‘pure’ LCC model in targeting higher-yielding business travellers upon which Asia network airlines rely given their typical inefficiencies, bureaucracies, and higher costs from their strategic positions and legacy existences.

The intensifying penetration of LCCs, including within South and Southeast Asia but increasingly within Northeast Asia, together with their evolving nature, have resulted in “potentially crippling circumstances” (CAPA, 2012) for Asian network airlines. These circumstances concern a high degree of price competition and the growth in the importance of value-for-money, but crucially also overall losses or at least losses within the short-haul markets (Budd et al., 2014). They also concern the rise of the commoditised airline seat within economy class and short-haul markets, the reduction in customer satisfaction, and the need for segment-focused valued propositions from the controversy over whether customer expectations are being met (Gross and Schroder, 2007). Hanaoka et al. (2014) determined that the entry of an Asian LCC on one route may negatively impact the fare, frequency, and profitability of related competitive routes for the entire network. Indeed, Walker (2014) showed that Asian network airlines from South and Southeast Asia which are suffering financially, in particular Air India, Jet Airways, Thai Airways, Malaysia Airlines, and Garuda
Indonesia, are not engaging in meaningful capacity restraint while load factors have reduced by 1% to 2% and yields have fallen by 5%.

Beyond South and Southeast Asia, it is likely that network airlines within Northeast Asia will witness increasing competitiveness within short-haul markets as restrictions are loosening. China, in particular, is beginning to encourage the continued development and expansion of LCCs, both domestically and internationally, to advance its economic prosperity (Airline Leader, 2013). Furthermore, the adoption of the ASEAN open skies agreement within Southeast Asia, and India slowly removing its stringent regulations especially regarding international operations and its double taxation on fuel, will further exacerbate the situation for Asian network airlines. This is prophesied by Doganis (2006, p.12) who indicated that “the most significant trend [for airlines] has been the gradual liberalisation of international air transport…with profound effects on both market structure and operating patterns.” The reduction in barriers to entry, of whatever form, should facilitate the entry of additional nimble and lower-cost competitors, while solidifying the presence of those LCCs which already exist (Truxal, 2013). Thus, Kappes and Merkert (2013) anticipate that the challenges for Asian network airlines will increase.

Clearly, there are many significant challenges facing Asian network airlines as to how they respond to LCCs. Despite the negative consequences of LCCs within Asia, it is very difficult for Asian network airlines to appropriately and expeditiously compete against lower-cost competition, with competitive responses typically involving cost reduction, efficiency and productivity improvement, fare reduction, investment in increased product differentiation, or a do-nothing approach from an unwillingness to accept the changing reality (O’Connell and IATA, 2007; Gillen and Gados, 2008; Hazledine, 2011; and Morrell, 2005). The considerable threat posed by LCCs to Asian network airlines suggests that the external environments within which they exist may be unlikely to provide them with competitive advantage, at least on a sustainable and ongoing basis. As such, it is crucial to ascertain the sources of competitive advantages for Asian network airlines generally, but particularly from an internal, intangible resource perspective. It is also necessary to establish their strategic capabilities in competing with LCCs, together with the importance and difficulty of competitive responses that are often implemented by them and how effective and sustainable they may be.
One strategic response that is being increasingly utilised by Asian network airlines is the creation of low-cost subsidiaries (LCS), or an airline-within-an-airline (AWA). Within Asia, there are now 17 LCS of various size in existence, but particularly within Northeast Asia. Depending upon the specific objectives of individual LCS, this competitive response may enable their parent network airlines to participate in the growth of lower-priced air travel, to pre-empt and hopefully dissuade future low-cost entry, and to increase corporate value and to later profit from the sale of the strategic business unit (Graf, 2005). They may also enable the concentration of the parent airline on their core competencies by refocusing upon the markets and customers on which they are better able to serve.

Irrespective of the strategic responses implemented by Asian network airlines, O’Connell and Williams (2011) indicated that they are normally unsuccessful. This includes LCS, with their use and likely success in question given their historically low success rate (Morrell, 2005; Pearson and Merkert, 2014). Given the increasing use of LCS, that Asia is now at the forefront of LCS creation, and the limited success of LCS to date, it is necessary to both identify the internal competitive advantages of LCS and how they may strengthen their strategies relative to their LCC competitors. This will help to evaluate the use of LCS by Asian network airlines to gain or further strengthen their competitive advantages, and to determine whether LCS are a viable strategic response for their parent network airlines.

1.2 Aim and objectives

Given the rationale of this research and following the identification of gaps in knowledge from the review of the literature in Chapter 2 and Chapter 3, the aims and objectives of this research are as follows.

Aims:

1. To establish the sources of competitive advantage of Asian airlines; and

2. To examine the competitive responses of Asian network airlines and their strategic capabilities in competing with LCCs, with a particular focus upon the use of LCS.

Objectives:

1. To establish an understanding of Asian aviation, the threat posed by LCCs to Asian network airlines, and ways of them overcoming that threat;
2. To determine the sources of competitive advantage of Asian airlines in short-haul markets with LCC competition;

3. To examine the impacts of LCCs on Asian network airlines and the ways in which the motivations of their customers are changing;

4. To identify the strategic capabilities of Asian network airlines to respond to the challenges posed by LCCs;

5. To determine the importance and difficulties of Asian network airlines implementing competitive responses in competing with LCCs;

6. To establish the reasons for the creation of LCS by Asian network airlines; and

7. To analyse the sources of competitive advantage for LCS relative to their key LCC competitors in terms of intangible resources and product and organisational attributes.

These objectives will be achieved using data collected from senior airline management through questionnaire surveys, a resource survey, and interviews. The collected data will be analysed in a number of ways, including through the application of the VRIN framework; a strategic capability methodology to pinpoint the precise capabilities of airlines to compete; and through the product and organisational architecture model which comprehensively analyses airlines by using a large number of different indices and attributes across their entire businesses to identify strengths, weaknesses, sources of advantage, and to how they may improve.

1.3 The structure of this thesis

Having provided the rationale of undertaking this research and then the research aims and objectives, it is now necessary to provide the structure of this thesis.

Building upon the background provided within this chapter, Chapter 2 provides an overview of aviation within Asia with a particular emphasis upon Asian network airlines. It focuses upon the role and growth of airlines within Asia, their comparative financial performance, the challenges faced by Asian network airlines, low-cost competition for firms generally, and specifically the emergence, growth, and evolution of Asian LCCs. Against this, Chapter 3 then explores the ways by which Asian network airlines could and do respond to LCCs, including the changes made internally as a result of poor financial performance. It is against the findings within Chapter 2 and Chapter 3 which leads to the justification of the theoretical
framework that underpins this research, which is undertaken in Chapter 4, before providing full details of the collection and use of data within Chapter 5.

The analysis and discussion of findings based upon the collection and use of data starts from Chapter 6, with this chapter concerning interviews with senior management at Asian network airlines and their views about the sources of their competitive advantage from both external and internal environment perspectives. Chapter 7 expands upon the internal sources of competitive advantage by examining intangible resources by whether they are valuable, rare, hard to copy, and hard to imitate for Asian network airlines, LCCs, and LCS. Given increasingly competitive external environments, this provides a comprehensive and different view of competitive advantage within a specific geographic context.

Having established the primary sources of competitive advantage for Asian network airlines, LCS, and LCCs, Chapter 8 then explores the impacts of LCCs upon network airlines. Against these impacts, it also determines if and how the motivations of the customers targeted by network airlines are changing within economy class and short-haul markets. Given the findings within Chapters 2, 3, and 8, Chapter 9 then examines the precise capabilities of Asian network airlines to compete with LCCs which is of significance given the impacts of them. Chapter 10 then explores the importance and difficulty of Asian network airlines implementing 37 potential competitive advantages, with particular emphasis on importance, with conclusions drawn as to their potential effectiveness and sustainability and the degree to which they may warrant implementing.

One competitive response that Asian network airlines are increasingly implementing is LCS. As such, Chapter 11 looks into the specific reasons for the creation of LCS by their parent Asian network airlines, including what the parent airlines themselves could not adequately do, the ways in which LCS may benefit them, and the roles played by LCS as part of the overall strategy of their parents. The contention within Chapter 3 that LCS underperform relative to their key LCC competitors necessitates close examination of the strategies of both LCS and LCCs and what explains their profits/losses, revenues, and costs, with this undertaken within Chapter 12. This chapter also identifies the ways by which LCS may strengthen their strategies and advantages to be of greater value and significance for their parent network airlines.
Chapter 13 provides conclusions and recommendations based upon the research objectives, before identifying the limitations of this research and the areas that require further research.
2.0 AN OVERVIEW OF ASIAN AVIATION AND LOW-COST COMPETITION

Airlines have a pivotal role as the facilitator of world tourism: “air transport and tourism are interlinked: tourism is a driving factor for and, in some cases, a stimulator of change in air transport” (Bieger and Wittmer, 2006, p.1). But airlines also enable mobility, hypermobility, and have a wider socio-political-economic role embracing regional, social, and industrial policies (Button et al., 1998, p.2). It is this agglomeration of fundamental roles that Pilarski (2007) argues has resulted in airlines traditionally being deemed national assets, hence state-owned airlines, and it explains why the air transport industry is “complex, dynamic, and subject to rapid change” (Doganis, 2009, p.1).

Against this, Chapter 2 provides contextual information about aviation within Asia particularly related to the role and growth of airlines, especially within emerging markets within this continent, and the financial performance of airlines within Asia. It contrasts growth and financial performance with airlines elsewhere. This chapter then examines shorter- and longer-term challenges facing Asian network airlines before looking at lower-cost competition for incumbent firms generally. Finally, it looks specifically at the proliferation of LCCs within Asia, which has become a growing competitive problem for Asian network airlines across this continent.

2.1 The role and growth of air traffic

Delfmann (2005) insists that the airline industry’s inherent complexity is unsurprising given the industry is collectively large yet still able to quickly change. Indeed, air traffic growth grew 5.7% in the past year which surpassed the ten-year mean growth rate (IATA, 2015a), across more than 1,715 airlines, 23,000 aircraft, and 3,750 airports (ATAG, 2014). Yet it is the growth of air traffic which is more extraordinary: over the past 40 years, passenger traffic has increased tenfold and cargo volumes fourteenfold (IATA, 2011, p.1). Indeed, air traffic has doubled every 15 years since 1970, hence the “air transport industry has undergone an expansion unrivalled by any other form of public transport” (Doganis, 2009). However, traffic growth on a percentage basis has experienced a long-term average annual decline, although this is misleading as it neither considers the heterogeneous regional growth rates nor disparate growth between airlines, both of which vary significantly. Indeed, IATA (2014b) forecast that 7.3 billion people will be transported by air by 2034 given a mean annual growth
rate of 4.1%, while Allianz (2014) in its Global Aviation Study suggests that 16 billion could fly by 2050, which would be more than double the current world population of 7.3 billion (Worldometers, 2015).

Boeing (2011) suggests that 60-80% of air traffic growth is attributable to economic growth, although it is not simply economic growth itself but is instead premised upon what economic growth facilitates, such as greater per-capita disposable incomes, higher employment, greater urbanisation, and higher globalisation and trade. Morphet (2012) shows that non-economic factors which explain air traffic growth include demographic changes, affordability of air transport, geographical features, degree and nature of competition, and airport hub status. The importance of economic growth, in particular, means that it is unsurprising that the propensity to fly, which is measured by the number of trips taken per capita, varies significantly by country. For example, while the inhabitants of economically developed countries undertake two trips per annum, those within developing nations have considerably lower propensity, such as seven trips per one hundred people within India (Airbus, 2014). The different propensities to fly are shown within Figure 2.1, while Figure 2.2 illustrates the different propensities for economically emerging countries by the level of income.

**Figure 2.1:** Propensities to fly in 2013

Source: IATA (2014c)
Figure 2.2: Propensities to fly in 2013 by income level for emerging countries

Figure 2.1 and Figure 2.2 indicate the significant growth potential from emerging countries which is premised upon such countries representing around 70% of the world’s population yet accounting for less than 35% of the world’s total GDP (McKinsey & Company, 2012). While McKinsey & Company (2012) shows that five billion people live within 37 countries each having a GDP per capita of less than $1,000 per year, the total GDP of emerging countries is expected to surpass that of developed economies by 2020 based in part upon consumer spending growing three-times greater. Furthermore, Airbus (2014) shows that 22% of the population of emerging countries flew in 2013, which is expected to increase threefold by 2033. India, for example, had 0.06 trips per capita in 2013, which is forecast to grow to 0.26 by 2033. In comparison, China had 0.25 trips in 2013 which is forecast to increase to 0.95. If China’s propensity increases as forecast, it will be close to that of Europe. Interestingly, the pivotal income is $20,000, for IATA (2014c) shows that those nations below it have a mean propensity to fly of 0.27 trips per capita, with 44 months to their next trip by air, while those above it have a mean propensity of 1.80 trips and wait just seven months.
Pilarski (2007) indicates that air traffic growth is furthered when large segments of a population reach middle income. This is supported by IATA (2014b) which indicated that there were 1.4 billion middle class inhabitants of emerging countries in 2013, which is expected to increase to 4.4 billion by 2033. It is this considerable growth of the middle class which illustrates that air traffic growth is dependent upon the penetration of lower-income categories (Hanlon, 2007), for most people within developing countries have not yet flown (Graham et al., 2010). Combined with the faster-growing GDPS usually present within emerging countries in Asia, Africa, and Latin America, with all of the top-ten countries by GDP growth between 2003 and 2013 being within Asia or Africa (World Bank, 2015a), it is clear that the future demand for air transport has shifted to emerging countries and regions. While Figure 2.3 shows the divergence in GDP growth rates for emerging and advanced economies especially from the year 2000, Figure 2.4 provides an overview of GDP growth rates within Asia between 2010 and 2014.

**Figure 2.3: GDP growth between emerging and advanced economies**

![GDP growth between emerging and advanced economies](image-url)

*Source: Airbus (2014)*
The shifting trend towards emerging countries is further shown within Table 2.1. This indicates that developing regions are growing more expeditiously and will represent a greater proportion of total revenue passenger kilometres (RPKs) by 2033, while mature Europe and North America will experience reducing RPKs. This is unsurprising given the different stages of each region in the market life cycle, as shown in Figure 2.5.

**Table 2.1: Worldwide air transport growth (by RPKs)**

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage of world RPKs in 2013</th>
<th>2011-2031 growth</th>
<th>Percentage of world RPKs in 2033</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia-Pacific</td>
<td>30%</td>
<td>5.7%</td>
<td>36%</td>
</tr>
<tr>
<td>Europe</td>
<td>25%</td>
<td>3.6%</td>
<td>20%</td>
</tr>
<tr>
<td>North America</td>
<td>24%</td>
<td>2.9%</td>
<td>17%</td>
</tr>
<tr>
<td>Middle East</td>
<td>8%</td>
<td>7.1%</td>
<td>13%</td>
</tr>
<tr>
<td>Latin America</td>
<td>5%</td>
<td>5.4%</td>
<td>6%</td>
</tr>
<tr>
<td>Central Asia</td>
<td>4%</td>
<td>5.4%</td>
<td>5%</td>
</tr>
<tr>
<td>Africa</td>
<td>3%</td>
<td>4.7%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Airbus (2014)

RPKs are calculated as: fare-paying passengers x sector distance. It is a measure of traffic.
Figure 2.5: Regional market life cycle

Of key emerging countries within Asia, it is forecast that China will have 856 million new passengers by 2034 while India will have 266 million and Indonesia 186 million (IATA, 2014b). In comparison, the US is expected to have 559 million new travellers (IATA, 2014b). The growth within emerging countries is predominately because of a rise in living standards, which is based upon economic growth, rather than changes in population and demographics, and in travel cost.

### 2.2 The financial performance of airlines

Despite the fundamental roles played by airlines and their consequent dramatic growth, financial ill-performance is greatly characteristic of airlines, with airlines renowned for marginal and very cyclical long-term profitability. Indeed, over the past 40 years airlines have collectively achieved a net profit margin of 0.1% (IATA, 2011), meaning that they earned just $0.01 in net profit for every $1 in revenue. This is despite labour productivity, aircraft utilisation (block-hours per day), and seat load factors meaningfully increasing (IATA, 2011). Even though 2010 represented one of the highest years of profitability in recent times with a combined net profit of $15.8 billion, airlines ended that year with $200 billion in debt and a net margin of just 3.5%. While such profitability may pay bills and
interest on borrowings, it is unlikely to cover past losses and provide internal capital to fund growth, hence worsening airline debt-equity ratios (Visagh et al., 2010). Given their characteristically poor profitability and their capital-intensive nature – $506 billion of capital is invested within airlines in comparison to $293 billion in airports (IATA, 2011) – it is unsurprising that airlines consistently fail to cover their weighted average cost of capital (WACC), which is around 7.5% (Morrell, 2007). It is notable that different airline business models achieved different returns on invested capital (ROIC): while LCCs achieve a 7% ROIC, network airlines achieve only 3.5% (IATA, 2011). Despite ROIC not exceeding WACC, airlines still grow, thereby compounding their already serious difficulty. Indeed, O’Connell and IATA (2007, p.43) shows that “the equation of continued passenger growth is not correlated to increased profitability; in fact, the opposite happens”. Merkert and Morrell (2012) found that while deregulation has often fostered faster growth for airlines, the optimal size of airlines in terms of efficiency is between 34 and 52 billion ASK.

Table 2.2 details the top-150 airlines worldwide by total revenue, with LCCs achieving the highest profit margins and network airlines the second-lowest. On a geographic basis, Table 2.3 shows that airlines within Asia-Pacific were the top-performing by EBIT margin\(^3\) in all but one year between 2010 and 2014, together with the greatest mean margin over the five-year period of 6.3%. It is noteworthy that airlines from Latin America and the Middle East, regions which are also emerging, had mean profit margins of less than half that of Asia-Pacific.

Table 2.2: Top-150 airline summary by airline type in 2013

<table>
<thead>
<tr>
<th>Airline type</th>
<th>Revenues ($, bn)</th>
<th>Change year-over-year</th>
<th>Operating result ($, bn)</th>
<th>Operating profit margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network</td>
<td>466.2</td>
<td>18.1%</td>
<td>24.8</td>
<td>5.3%</td>
</tr>
<tr>
<td>Low-cost</td>
<td>57.8</td>
<td>19.9%</td>
<td>4.4</td>
<td>7.6%</td>
</tr>
<tr>
<td>Cargo</td>
<td>38.4</td>
<td>16.5%</td>
<td>2.1</td>
<td>5.6%</td>
</tr>
<tr>
<td>Regional</td>
<td>14.3</td>
<td>13.6%</td>
<td>795</td>
<td>5.6%</td>
</tr>
<tr>
<td>Charter</td>
<td>11.5</td>
<td>0.9%</td>
<td>411</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Source: Flightglobal (2014). PM = profit margin

\(^3\)Earnings before interest and taxation
Table 2.3: Summated operating profit margins of airlines within six world regions

<table>
<thead>
<tr>
<th>Region</th>
<th>EBIT profit margins</th>
<th>Mean profit margins</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
<td>2011</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>8.0%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Latin America</td>
<td>5.1%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Middle East</td>
<td>3.7%</td>
<td>3.1%</td>
</tr>
<tr>
<td>North America</td>
<td>5.7%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Africa</td>
<td>1.7%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Europe</td>
<td>2.4%</td>
<td>0.8%</td>
</tr>
<tr>
<td>World</td>
<td>4.4%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

Source: IATA (2014d).

Despite the relative and collective strength of Asia-Pacific airlines by profit margin from 2010 to 2014, 30 airlines from this region had lower total operating profit in 2013 than in 2012 (Dunn, 2014b). For example, Air China (2012: $1.3 billion; 2013: $671 million); the All Nippon Group ($1.3 billion; $657 million); Japan Airlines ($2.3 billion; $1.7 billion); China Southern ($809 million; $246 million); China Eastern ($691 million; $257 million); Korean Air ($242 million; minus $19 million); and Thai Airways ($186 million; minus $94 million). Indeed, by total operating profitability airlines from Asia-Pacific significantly underperformed when compared with those from North America and Europe, as shown in Table 2.4.

Table 2.4: Summed operating profitability of airlines within six world regions

<table>
<thead>
<tr>
<th>Region</th>
<th>Operating profits ($; millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>4,283</td>
</tr>
<tr>
<td>Latin America</td>
<td>1,879</td>
</tr>
<tr>
<td>Middle East</td>
<td>1,118</td>
</tr>
<tr>
<td>North America</td>
<td>12,657</td>
</tr>
<tr>
<td>Africa</td>
<td>228</td>
</tr>
<tr>
<td>Europe</td>
<td>6,236</td>
</tr>
</tbody>
</table>

Source: Dunn (2014a).

Furthermore, it is clear from Table 2.4 that the profitability of airlines from Asia-Pacific halved in 2013 while it at least doubled for every other region, even Africa. This underperformance has continued into 2014 particularly for airlines within Southeast Asia, with CAPA (2014b) finding that “Southeast Asian airlines have faced extremely challenging market conditions in 2014, resulting in an alarming amount of red ink.” Of the 18 airlines within Southeast Asia which publish their financial performance, only seven achieved
operating profits in 2014 against nine in 2013, with profitability across them all reducing considerably, as shown in Table 2.5.

**Table 2.5: Operating profits for Southeast Asia airlines in 2014 against 2013**

<table>
<thead>
<tr>
<th>Airline</th>
<th>Business model</th>
<th>Country</th>
<th>Operating result 2014 ($; millions)</th>
<th>Operating result 2013 ($; millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia AirAsia</td>
<td>LCC</td>
<td>Malaysia</td>
<td>+261</td>
<td>+293</td>
</tr>
<tr>
<td>Singapore Airlines</td>
<td>Network</td>
<td>Singapore</td>
<td>+166</td>
<td>+197</td>
</tr>
<tr>
<td>Cebu Pacific</td>
<td>LCC</td>
<td>Philippines</td>
<td>+97</td>
<td>+57</td>
</tr>
<tr>
<td>Bangkok Airways</td>
<td>Network/hybrid</td>
<td>Thailand</td>
<td>+49</td>
<td>+82</td>
</tr>
<tr>
<td>Silk Air</td>
<td>Network</td>
<td>Singapore</td>
<td>+24</td>
<td>+43</td>
</tr>
<tr>
<td>Thai AirAsia</td>
<td>LCC</td>
<td>Thailand</td>
<td>+9</td>
<td>+74</td>
</tr>
<tr>
<td>Philippine Airlines</td>
<td>Network</td>
<td>Philippines</td>
<td>+7</td>
<td>-283</td>
</tr>
<tr>
<td>Nok Air</td>
<td>LCS</td>
<td>Thailand</td>
<td>-13</td>
<td>+36</td>
</tr>
<tr>
<td>Citilink</td>
<td>LCS</td>
<td>Indonesia</td>
<td>-14</td>
<td>-60</td>
</tr>
<tr>
<td>Tigerair Philippines</td>
<td>LCC</td>
<td>Philippines</td>
<td>-19</td>
<td>-54</td>
</tr>
<tr>
<td>Philippines AirAsia</td>
<td>LCC</td>
<td>Philippines</td>
<td>-22</td>
<td>-29</td>
</tr>
<tr>
<td>Singapore Airlines Cargo</td>
<td>Network</td>
<td>Singapore</td>
<td>-37</td>
<td>-87</td>
</tr>
<tr>
<td>Indonesia AirAsia</td>
<td>LCC</td>
<td>Indonesia</td>
<td>-48</td>
<td>-12</td>
</tr>
<tr>
<td>Tigerair Singapore</td>
<td>LCC</td>
<td>Singapore</td>
<td>-64</td>
<td>-6</td>
</tr>
<tr>
<td>AirAsia X</td>
<td>LCC</td>
<td>Malaysia</td>
<td>-67</td>
<td>+10</td>
</tr>
<tr>
<td>Malaysia Airlines</td>
<td>Network</td>
<td>Malaysia</td>
<td>-303</td>
<td>-107</td>
</tr>
<tr>
<td>Garuda Indonesia</td>
<td>Network</td>
<td>Indonesia</td>
<td>-419</td>
<td>+86</td>
</tr>
<tr>
<td>Thai Airways</td>
<td>Network</td>
<td>Thailand</td>
<td>-523</td>
<td>-95</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td><strong>-916</strong></td>
<td><strong>+145</strong></td>
</tr>
</tbody>
</table>


Of the top-ten airlines worldwide by operating profits in 2013, only one airline – Japan Airlines – was profitable ($1.7 billion), while in 2011, for example, five were (Japan Airlines, $2.4 billion; Air China: $1.1 billion; China Southern: $944 million; Cathay Pacific, $729 million; and China Eastern, $689 million) (Dunn, 2014a). At the same time, the number of North American airlines with profitability increased from two in 2011 to six in 2013 (Airline Business, 2014). It is clear that in recent years Asia-Pacific has been underperforming in total profit terms by comparison to mature North America in particular. This may be partially because capacity growth within Asia exceeded traffic growth between 2013 and 2014: while traffic grew by 5.8% year-over-year capacity grew by 7%, thereby reducing load factor to 76.9% (IATA, 2014d).

While IATA (2011) insists that other industries with similar product and market characteristics as airlines perform well and provide a ROIC, airlines do not. Indeed, “the confluence of major forces of the past decade has broken the network airline model” (Taneja, 2008, p.xxvii). It is this against this that North American network airlines, in particular, have consolidated, reduced capacity, and improved yield and profitability. Given the very
competitive and customer-driven nature of airlines, especially now within Asia, network airlines are increasingly experiencing losses in short-haul markets (Clark, 2012). Yet there is no simple, singular reason for their financial ill-performance as there are an amalgamation of interrelated factors that will continue to coexist with the vibrancy, dynamism, and innovation for which airlines are known (Bruecker and Pai, 2009).

For airlines within Asia specifically reasons include both shorter-term and longer-term problems, the former including currency exchange issues, weaker demand within certain areas of Asia, poor air cargo demand that has not recovered from the global recession (Dunn, 2014b), and overcapacity. However, in terms of overcapacity IATA’s Chief Economist, Brian Pearce, said that it is not a concern in Asia “in the medium to long-term…[because] in the next 20 years we expect an increase of almost 1.8 billion annual passenger journeys” (Mwanalushi, 2015, p.30). But it is the longer-term challenges which are the most problematic, and these challenges include infrastructure constraints and congestion\(^4\), medium- and long-haul LCCs\(^5\) thereby meaning that Asian network airlines are increasingly facing growing competition within short-, medium- and long-haul markets, and the growth of the ‘Middle East Big Three’ (MEB3).

The so-called MEB3 airlines comprise Emirates Airline, Etihad Airways, and Qatar Airways. Al-Sayeh (2014) shows that the MEB3 are known as ‘emerging carriers’ because of annual capacity, passenger, and fleet growth of over 10% for at least five years, while the MEB3 were within the top-30 worldwide by RPKs in 2013. Of all three airlines, it is Emirates which is the most significantly sized as it was fourth worldwide by RPKs against twentieth for Qatar and thirtieth for Etihad (Airline Inform, 2013). O’Connell (2011) indicates that the success of these airlines, but particularly Emirates, is attributable to their hub-and-spoke operations, competitive cost structures, and the strong leveraging of their brands. Squalli (2014) shows that their hub-and-spoke operations are premised upon their geographic location, with 4.5 billion people residing within an eight-hour radius which offers multiple

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\(^4\) Especially at Jakarta/Soekarno-Hatta, Manila/Ninoy Aquino, Bangkok/Suvarnabhumi, and the two Shanghai airports, which have all exceeded their intended capacity. Mumbai and Delhi are other examples that require infrastructure expansion because of congestion reasons. While Beijing is exceptionally congested, it will have a new ‘mega airport’, while new infrastructure is forthcoming in Jakarta and Manila. Clearly, the inability to invest in infrastructure will limit growth opportunities.

\(^5\) AirAsia X in Malaysia, Indonesia, and Thailand; Scoot in Singapore and NokScoot in Thailand; and Cebu Pacific in the Philippines.
convenient traffic flows, including Europe to South Asia, Southeast Asia and Australasia. The strength of their development has increasingly resulted in countries, notably Germany, France, Canada and the USA, beginning to implement protectionist measures (de Wit, 2014). This is partially based upon the success that Emirates, Etihad, and Qatar have had in capturing demand between Europe and Asia-Pacific as in the week commencing 30th March 2015 Emirates had 39.7% of its seats deployed to South, Southeast, and Northeast Asia plus Australasia (CAPA, 2015c), with Etihad and Qatar similar. This means that the MEB3 have over 888,000 seats in this week period from Dubai to Asia-Pacific. This is in contrast to 64,000-68,000 weekly seats to Western Europe by Thai Airways and Singapore Airlines, 46,000 for Cathay Pacific, and 25,000-27,000 weekly by Air India and Malaysia Airlines (CAPA, 2015c). Given the significant capacity between Asia and the MEB3’s hubs of Dubai, Abu Dhabi, and Doha, and the assumption that a good deal of passengers continue onto Europe, it is not surprising that various Asian airlines have reduced service to Europe to focus instead on intra-Asia services.

For example, Thai Airways will halve its services to London and Paris (Business Traveller, 2015) as the MEB3 between them operate 12 daily services to Bangkok, while Malaysia Airlines will “cut capacity by 10 per cent and focus on more profitable domestic and regional routes… routes flown to the Middle East and Europe… are being carefully evaluated and could be discontinued if they do not contribute to group profitability” (Newcombe, 2015). Furthermore, CAPA (2015) showed that “it is the Gulf carriers that have singlehandedly changed the overall dynamic of Singapore’s long-haul market,” which is also applicable to other countries within Southeast Asia but also South Asia.

By comparison, a lower but growing threat is posed by Turkish Airlines, which Dursun et al. (2014) shows has significantly grown and carried nearly 30 million international passengers in 2013 which is nearly double the figure in 2010. Dursun et al. (2014) also suggests that while Turkish served 29 destinations within Asia in 2014, this was nearly six times higher than in 2003. That Turkish Airlines presently serves more destinations in Africa (32) than in Asia also attests to the potential greater competition that may materialise between Asia and Europe within forthcoming years, which is further supported by it serving 97 destinations within Europe often on a multiple-daily basis given the position of its Istanbul Ataturk hub and that most of Europe is within a four-hour radius, so may be served by narrowbody
aircraft (Dogan, 2013). Turkish Airlines (2013) shows that it anticipates 375 aircraft by 2023, and it has 216 aircraft on order for expansion and replacement.

Despite the MEB3 increasingly challenging Asian network airlines on long-haul services, it is particularly the emergence, growth, and evolution of Asia’s LCCs within short-haul markets facilitated by growing deregulation and the forthcoming ASEAN open skies which are increasingly confronting Asia’s network airlines. Williams (2002) found that “deregulation has radically altered the way in which airlines are operated and managed,” and despite it being nearly 40 years since the US deregulated its domestic market in 1978 Kole and Lehn (1999) argue that no real lessons have been learned and applied when liberalisation, and eventually full deregulation, is applied elsewhere.

It is expected that a single aviation market across the ten members of the Association of Southeast Asian Nations, known as ASEAN Single Aviation Market (ASAM), will be implemented within Southeast Asia at the end of 2015 (Hanaoka et al., 2014). It is said that ASAM will exist to “increase regional and domestic connectivity, integrate production networks, and enhance regional trade” (ASEAN Briefing, 2015). Despite this, Tan (2014) argues that “regional governments have not kept up with the rapid changes in the airline industry, and infrastructure and manpower constraints abound.” Furthermore, ASAM is limited in scope, for it only concerns unlimited third, fourth, and fifth freedom operations within the region, albeit with no directionality or capacity restrictions except where there are slot constraints (Abeyratne, 2014). However, the seventh freedom, which enables the carriage of passengers or cargo on services between two foreign nations without stopping in the airline’s own country, will not be included and will therefore comprise market barriers, likewise the keeping of ownership and control restrictions (Tan, 2014). ASAM is therefore not comparable to EU open skies. Despite this, Hanaoka (2014) shows that one LCC on one route may affect the fare, frequency, and profitability of related competitive routes for the entire network. Given LCCs within Southeast Asia have as many aircraft on order as in their existing fleets (Airline Leader, 2014), it is not surprising that Meszaros (2014) found that

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6 The right or privilege, in respect of scheduled international air services, granted by one State to another State to put down, in the territory of the first State, traffic coming from the home State of the carrier.

7 The right or privilege, in respect of scheduled international air services, granted by one State to another State to take on, in the territory of the first State, traffic destined for the home State of the carrier.

8 The right or privilege, in respect of scheduled international air services, granted by one State to another State to put down and to take on, in the territory of the first State, traffic coming from or destined to a third State.
“Southeast Asia’s effort to establish an open skies policy is set to reshape the aviation sector as liberalisation significantly increases competition”.

It is different in other parts of Asia, with “aviation in India highly regulated and consequently government decisions play a significant role in the health and direction of the industry” (Airline Leader, 2015a, p.38). For example, to operate internationally Indian airlines must operate continuously for five years and have at least 20 aircraft (Government of India, 2011), which is “an archaic rule which is totally contrary to open skies” (Kazmin, 2015). However, the Indian government is now proposing that start-up airlines be able to operate flights beyond six hours once they have a certain domestic network, while flights within six hours will be permitted once airlines double their minimum specified domestic network (Sinha, 2015). Indian airlines also have uncompetitive cost structures, partially because jet fuel within India is very high from double taxation, and analysts argue that a reduction in this could see costs reduced by up to 15% (Das, 2014).

Despite these restrictions, the Indian government is keen to adopt a more positive role, evidenced, for example, by its decision against implementing the regulation of fares given nearly 6.5 in ten seats being flown domestically by LCCs (Airline Leader, 2015a).

2.3 Low-cost competition across industries

Incumbent firms in many industries are facing a growing threat from new low-cost entrants (Hill and Jones, 2009). Indeed, from surveying 3,500 executives worldwide McKinsey Quarterly (2009) determined that 40% of executives deemed their operating environment to be much more competitive and 45% more competitive than five years previously. The reason for this greater competitive intensity was clear: for most respondents and largely irrespective of industry, more low-cost competitors were identified as the primary or secondary explanation, close behind improved capabilities of competitors and above more competitors and larger competitors. Despite this, low-cost competition is not a new phenomenon, with it as prevalent within business-to-business as business-to-customer categories. It is emerging, with specialised business models, more expeditiously than previously within new industries, product categories, and world regions through reduced barriers-to-entry, yet incumbent firms are often still oblivious to its development (Berman, 2015). However, Ryans (2009) suggests that markets and new products mature more quickly than previously from technological and
business advancement, so the need for low-cost competitors to rapidly enter. The growth of low-cost competitors within emerging markets, but especially China and India, are a particular threat to Western firms in many industries (Weihrich et al., 2010).

Premised upon ‘good enough’ products and services, such offers are attractive for substantial segments of specific markets, both lower-income customers who desire lower prices and those with higher incomes who consider themselves smart shoppers (Floor, 2006). This is because they concern low prices and satisfactory quality and may, depending upon the industry and individual firm, also offer good convenience and simplicity. Indeed, customers purchase a product or service because they consider that it will better meet their collective needs than alternative offers, so the imperative to effectively tailor-make value propositions based upon the requirements and the willingness-to-pay of targeted market segments (Cox and Dale, 2001). While businesses have a choice of three fundamental value propositions, as shown within Figure 2.6, they often focus resources and competencies largely upon one given that customers ordinarily fall within one (Ryans, 2009). However, value propositions are seldom inert, and often adapt to better meet the requirements of targeted segments (Neumann, 1995). Clearly, price value, based upon standardised, good enough, and low-priced offerings, is the driving proposition for low-cost competitors regardless of industry.

**Figure 2.6:** The three fundamental value propositions of firms

- **Price value**
  - Best price for standardised offering
  - Good enough quality, performance, and style

- **Performance value**
  - Superior functionality
  - Innovative features
  - Exceptional quality
  - Fashion and style leadership

- **Relational value**
  - Customised treatment
  - Tailored offerings
  - Complete and integrated solutions
  - Convenient, rapid response
  - Mutual trust

Ryans (2009) argues that the relative proportions of each value proposition evolves alongside the product and service life cycle with price value often dominant with maturity, although it varies significantly by the specific industry and market. Likewise the comparative size of each of the three core processes that underpin all businesses, as shown in Table 2.6, with a traditional business model incorporating them all to roughly equal proportions despite each process significantly conflicting with one another (McKinsey Quarterly, 2000).

Table 2.6: Three core business processes

<table>
<thead>
<tr>
<th>Key success factors</th>
<th>Customer relationships</th>
<th>Infrastructure</th>
<th>Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td></td>
<td>Scale</td>
<td>Time to market and timing</td>
</tr>
<tr>
<td>Management focus</td>
<td>Customers</td>
<td>Costs</td>
<td>People</td>
</tr>
</tbody>
</table>

Source: adapted from Johnson et al. (2010).

Yet all three processes within Table 2.6 are present in all firms albeit with one core process dominant and the remaining two supporting the attainment thereof, with this requiring the rise of focused, or specialised, business models. The dominant core process determines the allocation and configuration of business resources to further strengthen competence and thereby hopefully strengthening strategy and competitive advantage (Johnson et al., 2010).

For many industries, it is the existence of these specialised businesses that together help to form an industry value chain that partially facilitates the entrance of low-cost competition, for they permitted outsourcing to those that can achieve an attractive balance of price and quality (Hilmer and Quinn, 1994). While overreliance upon outsourcing may be detrimental – “if the partner fails in a major way, this can have serious repercussions on the company’s brand and reputation” (Willcocks et al., p.45) – the existence of such focused businesses has heightened the bargaining power of low-cost competitors vis-à-vis incumbent firms.

That incumbent firms often deem ‘good enough’ products inferior and unappealing is not unsurprising because incumbents typically compete on performance, quality, fashion, style, or close relationships with customers, hence their enduring feeling of insulation and slowness in realising this shift, potentially undermining their profitability or entire existence (Harvard Business Review, 2010). However, Hokinson et al. (2008) insists that it also represents opportunity: by signifying that a considerable segment of the market is dissatisfied with the value propositions of incumbent firms, such firms could properly target those seeking good enough products or services at low prices through tailor-made propositions. This is
particularly viable if acted upon quickly, thereby benefiting from first-mover advantage, although Hill and Jones (2009) say that this market segment may initially seem small and not worthy of management distraction or resources. However, Ryans (2009, p.14) counters that “it often grows exponentially as both the demand side of the business develops and the supply side infrastructure grows to support the low-cost players.” Thus the need for incumbent firms to quickly analyse opportunities and, if sufficiently attractive, to act, with late market entrance often resulting in lower profitability and market share (Carpenter and Nakamoto, 1990). This is demonstrated by late market entrance being accountable for the poor profitability of most of the joint ventures within the AirAsia Group except Malaysia AirAsia (Airline Leader, 2015b).

While limited by specific context, there is growing acceptance of lower-priced products, although price is but one consideration. Indeed, Ryans (2009, p.13) contends that “it is not always about price. It is often more about the total value proposition. Many customers choose to buy from value competitors because they are cost-conscious or because their needs are fully met by the value player’s solution or both.” Landsbaum (2004) believes that this is insufficient, for customers of value competitors often believe that they derive better value from such than from an incumbent and at a lower price. If true, and assuming that the lower price is achieved through lower costs, this could represent ‘nirvana’, as shown in Figure 2.7, and Capon and Hulbert (2007) argue that further such opportunities should be sought. The location of network airlines in Figure 2.7 is arguable and depends upon the specific market segment in question and each airline’s own value proposition, but they are likely to fall within high costs with low or high customer value, hence the difficulties that they often face and the need for them to change. Unsurprisingly, “it seems that almost no industry is safe from low-cost competitors” (Ryans, 2009, p.10), which includes the airline industry in many parts of the world, and increasingly within Asia.
Figure 2.7: The relationship between customer value and costs

<table>
<thead>
<tr>
<th>Customer value</th>
<th>Firm cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td>Nirvana</td>
</tr>
<tr>
<td></td>
<td>Upgrade the offer or reduce costs</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>Maintain and reassess</td>
</tr>
<tr>
<td></td>
<td>Withdraw</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td><strong>High</strong></td>
</tr>
</tbody>
</table>

Source: adapted from Capon and Hulbert (2007).

2.4 Low-cost carriers

Doganis (2006, p.22) said that “the most threatening challenge to be faced by network airlines will be the irresistible rise of the low-cost sector.” This is supported by Taneja (2008, p.64) who determined that: “the increasing availability of low-fare airlines and the overwhelming acceptance of their services is by far the most influential force.” It is the rising availability of LCCs worldwide and within Asia that has resulted in the often negative implications for network airlines. These particularly include more competition; greater choice with additional and broad segment value propositions; heightened emphasis upon value-for-money; a growing unwillingness to pay for attributes traditionally included within a bundled fare structure and thus growing commoditisation; customer dissatisfaction from providing simplified offers in contrast to the perceived unfairness and complication of network airline pricing and products; and the trading-down of businesspeople from SMEs.

Indicating that LCCs have utilised the ‘expectations gap’ between the expectations and performance of network airlines (Wittman, 2014) these factors have resulted in price becoming the primary decision-making determinant, greater competition from reducing prices, and ultimately the continual fall in yields\(^9\), with yield a fundamental element of the airline operating performance model. Hence, “the increasing challenge from LCCs has permanently changed the dynamics of airline competition and present management with a

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\(^9\) For this research, the term LCC is applicable to all service-price offers below those of network airlines indicating product and operational simplicity from the reduction or elimination of many key attributes. This simplicity indicates a move towards product commoditisation and the adoption of a specific strategic position. Such airlines offer low fares as their primary reason for existing, and a 40-60% reduction may be achieved (Lawton, 2002) based upon a cost differential of 40-70%, with LCCs from Asia potentially having a cost differential over their network airline competitors of 60-70% (IATA, 2005).

\(^10\) Yields are calculated as revenue / RPKs. They effectively represent average fare.
paradigm change in the short-haul market” (O’Connell and IATA, 2007, p.31). Indeed, LCCs have undermined the short-haul and economy operations, to around four hours, of network airlines, and often rendering them unprofitable. That network airlines ordinarily rely on their short-haul services for feeding their longer-haul operations indicates the seriousness of their predicament.

2.4.1 The emergence and growth of low-cost carriers

Given that the initial LCCs existed within the USA, it is not surprising that, as shown in Figure 2.8, total seats offered by LCCs within this continent were greater in 2003 (21.0%) than in any other region. They were also nearly twice as great than the mean number of seats worldwide (12.2%). It is notable and surprising that Latin America had virtually the same degree of LCC penetration (20.9%) by this measurement in 2003 as North America. This is because CAPA includes Mexico, Central America, South America, and the Caribbean as Latin America, and because the penetration rate was based upon the number of seats within the continent and not to and from it, which would significantly reduce the difference in the 2003-2008 period. The growth of LCCs within Europe and Asia-Pacific is clear, the latter from just 3.4% in 2003 to 25.7% in 2014, which is almost identical to the worldwide total (25.9%). While the difference in the number of LCC seats in Asia-Pacific between 2003 and 2014 was 22.3%, this was surpassed by Europe with 24.5%. However, given Asia predominately comprises emerging countries, many of which have large populations yet relatively poor surface transport options, it will likely have the greatest LCC penetration of all continents.
As shown in Figure 2.9, the degree of LCC penetration varies widely within Asia. While Northeast Asia has only recently started to see meaningful LCC growth by the total number of seats particularly within Japan and South Korea, it had a penetration in 2014 of 12.8%. In comparison, South and Southeast Asia have over twice as great a penetration (56.3% and 57.0%) as the mean number of seats worldwide. This therefore means that nearly six in every ten seats now flown within South and Southeast Asia are flown by LCCs, which clearly indicates the potential competitive challenges faced by network airlines from these two sub-regions in particular.

Source: CAPA (2015a)
The domination of South and Southeast Asia explains why the leading countries worldwide by the percentage of LCC seats in 2014 are within these sub-regions, including Malaysia (56.0%)\textsuperscript{11}, Indonesia (52.7%), Thailand (42.1%), Philippines (41.5%), India (41.2%), and Vietnam (29.0%). These sub-regions will become more dominant given that seven LCCs alone have 1,255 aircraft on order: Lion Air (550); AirAsia (314); IndiGo (180); GoAir (72); VietJet (58); SpiceJet (42); and Tigerair (39) (Flightglobal Fleet Database, 2015). These seven LCCs have nearly 40% of the aircraft on order within Asia-Pacific, while the combined fleet of LCCs within Southeast Asia is forecast to grow by 13% in 2015 to 608 aircraft (CAPA, 2015d).

The LCC penetration within China and Japan is relatively low, with 8.8% and 13.0% respectively, hence Northeast Asia’s comparatively low penetration. However, China’s vice-administrator of aviation has said “we urgently need to develop LCCs” (Duval, 2014), although various restrictions, such as high import tax on aircraft and a lack of differential over airport landing fees, may impede their development (China Times, 2014). Japan is also

\textsuperscript{11} Based upon the total number of seats both domestically and internationally and divided by two.
seeking further LCC growth because “a truly competitive Japanese aviation market needs to facilitate LCC growth” (OAG, 2014a), which refers to the need for appropriate infrastructure. Despite the significant year-by-year growth of LCC penetration within Asia as shown within Figure 2.8, there are only three Asia LCCs within the top-ten worldwide by the number of passengers. This is shown in Table 2.7.

Table 2.7: Top-ten world LCCs in 2013 by number of passengers

<table>
<thead>
<tr>
<th>Airline</th>
<th>Country</th>
<th>Number of passengers (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southwest</td>
<td>USA</td>
<td>133.2</td>
</tr>
<tr>
<td>Ryanair</td>
<td>Ireland</td>
<td>81.7</td>
</tr>
<tr>
<td>easyJet</td>
<td>UK</td>
<td>60.8</td>
</tr>
<tr>
<td>Gol</td>
<td>Brazil</td>
<td>36.3</td>
</tr>
<tr>
<td>Lion Air</td>
<td>Indonesia</td>
<td>34.1</td>
</tr>
<tr>
<td>JetBlue</td>
<td>USA</td>
<td>30.5</td>
</tr>
<tr>
<td>AirAsia</td>
<td>Malaysia</td>
<td>21.9</td>
</tr>
<tr>
<td>Norwegian</td>
<td>Norway</td>
<td>20.7</td>
</tr>
<tr>
<td>IndiGo</td>
<td>India</td>
<td>19.2</td>
</tr>
<tr>
<td>WestJet</td>
<td>Canada</td>
<td>18.5</td>
</tr>
</tbody>
</table>

Source: Dunn (2014c)

There are also three Asia LCCs present within the top-ten by net profit in 2013: IndiGo ($144 million; seventh); Spring Airlines (China; $119 million; eighth); and AirAsia ($115 million; tenth) (Dunn, 2014c). The relatively few Asian LCCs within Table 2.7 is not surprising given the small size, by the number of passengers, of the leading Asia-Pacific LCCs, as shown in Table 2.8. Excluding Jetstar, the leading nine Asian LCC carried almost as many passengers in 2013 as Southwest. Despite this, the size and number of LCCs within Asia will increase.

Table 2.8: Top-ten LCCs in Asia-Pacific

<table>
<thead>
<tr>
<th>Airline</th>
<th>Country</th>
<th>Passengers (million)*</th>
<th>Fleet size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lion Air</td>
<td>Indonesia</td>
<td>34.1</td>
<td>103</td>
</tr>
<tr>
<td>IndiGo</td>
<td>India</td>
<td>22.9</td>
<td>91</td>
</tr>
<tr>
<td>AirAsia</td>
<td>Malaysia</td>
<td>22.1</td>
<td>82</td>
</tr>
<tr>
<td>Jetstar</td>
<td>Australia</td>
<td>17.6</td>
<td>71</td>
</tr>
<tr>
<td>Cebu Pacific</td>
<td>Philippines</td>
<td>16.9</td>
<td>51</td>
</tr>
<tr>
<td>SpiceJet</td>
<td>India</td>
<td>12.8</td>
<td>29</td>
</tr>
<tr>
<td>Thai AirAsia</td>
<td>Thailand</td>
<td>12.2</td>
<td>42</td>
</tr>
<tr>
<td>Spring Airlines</td>
<td>China</td>
<td>12.1</td>
<td>50</td>
</tr>
<tr>
<td>Indonesia AirAsia</td>
<td>Indonesia</td>
<td>7.9</td>
<td>29</td>
</tr>
<tr>
<td>Skymark</td>
<td>Japan</td>
<td>6.7</td>
<td>26</td>
</tr>
</tbody>
</table>

Source: airline websites/annual reports and Flightglobal Pro.

* Based upon 2014 except Lion Air, Spring Airlines, and Skymark which are 2013.

** Based upon the week commencing 1st April 2015.
Although many versions of LCCs have emerged since the beginning of 2000 and despite the recent evolution of LCCs towards hybridisation, it is useful to identify overriding attributes that are ordinarily commonplace to LCCs worldwide albeit to differing degrees. Likewise that cost control and reduction is vital and underpins the model and applies to both operations and product, with everything that is non-core – safety, reliability, and punctuality – potentially eliminated. Indeed, strategic consistency is fundamental, with Ryans (2009) suggesting, as shown in Figure 2.10, that a virtuous circle is applicable. It is within this that the product and operational attributes of LCCs exist.

**Figure 2.10: The virtuous circle of LCCs**

From asking airline management to rank LCC attributes by importance, Molnarova (2009) found that the significance of each attribute varies, with those concerning asset and labour productivity the most vital. This can be seen within Figure 2.11. Intriguingly, Doganis (2006) found somewhat different results from analysing areas of cost advantage over network airlines despite the logicality that the most important attributes are those that provide the greatest cost savings. Indeed, Doganis (2006) identified that higher seating density is by far the most significant source of cost reduction while it was ranked fifth for Molnarova (2009),
and direct distribution the second-most important by Doganis (2006) in comparison to fourth for Molnarova (2009). Potential areas of cost reduction are shown within Table 2.9, and they are categorised percentage of cost difference vis-à-vis network airlines.

**Figure 2.11:** The ranking of LCC attributes by importance

![Graph showing the ranking of LCC attributes by importance.](image)

*Source: Molnarova (2008).*

**Table 2.9:** Attributes of LCCs that achieve the greatest cost reduction

<table>
<thead>
<tr>
<th>Area</th>
<th>Cost reduction (%) against network airlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seating density</td>
<td>16%</td>
</tr>
<tr>
<td>Minimal station costs/outsourced handling</td>
<td>7%</td>
</tr>
<tr>
<td>Complete direct distribution</td>
<td>6%</td>
</tr>
<tr>
<td>No inclusive catering/few passenger services</td>
<td>5%</td>
</tr>
<tr>
<td>Secondary airports</td>
<td>4%</td>
</tr>
<tr>
<td>Lower flight and cabin crew costs</td>
<td>3%</td>
</tr>
<tr>
<td>Smaller administration and fewer staff/offices</td>
<td>3%</td>
</tr>
<tr>
<td>Reduced sales and reservation costs</td>
<td>3%</td>
</tr>
<tr>
<td>Outsourced maintenance/standardised fleet</td>
<td>2%</td>
</tr>
<tr>
<td>Higher aircraft utilisation</td>
<td>2%</td>
</tr>
</tbody>
</table>

*Source: Doganis (2006).*
2.5 Summary

This chapter examined the role, growth, and financial performance of airlines within Asia before identifying key challenges facing Asian network airlines and looking in particular at low-cost competition.

It was found that over 7 billion people are forecast to fly worldwide by 2034, and that up to 80% of air traffic growth is attributable to the consequences of economic growth, particularly disposable income and the achievement of middle income. Asia has many emerging countries whose citizens presently have low but growing propensities to fly, and it is economic growth and a reduction in travel costs in such countries which explains why Asia is forecast to have 36% of all unit traffic by 2031 while mature Europe and North America decline as a proportion of the total. While airlines within Asia have achieved the strongest mean profit margin of 6.3% over the past five years, Asian network airlines are increasingly being challenged across the continent but particularly within South and Southeast Asia. This is due to many reasons, including weak currency exchange rates, overcapacity, and sluggish air cargo demand. But it is particularly due to the rise of the MEB3 in long-haul markets and LCCs in short-haul markets, the latter offering 27.4% of all seats within Asia-Pacific in 2014 but 56.3% within South Asia and 57% for Southeast Asia. Combined with the growth of medium- and long-haul LCCs, this suggests that Asian network airlines are increasingly facing competitive challenges in short-, medium-, and long-haul markets.

The growing competitive challenges facing Asian network airlines, particularly from the rise of LCCs, requires the determination of response strategies to them, which is undertaken in Chapter 3.
3.0 THE RESPONSES OF INCUMBENT FIRMS TO LOW-COST COMPETITORS

The considerable rise of LCCs and the impacts on Asian network airlines is set to continue due to the growth of LCCs given loosening air service agreements and opening skies across Asia. LCCs which are already well established are evolving their products and operations to focus on higher-yielding passengers on which Asia’s network airlines rely to cover their cost disadvantages from their higher costs, inefficiencies, and legacy costs materialising from their specific strategic positions and their long histories often partially involving state protectionism.

It is against increasing competitiveness for Asian network airlines, their inherent cost disadvantages, and their need for higher yields that it is necessary to determine the response strategies that are and that could be employed by them in competing with LCCs. Thus, Chapter 3 initially examines the targeting of the budget segment by incumbent firms before identifying the consequences from a failure to act. It then shows how responses by Asian network airlines may be categorised into four threat levels based upon the actions of LCCs, before focusing in particular upon LCS as an increasingly popular strategy within Asia often when LCC competition is unhindered by previous countermeasures. It concludes by identifying from the reviews of the literature (Chapter 2 and Chapter 3) the gaps in knowledge upon which this research is based.

3.1 Targeting the budget segment

Ryans (2009, p.14) is adamant: “The emergence of low-cost competition is certainly not all bad news for traditional companies.” This is because it frequently means that there is a sizeable segment of a market that is not sufficiently satisfied with the value propositions of incumbent firms. While these customers may lack meaningful purchasing power on an individual basis against those customers with greater incomes and a greater willingness and ability to spend more, they may collectively represent a considerable market opportunity. Yet Berman (2015) argues that it is more significant than that: traditional firms may benefit from the lower-end market in its own right, but also from customers that ‘upgrade’ over time. However, Dagger and Danaher (2014) found that traditional firms may not benefit from customer upgrading if they are not present in the emerging segment, for there is no certainty that customers will automatically revert to them in the future as they seek more sophisticated
products. This is because customers purchase good enough products at low prices from LCCs, and as their needs as customers evolve over time they often remain with that provider or shift to marginally superior, yet still low-cost, firms from general satisfaction. This is self-supported by the evolution of LCCs and their resulting more complicated products and operations to increase revenue, traffic volume, and profitability (Bilotkach et al., 2015).

Because of this, “several leading companies are now aggressively tiering down to pursue this consumer group… for both the immediate market opportunity they represent as well as the longer-term upgrade potential” (Ryans, 2009, p.15). Some management at existing firms may recognise the emerging opportunity that is presented and may take the time and effort to learn from their low-cost competitors for their own benefit. They may also realise that new entry with low costs, low prices, and straightforward propositions and value-for-money may be forthcoming, especially in emerging markets, and may act expeditiously to gain first-mover advantage (Buckley and Ghauri, 2015). However, managements often do not do this, even if previous and well-publicised experiences suggest that it is sensible to do so (Williams, 2006).

But Ryans (2009, p.83) argues that this lack of response, or the slowness of it, is inevitable: “one of the toughest decisions executives in traditional companies face today is whether to respond to their low-cost competitors, and, if so, what should be the timing of that response.” This difficulty partially concerns the inability or unwillingness to believe that the threat is real or will affect them. This is somewhat understandable given that each product, business, and industry is dissimilarly susceptible to low-cost competition, with Restuccia et al. (2015) suggesting that those at later stages of the product life cycle are more prone. However, the dismissal or underestimation of the risk posed by low-cost competitors is unwise and may be from complacency, ignorance, or arrogance (MacDonald, 2014), although Ryans (2009) believes that it may also simply be from a preoccupation with competing with traditional competitors that they do not recognise the upcoming threat. This is commonplace regardless of industry (Morrison, 2003). Given the rise of the MEB3 together with existing Asian airlines, this may be understandable. Irrespective, it is hazardous: given that the size of the segments that low-cost competitors are targeting, they may grow quickly especially with economically growing emerging countries in Asia and then use these segments to attack incumbents’ core markets. This can be seen from the evolution of LCCs.
3.2 Failure to respond to the low-cost threat

The vulnerability to low-cost competition increases over time which means that the dismissal of the threat, the underestimation of it, or inappropriately anticipating how low-cost firms may evolve may have long-term and wide-reaching consequences. Indeed, CAPA (2015e) argue that “a large portion of the FSC capacity gains in SEA has come from Gulf carriers, so, on top of their strategies for dealing with LCC competition, it is hardly surprising that flag carriers in the region are now in restructuring mode.”

Traditional firms often display complacency over low-cost competitors, aided by the misplaced perception, strengthened by media reaction, that few customers would buy such inferior offerings (Daft and Marcic, 2010). This is still the case in emerging countries in which there have not been LCCs before. This confidence may be reinforced by their existing core customers who often do not respond to the new products, despite this primarily being because the low-cost competitors do not initially target the segments within which these customers exist. Indeed, it is probable that incumbent firms will primarily notice low-cost entrants only if their sales are negatively impacted. But this is unlikely to happen, at least initially, if the low-cost competitors target untapped and undeveloped markets, especially within less-known areas, or if the segments take time to develop or for the presented new opportunities to be recognised (Kim and Lee, 2011). This is often the case with new LCCs within developing countries and they target those that previously travelled by surface modes because they are the most price-elastic and offer the greatest ability to be stimulated and to thereby grow the entire market and attain market share (Ukpere, 2012). Despite this, incumbents may still grow comparatively quickly, which may result in the perception that there is no meaningful problem, but their share of the overall market will diminish (Fu and Um, 2014).

Yet the threat posed by the initial low-cost competitors may not be particularly disadvantageous: it is often the evolution of LCCs representing differentiated offers as they move ‘up’ in a market to target higher-yielding business travellers or new markets that may be most damaging (Ryans, 2009). This is because they offer enhanced products yet from cost-effective platforms, often much below incumbents, and offer comparatively attractive prices.
3.3 Responding to low-cost competitors

There is much uncertainty about whether incumbent firms should compete at all in the value part of overall markets, with Ryans (2009, p.124) insisting that “one of the toughest choices a top management team has to make is whether to enter the price value segment of the market and directly confront low-cost competitors in their market space.” Clearly, management must contemplate the advantages and disadvantages of competing with low-cost competitors, and determine how ‘downmarket’ they will compete and the necessity of competing at various price points, so exposing them still more to competition. Indeed, Winit et al. (2014) argues that it is ordinarily unnecessary to compete at all price points in a market, and that the major benefits of competition if they materialise are often derived from competing with the low-cost competitors in the mid-level market segments. This is confirmed by Ryans (2009, p.124), who finds that “it is not always necessary, or advisable, to confront those operating at the very bottom of a market.”

Assuming that incumbent firms decide to compete with low-cost operators, they should anticipate potential threats from them so that they can design effective pre-emptive strategies rather than reacting to them after they have gained traction and, even more counterproductively, market acceptance and growth. However, this seldom happens, with Ryans (2009) describing a non-aviation business that reacted to low-cost entry in three years as moving quickly vis-à-vis normal response times. The slowness of responses is particularly unwise if experiences of other industry firms within different geographic markets have experienced low-cost entry. This is applicable to airlines, with deregulation or growing liberalisation in many areas worldwide facilitating new entry from LCCs and the many consequences upon network airlines. This is no different within Asia.

Harris (2007) found that the threat posed by LCCs varies in intensity. This depends upon whether the LCCs are emerging, growing, or evolving, and Forsyth (2005) argued that network airlines faced with all three stages will be in a particularly precarious position. It is therefore not unsurprising that Gillen et al. (2015) contend that the ongoing threat by LCCs has been a primary consideration in the creation of network airline strategies. Indeed, Wong (2003, p.43) finds that the objectives of a network airline are too frequently “a secondary consideration in the design of response strategies [to LCCs], often creating conflicting decisions and forcing implemented strategies to evolve in function of the degree of threat.”
This is undesirable given that responses to the threats posed by low-cost competitors should be based upon a firm’s objectives, resources, and core competencies (Markides, 2006). Indeed, Moreira (2014) suggests that network airlines that do not revert to core competencies in determining response strategies are disproportionately influenced by their own branding and use marketing rhetoric to guide response strategy.

While Wong (2003) insists that threat should not be the foundation to strategy formation, Dutton and Jackson (1987) believe that strategic responses must change according to the intensity and timing of the threat. This is supported by Ryans (2009) who shows that overreaction to a threat may indicate long-term intention, so potentially weakening the effect of it, while regularly acting predatorily may result in being punished by competition authorities, thereby reducing the likelihood of this response being used when it is needed most. Kelly (2015, p.41) indicates that three strategies are available to network airlines in responding to LCCs: “convert to a [partial] LCC (in the case of Aer Lingus); go more upmarket (like Gulf carriers including Emirates); or completely focus on your traditional business (like Cathay Pacific)”. However, the degree and nature of responses by network airlines to LCCs will depend upon the actual action and likely future action of LCCs. From this and as shown in Figure 3.1, Wong (2003) determined four levels of threat by LCCs and probable responses to each by network airlines. For example, when LCCs are operating under-the-radar, network airlines should monitor them but there will probably be no need to respond to them. However, the need to respond will increase as LCCs become more established, take more market share, and focus more upon the core of network airlines. If LCCs cannot be stopped regardless of the implemented countermeasures, network airlines may need to completely change the nature of their business model.
Figure 3.1: Threat levels from LCCs and the responses of network airlines

<table>
<thead>
<tr>
<th>Threat level</th>
<th>LCC actions</th>
<th>Network airline responses</th>
<th>Example of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-term</strong></td>
<td>Discrete existence</td>
<td>Monitor but ignore</td>
<td>No tangible action</td>
</tr>
<tr>
<td></td>
<td>Taking market share or increasing penetration</td>
<td>Price, capacity, and other retaliation</td>
<td>Predatory pricing and capacity increases, frequent flyer mile increases</td>
</tr>
<tr>
<td></td>
<td>More market share taken</td>
<td></td>
<td>Revenue-based counterstrategies</td>
</tr>
<tr>
<td></td>
<td>Further route and passenger growth likely</td>
<td>Longer-term strategy</td>
<td>Cost-based counterstrategies</td>
</tr>
<tr>
<td></td>
<td>Possible partnership</td>
<td></td>
<td>Or a combination of both</td>
</tr>
<tr>
<td></td>
<td>Low-cost competition unhindered by any counter-measures</td>
<td>Total change in previous strategic counter-measures</td>
<td>Next-generation strategies and reformed business model</td>
</tr>
</tbody>
</table>

Source: Adapted from Wong (2003).

3.3.1 **Threat level one: low level threat**

Many network airlines decided against overtly responding to any meaningful degree to the market entrance and penetration of LCCs, particularly within the short-term due to deeming them unimportant (Barrett, 2000; OAG, 2007). The decision to not respond to LCCs was particularly apparent within the early days of LCCs on a regional basis, but it is still often the case with the emergence and growth of LCCs within countries with no previous LCC presence.
Moeller and Doujak (2008) found that network airlines faced with this situation are likely to return to their internal core competencies in response to their changing external environments and to thereby adapt specific processes, resources, or their networks than explicitly respond to the presence of LCCs. This is consistent with Barney (2002) who found that it is common for incumbent firms from any industry to turn to traditional strengths to respond when faced with changing technology or competition; for network airlines, this often concerns refocusing upon their hub-and-spoke operations. However, the effectiveness of this may be in question for Asian network airlines, especially those from South Asia and Southeast Asia, given the growth of the MEB3, but Vietnam Airlines, Garuda Indonesia, and Philippine Airlines have all stated their desire to grow the number of connecting passengers (Pearson et al., 2015).

At the low threat level, network airlines coexist peacefully with LCCs, although Kaminski-Marrow (2003) believes that this may indicate that LCCs are not necessarily taken seriously despite their effects. IATA (2005, p.9) insists that this lack of seriousness is counterintuitive: “for regions where LCCs are still in their infancy [including Northeast Asia and many individual countries within Asia], network airlines should note how LCCs have managed their costs, across several categories, in other regions and respond proactively.” Without pre-emptive responses, network airlines may face heightened financial ill-performance or potentially even cessation (IATA, 2005). Yet such attitudes do still exist, albeit predominantly from countries and regions with minimal LCC penetration, such as within Northeast Asia. For example, senior management at Japan Airlines dismissed the growing LCC presence within that country, and Japan Airlines’ president argued that LCCs there will stimulate new demand and will therefore represent “a new mode of transportation” rather than direct competition (Channel News Asia, 2012). Well-established LCCs are also likely to dismiss new LCCs, with AirAsia’s chief executive believing that new entrant Malindo12, a hybrid operator within Malaysia that strategically positions itself between AirAsia and Malaysia Airlines, will not pose a threat to its existence (New Straits Times, 2012).

### 3.3.2 Threat level two: growing threat level and retaliation

While LCCs at this threat level will probably be comparatively small, the increasing penetration of LCCs is likely to attract a stronger and more overt response from network airlines. A stringent response may be particularly likely if a LCC attacks a core market by

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12 A well-financed Malaysian joint venture from Lion Air, a large Indonesian LCC.
growing market share, by growing the number of routes at a hub airport and thereby attacking the integrity of a network airline’s hub operation, or if a LCC has considerably lower costs and is willing to sustain an indefinite attack (Holloway, 2008). Therefore, the response of network airlines is entirely dependent upon the level of direct competition than mere LCC penetration. After all, if a LCC is overwhelmingly stimulating new traffic, having diverted passengers from surface modes or from not travelling at all, then its presence, at that time, may be comparatively inconsequential. This will be particularly the case if the incumbent is offering significant non-price benefits to customers (Fu and Um, 2014). Macario and Voorde (2011) agree, and add that they may go completely or relatively unchallenged if the routes are brand-new or marginal, unless network airlines see worthwhile profit potential or seek to stop the carrier from developing still further.

The responses of network airlines to this threat level represents reflex reactions and short-term tactics from quick management decision-making and not well-thought-out counterstrategies (Wong, 2003), such as predatory conduct whereby a network airline with a dominant position uses price or non-price approaches to eliminate or weaken more efficient competition (Ito and Lee, 2003). If successful, changes would be reversed upon market exit or reduction (Forsyth, 2005). It may also deter future entry and act as a potentially insurmountable barrier-to-entry with the intention of earning monopoly profits from charging prices that are higher than they ordinarily would be. Indeed, “predation involves foregoing short-term profits in the expectation that this will ‘buy’ market power and the opportunity to earn greater long-term profits” (Holloway, 2008, p.221), although distinguishing between predation and well-targeted and fair competition is not necessarily straightforward (Cheng et al., 1995).

While Peoples (2012) suggests that lower prices will often be capacity-controlled to enable a counter-attack while not diluting revenue from key markets, a revenue loss will be inevitable unless it generates greater volume to offset it. However, network airlines, with multiple city-pairs, may cross-subsidise routes that may support predatory pricing. Yet network airlines need not necessarily reduce fares but rather simply increase the inventory available at the lowest price in the challenged market. However, Belobaba et al. (2009) argue that network airlines with high market shares may resist widespread discounting and instead focus upon non-price mechanisms, with the use of greater frequent flyer points as a stay-with-us incentive, although it often concerns the allocation or reallocation of capacity, particularly
‘capacity dumping’ (Peoples, 2012). However, Air India and Jet Airways, for example, have reduced prices by up to 50% (Kundu, 2015) given LCC competition and the emergence of Vistara Airlines, a joint venture between Tata and Singapore Airlines, which is a premium airline but with no legacy costs (Business Standard, 2015).

Capacity dumping is achieved through higher frequencies that increase convenience and usability for potential customers, particularly higher-yielding business travellers, or from utilising greater-capacity aircraft than the market requires (Forsyth, 2005). Holloway (2008) deems the latter ‘capacity swamping’, with this underpinned not merely from improved economics from larger aircraft but because of the S-curve relationship and the ability to maintain, if not improve, market share (Beyer, 1999). Capacity dumping may constitute predation when the supply of output is well beyond the requirements of demand, and where achieved incremental revenues do not exceed the incremental costs or where profit-optimising opportunities are forgone by decided capacity allocation. But Havel (2009) argues that capacity allocation may also concern less frequently-mentioned methods: ‘bracketing’, or predatory scheduling, whereby a network airline brackets a LCC’s schedule, and ‘route overlay’, whereby a network airline commences service on all or the majority of the LCC’s network.

It is the potential combined effect of lower fares, heightened market communications, and non-price mechanisms that may particularly disrupt challengers, although many LCCs have circumvented such attempts (Jarach et al., 2009). Thus, LCCs have necessitated different, and more fundamental, responses from network airlines.

3.3.3 Threat level three: the insatiable growth of low-cost carriers and longer-term counterstrategies

Upon reaching this threat level, attempts to counteract the existence and growth of LCCs have failed, thus indicating that LCCs are succeeding and developing by penetration and market share (Wong, 2003). Previous attempts were tactical and short-term, and they failed to explicitly consider longer-term cost reduction, cost control, and productivity improvements that underpin the reaction and restructuring of network airlines (Franke, 2004). However, it is a combination of these cost and revenue changes that may, in the longer-term, be effective against LCCs, although they may be expensive, time-consuming, and complicated to
implement and sustain. The emphasis on changes from two perspectives – the cost model and revenue model of network airlines – is not surprising given that it is the interplay of total costs (unit cost x output) and total revenue (traffic x yield) that determine airline operating performance. Figure 3.2 indicates various cost and revenue initiatives implemented by network airlines, albeit on a generalised basis, and some are interlinked. For example, product simplification towards an unbundled fare structure (a cost model change) is often accompanied with the rise of ancillary revenue (a revenue model development), and mergers and acquisitions (a cost model change) is often accompanied by improvements in yield (a revenue model development) from a reduction in output. It is both ancillary revenue streams and a reduction in output which have helped to reverse the financial performance of network airlines within the USA, and to make North America the leading continent by profitability (Cederholm, 2015).

**Figure 3.2**: Network airlines’ longer-term counterstrategies by cost and revenue

<table>
<thead>
<tr>
<th>Example changes to network airlines’ cost model</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sub-contracting to regional airlines</td>
</tr>
<tr>
<td>• Product simplification (towards fare structure unbundling)</td>
</tr>
<tr>
<td>• Simplifying service delivery processes</td>
</tr>
<tr>
<td>• Increasing aircraft and labour productivity</td>
</tr>
<tr>
<td>• Fleet and network rationalisation</td>
</tr>
<tr>
<td>• Renegotiating input costs, especially labour, airport charges, and distribution</td>
</tr>
<tr>
<td>• Mergers and acquisitions between network airlines – removing output</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example changes to network airlines’ revenue model</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Fare wars</td>
</tr>
<tr>
<td>• Internet and other direct distribution</td>
</tr>
<tr>
<td>• Increased proportion of output generated in medium- and longer-haul international markets</td>
</tr>
<tr>
<td>• Enhancing service to premium customers – firmer yields</td>
</tr>
<tr>
<td>• Other initiatives to improve yields</td>
</tr>
<tr>
<td>• One-way pricing and relaxed fare restrictions simplified pricing</td>
</tr>
<tr>
<td>• Ancillary revenue</td>
</tr>
</tbody>
</table>

Source: Adapted from Holloway (2008), Doganis (2006), and Wong (2003).

Despite the contention by Lufthansa Consulting (2013) that “today, more than ever, airlines of all shapes and sizes across the world face significant challenges”, changes to network
airlines’ revenue and cost models merely in response to LCC competition is a simplification, for they have been come about to help overcome accumulated losses during economic downturns (Heracleous and Wirtz, 2014), symptoms of the distressed airline syndrome experienced to differing degrees by network airlines (Bonilla and Bonilla, 2008), the ceaseless reduction in yield (Bertram, 2014), and by the inexorable rise in the price of fuel between 2008 and 2013 (GAO, 2014). Hence, network airlines have often instigated major changes to their costs and revenue models, albeit to dissimilar degrees and at varying speeds.

3.3.3.1 Changes to the revenue model of network airlines

While high fares often remain within markets where network airlines are unchallenged (Holloway, 2008), almost all network airlines, irrespective of geographic region, now engage in direct distribution with an increasing number offering one-way fares (Fageda et al., 2015). Yet for those network airlines that operate with much LCC competition, fare wars are likely to be commonplace and premised upon competing for traffic and market share. Prevalent within oligopolistic markets with largely identical products, it represents a comparatively crude and unsophisticated reaction that may be harmful for those airlines that are financially unstable (IATA, 2013a). Of the many possible changes to their revenue model, it is ancillary revenue that has arguably represented the greatest change (Fageda et al., 2015).

Unlike primary revenue, which is revenue from airfares, a newer form of income is from ancillary sources (Sorensen, 2009). This is derived from anything other than the main business (Taneja, 2010). In airline terms, this is all revenue from non-ticket sources, with Sorensen (2009, p.15) providing an encompassing definition: “Revenue beyond the sale of tickets that is generated by direct sales to passengers or indirectly as part of the travel experience.” In 2013, airlines generated $32.5 billion from ancillary revenue, up from $2.4 billion in 2007 (IdeaWorksCompany, 2014a). Given that “in turbulent times, it has never been so important to focus on maximising your revenue channels” (Eye For Travel, 2009), ancillary revenue “offers a life-saving mechanism to keep airlines afloat in tough economic periods” (CAPA, 2010). Indeed, Karp (2013) found that ancillary revenue represented two of the six key pillars for the recent strong profitability of US airlines. Yet ancillary revenue in 2011 represented just 5.6% of total worldwide airline revenues (Amadeus, 2012), hence the contention by Mezzasalma (2010) that $105 billion could be achieved relatively quickly.
Wittmer and Rowley (2014) state that ancillary revenue exists to supplement low fares to maximise per-passenger and total revenue, thereby acting as an artificial means of increasing fares. Despite “anecdotal evidence in the media indicating that airline fees [a la carte pricing] cause widespread public displeasure, frustration, and outrage” (Tuzovic et al., 2014) and that ancillary revenue is synonymous with LCCs, it is network airlines that are expected to have generated the most ancillary revenue in 2014, as shown in Table 3.1.

**Table 3.1: Estimated ancillary revenue by airline business model in 2014**

<table>
<thead>
<tr>
<th>Type of airline</th>
<th>Ancillary revenue ($, billions)</th>
<th>Percentage of the total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional airlines*</td>
<td>17.5</td>
<td>35.2</td>
</tr>
<tr>
<td>US major*</td>
<td>15.4</td>
<td>30.9</td>
</tr>
<tr>
<td>Ancillary revenue champs**</td>
<td>9.3</td>
<td>18.5</td>
</tr>
<tr>
<td>LCCs</td>
<td>7.7</td>
<td>15.4</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>49.9</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>


* For instance, network airlines.

** Those airlines that generated the greatest ancillary revenue as a percentage of total revenue.

Ancillary revenue comprises a la carte pricing, commission-based components, frequent flyer programme activities, and, more recently, advertising. As shown in Table 3.2, ancillary revenue is a relatively significant development within Asia-Pacific, although this does include LCCs and also Australasia.

**Table 3.2: Estimated ancillary revenue by world region in 2014**

<table>
<thead>
<tr>
<th>Region</th>
<th>Total ancillary revenue ($, billions)</th>
<th>Frequent flyer and commission-based ($, billion)</th>
<th>A la carte pricing ($, billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>18.7</td>
<td>10.5</td>
<td>8.2</td>
</tr>
<tr>
<td>Europe</td>
<td>14.9</td>
<td>3.9</td>
<td>11.0</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>11.2</td>
<td>4.7</td>
<td>6.5</td>
</tr>
<tr>
<td>Africa/Middle East</td>
<td>3.0</td>
<td>1.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Latin America/Caribbean</td>
<td>2.1</td>
<td>0.7</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>49.9</strong></td>
<td><strong>21.4</strong></td>
<td><strong>28.5</strong></td>
</tr>
</tbody>
</table>


The utilisation of airline websites is crucial for commission-based components – which typically involve some combination of travel-related services, consumer-based items, entertainment, and retail – with Karp (2013, p.45) finding that “airline websites are part of an overall online revolution…and many airlines believe their websites represent big opportunities for future revenue growth initiatives.” The overriding purpose of airlines selling such items is to move towards becoming a one-stop-shop designed to gain as much as
possible from each passenger’s total travel budget (O’Connell et al., 2013). Biffle (2007, p.36) said that air travel is frequently the smallest part of a travel itinerary, and by “attacking the total travel spend, the possible revenue from any individual customer can exceed three to five times the average airfare value.” This is supported by O’Connell et al. (2013), who showed that “despite the recent focus and successes in ancillary revenues, it can also be observed that none of the ancillary products and services examined in this study achieved a high take up rating suggesting that airlines can do much more to convince travellers of the benefit and value in airlines selling non-core products and services to them.”

In terms of à la carte pricing, most network airlines, especially in Asia, still offer bundled fare structures for service quality and differentiation reasons (at least between themselves and LCCs), although partial unbundling has materialised. Premised upon the willingness of customers to pay for the offered product attributes, network airlines have acted upon the evidence that LCC customers are willing to forego traditionally bundled attributes, although primarily only in return for lower fares (Hao, 2014). Indeed, US network airlines, for example, earned $3.4 billion in 2011 from checked baggage fees albeit with significant negative customer reaction given its “non-value-added but required” nature (Liker, 2004, p.280), with controversy and disapproval typically surrounding à la carte pricing. British Airways’ hand-baggage only fares circumvents this potential controversy by suggesting that you save money by travelling lightly (Calder, 2013).

Despite the potential afforded by ancillary revenue, relatively few Asian network airlines have expressly stated their intention to increasingly pursue it, although premium-positioned Cathay Pacific said that they will launch a suite of premium travel products via a dedicated retail platform incorporating the ‘big three’ commission-based components of hotels, car hire, and insurance, but many other premium products that concern travel (Flynn, 2014a). However, to increase revenues most Asian airlines have emphasised changes to their route network, with Hainan Airlines, for example, ordering 30 Boeing 787s for their future long-haul network (Bloomberg, 2015). Having accumulated a strong regional network, Vietnam Airlines is now increasingly pursuing long-haul services using B787s and A350s, for the Vietnamese government has aspirations for the country to become a primary connection location to rival Bangkok and Singapore (Vietnam.net, 2014).
Garuda Indonesia also wishes to more effectively utilise its hub-and-spoke operation, with the airline showing that “the inauguration of Jakarta-Amsterdam non-stop service is in line with the airline’s effort to offer seamless connectivity on either end to over 60 destinations in Indonesia and Australasia as well as all major destinations is Europe and beyond through the combined extensive networks of Garuda Indonesia and the SkyTeam member airlines” (Garuda Indonesia, 2014). Indeed, revenue generation following the development of partnerships was shown by many Asian network airlines to be crucial, whether recent new alliance members Garuda Indonesia with SkyTeam or Air India with Star Alliance; Jet Airways’ relationship with Etihad given equity investment by the latter with Jet Airways now the second biggest airline at Abu Dhabi by seats (CAPA, 2015); or Singapore Airlines’ planned investments into both Jeju Air, South Korea’s most financially successful LCC (Lee and Govindasamy, 2015), and Hong Kong Airlines (Ho and Lee, 2015). Such relationships may increase market access and grow traffic volumes, or, for Garuda Indonesia and SkyTeam, “lead to fleet renewal and expansion, product enhancements, and ambitious growth of its international network” (CAPA, 2014c). Increased revenues should therefore follow.

Despite the emphasis upon long-haul services, it is more common for Asian network airlines to focus more upon regional services beyond the reach of LCCs and the MEB3. For example, Thai Airways refocusing upon less competitive markets with greater growth opportunities, such as to China and Japan (CAPA, 2015f). Thai Airways will increasingly utilise Thai Smile, its light-premium hybrid subsidiary, on routes that Thai itself considers unprofitable, with the parent anticipated to cut 20 routes (Toh, 2015). This suggests that Thai Airways may concentrate on more suitable routes given its cost structure. Furthermore, key changes by Asian network airlines to increase revenues include the introduction of premium economy, with Singapore Airlines expecting 24 seats on its forthcoming A350s as well as on its A380s and B777-300ERs (Flynn, 2014b); a simpler and improved customer experience based upon passenger aspirations, with Cathay Pacific (Flynn, 2014a); and, for Garuda Indonesia, reducing the number of business class seats on its Boeing 737-800s and increasing the proportion of economy seats for a total of 15-20% more seats (Natahadibrata, 2015). While Garuda’s change will lower seating comfort from a reduction in seat pitch, it should achieve greater total revenue while also reducing unit costs.
3.3.3.2 Changes to the cost model of network airlines

Eller and Moreira (2014, p.8) argue that “cost reduction in the market-based airline industry is a very important way of being competitive when facing price decreases.” Indeed, network airlines have had to significantly address costs, with most, regardless of location and size, instigating cost-cutting initiatives in the past five years and in Asia within the past two years in particular.

While the need for cost-cutting by network airlines has been much documented, it is broadly to “survive in revenue environments that have been changed fundamentally by the rapid growth of LCCs” (Holloway, 2008, p.30). It is also to reduce the cost differential between network airlines and competing LCCs, although the elimination of this cost differential is not possible given their legacy inefficiencies, network considerations, and their targeted market segments. But this is somewhat paradoxical, for service-orientated attributes cannot be heavily reduced or network airlines will not generate sufficiently higher revenue and yields that are necessitated by their higher costs, with this especially problematic on short-haul and point-to-point routes.

Despite the need for much change, “to reduce costs by 30% in a network airline… is near-impossible without serious loss of quality and a negative brand image” (Airline Leader, 2012a, p.25). Depending upon whether they are customer-facing, airline employees may provide a significant proportion of that quality, and may be one facet of product differentiation especially given it is the ‘soft product’ that is often deemed crucial (Thomas, 2011). Yet labour has traditionally the single greatest cost for network airlines, at around 30%, so the need to reduce their contribution, albeit less dramatically within Asia given typically lower salaries but often a greater number of employees per aircraft (Holloway, 2008). But it is not just network airlines, for mature LCCs also need to “get costs down through increased productivity to compete against these [regenerated network] airlines” (Maxon, 2011), thereby indicating that network airlines are retaliating. Shaw (2007) agrees that labour costs must be reduced, and argues that it “has been those airlines that have successfully dealt with the perennial problem of labour costs that are now best placed to face what is bound to be very rough weather in the future.” This improvement is possible because labour is largely controllable, and may be achieved by reducing their numbers, decreasing the
cost of labour per employee, or by increasing labour productivity (output per employee), the latter concerning the achievement of the same or greater output with fewer employees.

Given the high and growing LCC penetration within Asia, the growth of the MEB3, and many other factors, it is not surprising that Asian network airlines have begun widespread cost reduction, although particularly beyond service-enhancing attributes. For example, Jet Airways, of India, lost over $700 million in its 2014 financial year (Economic Times, 2014), which was its greatest loss. Because of this, its chairman said “there can be no short-term solutions… the changes required will take time to implement and will require tough decisions” (Kotoky, 2014). These measures include cutting underperforming routes and reducing presence in various key cities, such as Kolkata; utilising fewer staff, via its ground-handling partners, for turnarounds; selling underutilised aircraft; restructuring debt; reconfiguring its B737s while optimising the seating density in its A330s and B777-300ERs; and cutting certain head office staff, such as in human resources (Chowdhury, 2014; Kotoky, 2014; Phadnis, 2014; and Deccan Chronicle, 2014). Jet Airways has also cut its LCS, JetLite, because “multiple brands and product offerings confused customers and the strategy going forward will be to remain true to the full service carrier philosophy with just one product” (Bhattacharya, 2014a). This may also positively impact total revenues.

Fellow Indian network airline, Air India, lost nearly $900 million in its 2014 financial year (CAPA, 2015c) and it anticipates a 10% cost reduction, in addition to 20-25% from the reduction in the cost of fuel, mainly from eliminating jobs, including by divesting itself of its engineering and ground-handling elements and staff thereof; utilising less expensive hotels for crew while overnighting; eliminating routes which do not cover variable costs; lowering frequencies to increase load factors; and increasing aircraft utilisation by reducing turnaround times (Bhattachyara, 2015b; Zee News, 2015; The Hindu, 2015). While much smaller in size, SriLankan Airlines seeks $10 million in cost savings in its present financial year following a loss of $220 million in 2014 and a negative margin of 22%, and it has instigated a number of route closures and frequency reductions while being recombined with Mihin Lanka, its partial LCS (CAPA, 2015g).

Elsewhere in Asia, Japan Airlines has become a very profitable airline with a $1.5 billion operating profit in 2014 following its bankruptcy in 2012 and its considerable cost-cutting thereafter (BBC, 2012), but it still expects a further $225 million reduction in costs (Yahoo,
China Southern will reduce the number of first- and business-class seats and add more economy and premium-economy seats, with this reconfiguration increasing seating density, increasing output, and reducing unit costs, with its chief operating officer saying “cost-control has become an important task for us. China Southern has recently decided to study the potential and business model of LCCs” (Huang, 2014). Cathay Pacific “has to prove it can have a low enough cost base for the yields it attains. It has not found this balance yet. This is especially critical as Cathay becomes one of the few airlines in Asia to talk about return on invested capital, which it is currently not meeting” (CAPA, 2015h). The growth in Cathay’s transit passengers as a proportion of its total traffic given the maturation of its Hong Kong market increases the importance of this still further, for transit passengers are typically lower-yielding. Cathay is especially concentrating on increasing the productivity of its labour, and it is also withdrawing fuel-inefficient and maintenance-heavy B747-400s and A340-300s for brand-new B777-300ERs and A350s.

Unlike network airlines in Northeast Asia, it is those within Southeast Asia which are implementing the greatest cost reduction programmes. Malaysia Airlines, for example, lost over $3 billion in the past three financial years (CAPA, 2015c), and it has a 42% cost disadvantage in short-haul marks relative to key LCC competitors (Khaznah, 2014). Given this, it is implementing many changes, including cutting over 6,000 employees, thereby improving its comparatively low output-per-employee; selling or leasing a number of its aircraft, including its A380s; reducing the number of employees-per-aircraft, with Malaysia Airlines 33-46% less efficient than Singapore Airlines and Cathay Pacific; renegotiating contracts; and eliminating a number of long-haul routes, especially to Europe (BBC, 2014, Khazanah, 2014). Thai Airways, which lost $522 million in 2014 (CAPA, 2015c), will cut 6,300 staff and a tenth of its network, especially long-haul services; re-evaluate marginal performing routes; transfer routes to its subsidiary, Thai Smile; retire particular aircraft, including its A340-600s, B737-400s, and B747-400s, thereby also reducing the number of aircraft types; and reduce its size by 20 aircraft (CH-Aviation, 2015a; Chaichalearmmongkol and Chomchuen, 2015; CAPA, 2015f).

Wong (2003) found that it is through utilising regional airlines that network airlines may reduce their number of employees, decrease complexity, limit competition, and protect market share. But when the cost advantage of regional airlines cannot be furthered, a natural step, albeit with greater investment and complexity, is a LCS. Indeed, Wong (2003, p.54)
suggests that “regional carriers and their contracted services have always been the precursor to the low-cost airline subsidiary.” This is furthered by the inability of network airlines to significantly alter their existence given their accumulated history and culture, integrated networks, and their complex mixture of passengers and the consequent operational and product cost disadvantages from targeting them.

3.4 Threat level four: total change in countermeasures: the use of low-cost subsidiaries

Whyte and Lohmann (2015) show that LCS have become “an integral part of many airlines’ marketing strategies”. Pilling (2004) found that network airlines create a LCC brand, product, and operation that is separate from the parent airline (a subsidiary) or which maintains connections between the two (a partial subsidiary or a division or strategic business unit). Alternatively, a network airline may simply stretch its brand to encompass a low-cost and low-fare product (product label or branded fare).

The creation of LCS “does not constitute a new innovation because the traditional strategic armoury of network airlines has long included charter and regional airline affiliates” (Graham and Vowles, 2006, p.105). Indeed, “the real benefits of rapid and profitable growth as well as market staying power can only be achieved at the transformative, not incremental, end” (Airline Leader, 2012a, p.12). Despite the apparent transformative development afforded by the creation of LCS, “there is only very limited evidence that a LCS constitutes an effective market response to low-cost competition” (Graham and Vowles, 2006, p.105).

However, there is an “escalating trend for network airlines to establish LCS” (Graham and Vowles, 2006, p.104). This overrides uncertainties over brand confusion and dilution, customer perception, traffic and market cannibalisation, and the possible increased difficulty of network airlines with LCS reducing their own costs (Pilling, 2004). Birkinshaw (2010) argues that “the operation of different business models in separate entities or organisations – while maintaining a certain level of control – is an effective strategy.” But whether a network airline creates a LCS depends upon whether their own costs can be reduced enough, and Graham and Vowles (2006) found that they may abandon a LCS if the parent’s costs reduces more than anticipated.
3.4.1 The objectives underpinning the creation of low-cost subsidiaries

Gillen and Gados (2008) found that LCS are established because management has decided to focus resources upon a specific competitor or market, although its attempt may be undermined if the retaliatory firm does not possess a sufficiently strong competitive advantage. The decision by network airlines to create a LCS is often reflective of their vulnerability and desperation (Morrell, 2005).

Although “the market presence of low-cost airlines does not lead axiomatically to the establishment of AWAs” (Graham and Vowles, 2006, p.123), the existence of LCS is directly related to the presence of LCC competition (Morrell, 2005). Regardless of whether LCS are pre-emptive or reactive, they are the means for network airlines to participate within the growth of budget and value-for-money travel, with such considerations fundamental for growth opportunities (Hanlon, 2007). Indeed, the LCS “approach is a response to competition from LCCs based on product differentiation, i.e., a ‘two brands’ business strategy aimed at defending market share” (Whyte and Lohmann, 2015).

The existence of LCS also overwhelmingly concerns reducing costs, particularly labour costs, vis-à-vis the parent to more effectively compete with LCCs. The use of a LCS may avoid the radical transformation of the network airline itself into a LCC, for example as ineffectively undertaken by Aer Lingus before adopting a hybrid strategic position (Centro, 2008). This indicates that LCS may not solve the network airline’s own problems (Holloway, 2008), although the parent may divest non-core markets to its lower-cost platform (Whyte and Lohmann, 2015). For example, Lufthansa concentrates on its Frankfurt and Munich hubs and gives all other markets to Germanwings, its LCS, so helping to reduce short-haul losses (BBC, 2015), the rise Thai Smile which is receiving more routes that have been transferred from Thai Airways (Toh, 2015); Scoot which serves several brand-new routes that its parent, Singapore Airlines, does not operate, such as Gold Coast, Nanjing, Qingdao, Shenyang, and Tianjin; and Air Busan and Jin Air often serve non-core routes that are not served by their parents.

Given product commoditisation in short-haul markets, insufficient market segmentation by network airlines, and the increasing importance of price as a decision-making determinant, LCS may “function essentially as a sophisticated form of market segmentation” (Graham and
Vowles, 2008, p.106). This could enable network airlines to more effectively target price-elastic segments that have lower expectations. Therefore, network airlines may use their resources and competencies to concentrate and protect their core markets given that such is fundamental for them to cover their higher costs (Kane and Webb, 2003). However, Graf (2005) questions the efficiency of separating into units producers of the same basic output, while Porter (1985) believes that this approach requires disparate resources, capabilities, organisational structures, and control mechanisms. Regardless, Homsombat et al. (2014) show that LCS contribute to increasing the market power of an airline group and service improvements.

While the creation of LCS may be a reaction to LCC penetration or may pre-empt LCC entry, to enable lower costs, or better target price-conscious customers with a more appropriate product, Graf (2005) insists that “the main objective for setting up a LCC while operating as a network airline is to increase corporate value [of the network airline]...by raising its profitability or enforcing growth.” Morrell (2005) believes that another objective of LCS creation – to eventually spin them off as profitable businesses, as with British Airways and Go – may be inherently uncertain if not improbable. From his research into five LCS, Graf (2005) identified four overriding motives for LCS creation: exploiting economies of scale and scope; taking advantage of growth opportunities; organisational dynamics; and market dynamics. Of these, taking advantage of growth opportunities was by far the most significant. Within each of these four overriding motives exist various sub-reasons, with Table 3.3 providing a summary of those with a minimum of three out of five possible incidents. Various sub-reasons achieved lower than three incidents, suggesting that they are comparatively unimportant, including the realisation of economies of scale in purchasing activities, an inability to transform the network airline’s business model to address new markets, and the reduction of risk through diversification.
Table 3.3: The relative importance of motives for creating LCS

<table>
<thead>
<tr>
<th>Motives for creating LCS</th>
<th>Number of 3 incidents (minimum 3, maximum 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motive 1: Exploitation of economies of scale and scope</strong></td>
<td></td>
</tr>
<tr>
<td>Use of existing know-how, rights, means of production, and organisational structure</td>
<td>4</td>
</tr>
<tr>
<td>Possibility of a quick set-up combined with relatively low costs</td>
<td>3</td>
</tr>
<tr>
<td><strong>Motive 2: Taking advantage of growth opportunities</strong></td>
<td></td>
</tr>
<tr>
<td>Stimulation and enlargement of markets</td>
<td>5</td>
</tr>
<tr>
<td>Development of new market segments</td>
<td>5</td>
</tr>
<tr>
<td>Enabling corporate growth</td>
<td>5</td>
</tr>
<tr>
<td>Market test for the acceptance of a new business model</td>
<td>5</td>
</tr>
<tr>
<td><strong>Motive 3: Consideration of organisational dynamics</strong></td>
<td></td>
</tr>
<tr>
<td>In the short-term, AWA only possible reaction due to slack and inertia</td>
<td>4</td>
</tr>
<tr>
<td>No strategic logic of giving up original business model</td>
<td>4</td>
</tr>
<tr>
<td>Increasing focus in the group while creating new units</td>
<td>4</td>
</tr>
<tr>
<td>Saving the group by gaining back already lost customers</td>
<td>4</td>
</tr>
<tr>
<td>Saving the group by indirectly lowering associated costs or increasing productivity</td>
<td>4</td>
</tr>
<tr>
<td>Saving the original business model by exposing possibilities to increase productivity</td>
<td>3</td>
</tr>
<tr>
<td><strong>Motive 4: Consideration of market dynamics</strong></td>
<td></td>
</tr>
<tr>
<td>Reflection of changing consumer behaviour</td>
<td>5</td>
</tr>
<tr>
<td>Imitation of a competitor’s move</td>
<td>5</td>
</tr>
<tr>
<td>Protection of revenues or market shares against new competitors</td>
<td>5</td>
</tr>
<tr>
<td>Identification of the most suitable business model for each market</td>
<td>4</td>
</tr>
<tr>
<td>Extension of the offer to an upper or lower end of the market</td>
<td>4</td>
</tr>
<tr>
<td>Creation or preservation of market access rights</td>
<td>3</td>
</tr>
<tr>
<td>Increase in profitability within certain markets</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Graf (2005).
3.4.2 Past low-cost subsidiaries

Lin (2012) found that past LCS sought to achieve lower costs than their parents, particularly through the adoption of product and operational attributes associated with financially successful LCCs. These included increased aircraft and staff productivity, lower labour costs, a simplified in-flight product\textsuperscript{13}, and lower distribution costs. While Pearson and Merkert (2014) found that past LCS often did achieve lower unit costs, they were inadequately low in comparison to their key LCC competitors, thereby undermining the achievement of competitive advantage based upon a cost leadership strategic position. Some LCS sought to differentiate, and while this may have increased yields such comfort reduced seating density and thereby generated less output (available seat kilometres, or ASK) over which to spread fixed costs, resulting in higher cost per ASK (CASK) and seat cost.

While Morrell (2005) found that past LCS were most successful in markets feeding their parents’ hubs, thereby raising the possibility of future network airline-LCC cooperation, Whyte and Lohmann (2015) identified that a contributing reason for the failure of the 26 LCS was also because of their ill-defined and ill-thought-out strategies, with Moutinho (2011) suggesting that this likely resulted in competitive disadvantage. While it varied by specific LCS, past LCS generally deviated considerably from the theoretical pure LCC model. This was particularly noticeable regarding insufficiently high seating density, dissimilar aircraft types, unusual aircraft choice (often from being passed from parent airline), and offering intra-line connections (Pearson and Merkert, 2014), hence the need for higher yields. But given that past AWAs often also operated within competitive markets from predominantly being established to directly compete with existing LCCs, they were often unable to achieve sufficient price premiums to counterbalance their higher unit costs. That their achieved load factors were also typically lower than their competitors meant that they did not counteract lower unit revenues with greater traffic volume (Gillen and Gados, 2008). Together with often insufficient autonomy from their parents, particularly concerning finance, operations, and commercial decision-making and processes, many reasons explain the failure of past LCS (Graf, 2005 and Morrell, 2005).

\textsuperscript{13} With some exceptions, including Song, which had an attribute-heavy offering.
3.4.3 Presently operating low-cost subsidiaries

While several LCS presently operate within Europe, such as Germanwings (Lufthansa), Transavia (AirFrance-KLM), Iberia Express (Iberia), Vueling (IAG), Blu-Express (Blue Panorama), and Smart Wings (CSA) (Budd et al., 2014), the majority of LCS worldwide now operate within Asia. Indeed, Whyte and Lohmann (2015) show that LCS have become a key part of the strategy of many network airlines within Asia. As shown in Table 3.4, Asia now has 17 LCS of which one is from South Asia, six are from Southeast Asia, and ten are from Northeast Asia. Only ten of the 17 LCS have passenger figures, with the mean number of passengers across these ten being 3.9 million. In contrast, the mean number of aircraft across all 17 LCS is 14.8. A simple comparison between the LCS with passenger figures and the top-ten LCCs within Asia-Pacific (see Table 2.8) shows that the mean LCC is nearly four times larger.

Table 3.4: Presently operating LCS within Asia

<table>
<thead>
<tr>
<th>Airline</th>
<th>Country</th>
<th>Airline ownership</th>
<th>Start date</th>
<th>Passengers (m)*</th>
<th>Fleet size**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air India Express</td>
<td>India</td>
<td>100% by Air India</td>
<td>2005</td>
<td>-</td>
<td>17</td>
</tr>
<tr>
<td>Nok Air</td>
<td>Thailand</td>
<td>49% by Thai Airways</td>
<td>2006</td>
<td>7.6</td>
<td>24</td>
</tr>
<tr>
<td>Jetstar Asia</td>
<td>Singapore</td>
<td>49% by Qantas</td>
<td>2004</td>
<td>3.9</td>
<td>18</td>
</tr>
<tr>
<td>Tigerair</td>
<td>Singapore</td>
<td>100% by Tiger</td>
<td>2004</td>
<td>5.3</td>
<td>24</td>
</tr>
<tr>
<td>Scoot</td>
<td>Singapore</td>
<td>100% by Singapore</td>
<td>2012</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Citilink</td>
<td>Indonesia</td>
<td>100% by Garuda</td>
<td>2008</td>
<td>7.6</td>
<td>34</td>
</tr>
<tr>
<td>Jetstar Pacific</td>
<td>Vietnam</td>
<td>70% by Vietnam</td>
<td>2008</td>
<td>2.4</td>
<td>8</td>
</tr>
<tr>
<td>China United</td>
<td>China</td>
<td>100% by China</td>
<td>2014</td>
<td>5.0</td>
<td>30</td>
</tr>
<tr>
<td>9 Air (Jinjuan)</td>
<td>China</td>
<td>79% by Juneyao</td>
<td>2014</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>HK Express</td>
<td>Hong Kong</td>
<td>100% by Hong Kong</td>
<td>2014</td>
<td>1.9</td>
<td>10</td>
</tr>
<tr>
<td>Tigerair Taiwan</td>
<td>Taiwan</td>
<td>80% by China Airlines</td>
<td>2014</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>V Air</td>
<td>Taiwan</td>
<td>100% by TransAsia</td>
<td>2014</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Air Busan</td>
<td>South Korea</td>
<td>46% by Asiana</td>
<td>2008</td>
<td>4.1</td>
<td>14</td>
</tr>
<tr>
<td>Jin Air</td>
<td>South Korea</td>
<td>100% by Korean Air</td>
<td>2006</td>
<td>3.6</td>
<td>13</td>
</tr>
<tr>
<td>Jetstar Japan</td>
<td>Japan</td>
<td>33.3% Qantas, 33%</td>
<td>2012</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td>Peach</td>
<td>Japan</td>
<td>39% by All Nippon</td>
<td>2012</td>
<td>-</td>
<td>14</td>
</tr>
<tr>
<td>Vanilla</td>
<td>Japan</td>
<td>100% by All Nippon</td>
<td>2013</td>
<td>1.6</td>
<td>8</td>
</tr>
</tbody>
</table>

* Based upon 2014.
** Based upon the week commencing 1st April 2015.

Pearson and Merkert (2014) showed that LCS from Asia have the lowest percentage of parental ownership primarily due to ownership restrictions. While the median year of establishment is now 2012, this is primarily because of the cessation of various LCS, such as JetLite, Jet Konnect, Kingfisher Red (formerly Air Deccan), Mihin Lanka (owned by the
SriLankan government), Firefly (with Boeing 737s), AirPhil Express (now a with-frills subsidiary), and AirAsia Japan (partially owned by All Nippon and returned as Vanilla). It is notable that five LCS were created in 2014, all in Northeast Asia.

That 35% of the presently operating LCS are within Southeast Asia is not surprising as this indicates the increasing competition and growing significance of this region (Temporal, 2012). Indeed, Airwise (2012) found that Malaysia Airlines, the full owner of Firefly, which is now a full-frills regional airline having disposed of its Boeing 737s, may restructure Firefly into a “fully-fledged LCC.” This would not be a surprising competitive response given Malaysia AirAsia’s domination with 31% of all seats within Malaysia against Malaysia Airlines’ 32.4% (CAPA, 2015) – and Malindo’s March 2013 entry within Malaysia, with Malindo forecasting 100 Boeing 737-900ERs within 10 years (Malindo, 2013).

In their survey of LCS within Asia in 2012, Pearson and Merkert (2014) found that only 29% of LCS within Asia were then from Northeast Asia. However, this has now nearly doubled to 53% despite Northeast Asia having a LCC penetration of just 12.8% in 2014. This low but increasing penetration is due to greater deregulation, particularly within Japan and loosening restrictions within South Korea, and ordinarily high average fares which increases the likelihood of market entry with simplified value propositions. While Zhang et al. (2008) suggests that it is not surprising that China has no LCS given China has only one LCC – Spring – and that new LCCs are unlikely given restrictive regulations which represent very high barriers to entry, this has changed following the adoption by China’s government of the economic benefits of LCCs. Furthermore, several further LCS are planned within Northeast Asia, such as Jetstar Hong Kong (between China Eastern and the Jetstar Group), albeit with many regulatory hurdles over ownership and control problems that has delayed its commencement (Govindasamy, 2014); Seoul Air by Asiana, which would be the South Korean network airline’s second concurrently operating LCS (Torr, 2015); and a LCS rumoured by EVA Air, China Southern and Air China (Asia Review, 2015). It is clear that LCS are now a Northeast Asia phenomenon despite its much lower LCC penetration, which suggests that network airlines within this sub-region are more pre-emptive of LCC entry and development.
3.4.4 Contributing reasons for low-cost subsidiary failures

A variety of reasons exist to help explain LCS failures, but particularly incompatibilities between network airline and LCS business models (Graf, 2005), higher costs and lower efficiency vis-à-vis key LCC competitors, late market entrance, the need to achieve market dominance, and excessive management control and insufficient dissimilarity from the parent airlines (Gillen and Gados, 2008; Pearson and Merkert, 2014).

Incompatibilities of business models occur because “repeatedly, network airlines differ from the ideal configuration of a LCC,” for the presence and degree of incompatibilities largely depends upon the consistent application of the pure LCC model (Gillen and Gados, 2008). Indeed, Graf (2005) argues that a LCS must successfully implement the requirements of market presence, process, and cost management for greater cost-effectiveness, competitive ability, and to reduce product, operational, and organisational complexity (Holloway, 2008). The nature and extent of negative consequences from incompatibilities particularly concerns the degree of separation of the organisation, the market segments targeted, the extent of separation of branding and communication, and the means of production, by limiting organisational efficiency or the effectiveness of marketing. Based upon the eight elements of a business model, Table 3.5 indicates the key business model incompatibilities (those with a minimum of three out of five incidents) ordered by those most significant from concurrently operating at least two dissimilar models. It also provides example underlying reasons for the negative consequences.
Table 3.5: Negative implications of incompatibilities when concurrently operating more than two business models

<table>
<thead>
<tr>
<th>Business model element</th>
<th>Negative implications and example underlying reasons</th>
<th>Number of incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organisational form</strong></td>
<td>Increased organisational complexity</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Less control about group decision-making; incoherent strategy</td>
<td></td>
</tr>
<tr>
<td><strong>Decreased employee satisfaction</strong></td>
<td>Worry about salary reductions; different values of corporate cultures</td>
<td>5</td>
</tr>
<tr>
<td><strong>Product/service concept</strong></td>
<td>Cannibalisation between the business models</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Products too similar/insufficiently differentiated; models address same segments</td>
<td></td>
</tr>
<tr>
<td><strong>Communication concept</strong></td>
<td>Confusion of customers and employees</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Products insufficiently transparent/communicated</td>
<td></td>
</tr>
<tr>
<td><strong>Destruction of brand values</strong></td>
<td>Branding/communication too similar; related service definitions between models</td>
<td>3</td>
</tr>
<tr>
<td><strong>Implausibility of the communication concept</strong></td>
<td>Price-sensitive customers deem AWA less inexpensive</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Service-orientated customers deem parent less premium</td>
<td></td>
</tr>
<tr>
<td><strong>Competence configuration</strong></td>
<td>Increased costs and decreased efficiency</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Resistance in driving costs down; restrictions imposed upon AWAs from parent</td>
<td></td>
</tr>
<tr>
<td><strong>Cooperation concept</strong></td>
<td>Less confidence and support from partners</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Unhappy unions, travel agencies dislike direct sales</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Airline partners affected regarding market shares/yields</td>
<td></td>
</tr>
<tr>
<td><strong>Coordination concept</strong></td>
<td>Decreased network effects</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Conflicts in partnerships</td>
<td></td>
</tr>
<tr>
<td><strong>Revenue concept</strong></td>
<td>Decreased revenues</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Less exploitation of willingness-to-pay higher fares</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Less acceptance of fare system of network airline</td>
<td></td>
</tr>
<tr>
<td><strong>Growth concept</strong></td>
<td>Difficulties for the AWA to pursue growth</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Restrictions imposed regarding investments</td>
<td></td>
</tr>
</tbody>
</table>

Source: adapted from Graf (2005)
Graham and Vowles (2006) argue that the ability of LCS to effectively compete with LCCs entirely depends upon their costs. While low costs are an essential element in the pursuit of good and sustainable operating performance they are insufficient on their own. Yet most LCS do not appear to have sufficiently low costs vis-à-vis their LCC competitors predominantly because of deviating from a product and operational perspective from the pure LCC model, and they thus have higher breakeven load factors and rely upon greater achieved load factors to offset lower yields. Gillen and Gados (2008, p.32) found that “network airlines have taken different approaches in configuring the dimensions of the business model of the LCS”, with potentially inappropriate resources. Morrell (2005) agrees, hence greater costs and complexity and a lower ability to compete. Pearson and Merkert (2014) found that deviation from the pure LCC model is especially prevalent within Asia-Pacific due to the specific operating environments, thus the need to differentiate through different value propositions.

Many LCS materialised after the establishment of the LCCs with which they sought to compete which indicates their reactive and not proactive nature (Morrell, 2005). Wit and Myer (2010) found that late market entrance may suggest that they are at a competitive disadvantage, so the inability to benefit from first-mover advantage. For LCS and LCCs generally, Whyte and Lohmann (2015) found that not being a first-mover may mean losing the opportunity for being the ‘consumer champion’ from being the first to offer lower fares, for example as experienced by Southwest, Ryanair, Wizz Air, and AirAsia. Indeed, late market entrance and similar value propositions to the incumbent LCCs suggests it is more difficult for LCS to appeal to customers and to gain sufficient traffic and revenue (Shaw, 2007). This may mean developing market dominance is more challenging, although it may be achieved by targeting unserved or underserved city-pairs or from offering a dissimilar value proposition. Graf (2005) insists that market dominance must be coupled with profitability (sooner or later) than dominance and size for the sake of it.

Despite the potential benefits afforded by segmenting the marketplace and forming value propositions for each targeted segment through the operation of different units, Porter (1985) found that concurrently operating two different and conflicting business models ordinarily results in poor quality, dissatisfied customers, and discouraged and disinterested employees. LCS have often had minimal freedom from their parents due to sharing functions (commercial, financial, or operational), being given aircraft from their parent without
consideration of commercial appropriateness, not being required to be financially self-sufficient (at least beyond an initial capital injection), and sharing management (Whyte and Lohmann, 2015). Graf (2005) believes that true subsidiaries, with complete independence, are rare, and that most LCS share core functions with their parent. Yet Airline Leader (2012a) argue it is more important for LCS to control their strategy, product, marketing, and distribution. Nevertheless, a lack of separation between the parent and LCS “was undoubtedly one of the biggest problems, and made it impossible to achieve low-cost practices and approaches to suppliers” (Morrell, 2005, p.305).

Whyte and Lohmann (2015) found that excessive control may stifle creativity, reduce the ability to adapt as required to internal and external occurrences and opportunities, and lengthen decision-making, all of which are the antithesis of the pure LCC existence of leanness, decisiveness, and flexibility. It may also result in branding similarity with the parent, for example with Delta Express, Shuttle by United, MexicanaClick, bmibaby, Iberia Express, and JAL Express, and therefore have perception, consumer expectation, and branding implications.

Graf (2005) suggests that for greater likelihood of success LCS should have only a limited amount of parental control and that their existence should be ring-fenced. This particularly concerns the clear separation of markets, value propositions, and communications to avoid cannibalisation, customer perception problems, and brand dilution. Gillen and Gados (2008) believe that this should be taken further and recommends no form of integration or working together, with a divestment of assets, services, and resources that do not add value to their targeted segments and instead a reconfiguration of resources and competencies to focus entirely upon optimal segments. Indeed, Taneja (2005) proposes that network airlines must identify segments that can be profitably served, design differentiated propositions for those segments, abandon all segments that do not fit with their recreated proposition, and do not stray from their optimum proposition. Taneja (2005, p.46) is clear: “the key to the long-term survival of most network airlines is to simultaneously manage one or more independent airline operations serving unique niches matched to the airlines’ competitive strengths.”
3.5 Gaps in knowledge

A number of gaps in knowledge have been identified from the preceding reviews of the literature. These are typically related to Asia’s network airlines, and the gaps will be filled through the achievement of this research’s objectives via the chosen methods of data collection and means of analysis.

Despite the importance of the ability to compete effectively with key competitors, there is a lack of research into the strategic capability of network airlines in all world regions including Asia to compete against LCCs. For example, it is not known how strong or weak each Asian network airline is in competing with LCCs, nor what they should or should not do in terms of competitive responses to strengthen their ability to compete. While Wong (2003) determined different threat levels of LCCs and the likely counterstrategies by network airlines based upon these, this was generalised and not specific to any geographic region. O’Connell and IATA (2007) developed the use of strategic capability within an aviation context by applying it to network airlines in various world regions, including Asia, but it was not comprehensive and it was conducted over eight years’ ago. Hence, comprehensive and up-to-date research is needed into the strategic capability of Asian network airlines to compete against LCCs, particularly in light of the fast-growing penetration of LCCs there and their spread into more countries and markets.

Much research has been conducted into intangible resources as sources of competitive advantage, although this is often not specific to one industry; see, for example, Barney (2001), Hall (1992, 1993), and Carmeli (2001). This thereby undermines the applicability of findings to other industries. Exceptions to this unspecific approach exist, such as the application by Robinson (2008) of the resource-based view to the music industry within Australia. Despite the importance of firm resources, very little research into the use of resources, as internal sources of competitive advantage, by airlines has been conducted; instead, it has been minimal and piecemeal, such as by Low and Lee (2014) and Morrell (2005). Resources as internal sources of competitive advantage specifically for Asian network airlines, LCS, and LCCs need to be examined to identify relative strengths and likely sustainability, and the means by which to reinforce their advantages.
Various research, such as by Graf (2005), Morrell (2005), Graham and Vowles (2006), Gillen and Gados (2008), Pearson and Merkert (2014), and Whyte and Lohmann (2015) have examined LCS, although often not specifically within Asia. Even where it has partially concerned Asia, no academic literature exists concerning comprehensive research into Asian LCS vis-a-vis their key LCC competitors in terms of product and organisational attributes to identify the strength of their strategies, the sources of their advantages, and ways to improve. No research has therefore examined ways by which to increase the likelihood of competitive advantage of LCS for network airlines.

There is, therefore, a gap in knowledge with regard to the strategic capability and the internal sources of competitive advantage of Asian network airlines in competing against LCCs, and the role of LCS in this as previous research is limited, broad, and typically at least five years’ old. With the significant growth of both LCCs and LCS in Asia there is a need for timely research that comprehensively updates knowledge and provides recommendations on how Asian network airlines may compete more effectively within this fast-growing geographic market.

Given that these gaps have now been identified regarding Asian aviation and the means by which to respond to LCCs, it is now necessary to establish the theoretical framework which underpins this research, which is undertaken within Chapter 4.0.
4.0 THE THEORY OF COMPETITIVE ADVANTAGE

The ability of one firm to compete with other firms suggests the existence of some form of competitive advantage and it indicates their likelihood of survival and greater financial performance. The existence of competitive advantage is crucial for Asian network airlines given increasingly competitive markets across this continent particularly from the rise of LCCs. The theoretical framework of this research is competitive advantage theory.

Two well-established schools of thought try to explain the broad source of competitive advantage within a business context: the market-based view of the firm (MBV) and the resource-based view of the firm (RBV). A business context has been used given this research is business-focused and because of the researcher’s management experience. The MBV concerns the external environment within which firms exist, and it concerns factors which may influence competition and pricing, such as market structure and market power; the four competitive forces affecting competitive rivalry\textsuperscript{14} and market attractiveness; and political, economic, social, technological, environmental, and legal considerations. The focus of the MBV upon the external environment within which firms operate, the nature and power of firms, and market attractiveness indicates that the MBV is more economic in nature.

In contrast to the MBV, the RBV concerns the internal perspective of firms, with each firm assumed to have heterogeneous resources and capabilities. Under the RBV, it is the effective identification, selection, deployment, use, protection, and updating of resources and capabilities that enable competitive advantage.

Chapter 4 discusses competitive advantage generally and the importance of it before examining the MBV and its role for competitive advantage. It then looks in particular depth at the RBV and firm resources, before identifying the probable competitive implications arising from the possession of core competencies.

\textsuperscript{14} Bargaining power of suppliers; bargaining power of buyers; threat of new entry; threat of substitutes.
4.1 Competitive advantage

The ability of one firm to compete with other firms will determine their likely success or failure. This is because a firm should have a competitive strategy that is founded upon and that leverages competitive advantage (Holloway, 2008). This is particularly vital within competitive markets, and firms – irrespective of size, location, and industry – often face an overwhelming competitive phenomenon. Yet firms may be less likely to explicitly seek competitive advantage as competition increases from a preoccupation with more immediate matters, particularly survival. This ignores that “competitive advantage is at the heart of a firm’s performance in competitive markets” (Porter, 1985, p.xxi), with economically successful firms deemed such because they achieved some form of competitive advantage.

The achievement of competitive advantage may be undermined by new entrants, economic cyclically, the degree of competition, variable input costs, and changing customer requirements (Toms and Wilson, 2014). Yet most firms agree that attaining – let alone sustaining – competitive advantage is highly difficult but essential, and that it will become more significant as competitive rivalry increases. Hence the counterintuitive reaction of firms not necessarily responding to increasing competition by strengthening their competitive advantage.

The need for competitive advantage is compounded because it does not persist ceaselessly; instead, it must be renewed. Barney (1991) suggests that competitive advantage will become an even stronger source of a firm’s strength, hence the growing need for managers, especially from firms within highly volatile markets, to develop tools to effectively analyse the internal and external environments to identify the sources that create competitive advantage. This is because sustainable competitive advantage may depend upon the equilibrium between a firm’s internal resources and capabilities, and the changing circumstances of its external environment (Hofer and Schendel, 1978).

Competitive advantage concerns the factors that enable one firm to outperform its competitors and to thereby provide competitive strength (Asmussen and Foss, 2014). These include a firm’s distinctive internal resources and capabilities and its strategic position, which determines its relative costs and whether its product is differentiated. It may also include first entering a new market, not permitting competitors the opportunity to enter, so yielding
market power from market concentration, and offering new products or services within a competitive market (Shaw, 2007). Indeed, Barney (1991, p.99) suggests that competitive advantage exists when a firm is “implementing a value-creating strategy not simultaneously being implemented by current or potential competitors,” and which increases its efficiency or effectiveness in comparison to its competitors, so long as it “matches target market segment needs and expectations” (Dibb et al., 1994). Competitive advantage may exist in the manner and speed with which a firm responds to a competitor but not in the moves themselves (Smith et al., 1992). Clearly, “sources of competitive advantage need to be understood and, where possible, proactively managed; it is the recognition and management of sources of competitive advantage that underpin a sound competitive strategy” (Holloway, 2008, p.16). It is the ability to consistently achieve a superior rate of a firm’s return in relation to a firm’s industry and key competitors that determines the existence of competitive advantage (Grant, 1991).

4.2 The market-based view of the firm

Every firm operates within a multi-layered and far-reaching external environment, with the external environment often changeable, complex, and uncertain (Wharton School, 1997). While such changes may not be within the control of the firm’s managers, they may impact firm performance, growth, and decision-making ability, hence the imperativeness of thorough analysis of the external environment to formulate and reformulate strategy and to achieve the firm’s objectives (Barney, 1997; Wit and Meyer, 1998; Grant, 2008).

Originating from the Harvard School approach that focuses upon the role of the external environment on a firm’s strategy and competitive advantage, the MBV of the firm is defined as “those characteristics of the organisation of a market that seem to exercise strategic influence on the nature of competition and pricing” (Teece et al., 1997). The nature of competition is crucial, with an industry’s structural characteristics having a significant impact upon the ability of firms within that industry to achieve above-average returns (Porter, 1980). This is because, under the MBV, all firms are considered effectively homogeneous in terms of possessed resources and capabilities (Mauri and Michaels, 1998), with firm heterogeneity unable to be sustained in the longer-term. This is from the inherent mobility of resources, and firms within the same industry receive broadly similar information hence often virtually identical, ‘me-too’, strategies (Porter, 1980), whereby they adopt indistinct strategic
positions. As such, competitive advantage cannot be attained. The airline industry epitomises the use of ‘me-too’ strategies which coexists alongside the rise of product commoditisation and which is counterproductive, for Bacon (2015) showed that “in the highly competitive airline industry, a ‘me-too’ carrier in an established market has little chance of success”.

Given this perceived sameness, the importance of the external environment is paramount in influencing firm strategy and, in turn, achieving competitive advantage and superior firm performance. Indeed, a firm’s success is determined by its ability to respond to external threats and opportunities, and firms that select an appropriate strategy, guided by market opportunities and market imperatives, will likely perform better than those that do not (Waal, 2013). As such, firms must be proactive and adapt their strategies to reflect changing external environments and imperatives (Collis and Montgomery, 1998). It is this high strategic reorientation that will contribute to the achievement of higher firm performance.

Clearly, the changeable external environment within which firms exist will greatly influence a firm’s strategy, competitive advantage, and its likelihood of survival. Yet many now consider the MBV of the firm to be considerably less significant than the RBV, despite that this may mean a firm is too inward-looking and unaware of what is happening around it. Irrespective, both environments are crucial: the firm may not possess the required resources and capabilities to compete in its chosen position and the changing external environment may determine what must be done or changed internally. Hence “the need to connect the competitive ends (a firm’s position in the marketplace) and means (what elements allow it to attain that position) is not just crucial but essential” (Porter, 1998, p.xvi).

The integrated role of the external environment and internal resources and capabilities can be seen within Figure 4.1. This figure shows how it is both the external and internal environments which together enable what can be achieved in terms of a firm’s competitive strategy and its targeted market segment, strategic position, attributes, value creation, offered value proposition, its costs, revenues, complexity, whether it competes on price or differentiation, and its ultimate performance. Any changes to its external and internal environments will modify its strategic position and the subsequent factors.
Figure 4.1: A representation of an airline’s competitive strategy, leading to advantage, based on its external and internal environments

Sources of competitive advantage

External to the firm
- Market structure
- Competitive rivalry
- Market power
- Market attractiveness

Internal to the firm
- Resources
  - Tangible
  - Intangible
- Capabilities
- Core competencies

Market-based view

Targeted market segment

Strategic position
- Requirements
- Elasticities
- Willingness to pay

Operational attributes

Product attributes

Degree of product differentiation and commoditisation

Value proposition

Firm performance

Degree of price competition

Any changes to the external environment, e.g. a new entrant, will require changes to the internal environment, so realigning and improving strategic fit

Degree of value creation

Source of value creation

If the value proposition is insufficient for targeted market segment, their requirements will not be adequately met, dissatisfaction will occur, and a greater likelihood of price becoming the primary decision-making determinant

Source: based upon interpreting Flouris and Oswald (2006), Gross and Schroder (2007), Holloway (2008), Barney and Hesterley (2008), and Doganis (2009)
4.3 The resource-based view of the firm

The RBV of the firm revolves around the ability to make good decisions based upon strategic choices (Porter, 1991): which market segments to target? What are the customer needs? What is the most appropriate value proposition to offer? It also concerns ways of effectively utilising existing resources and the means to acquire or develop unique resources to enable the achievement of value (Wernerfeldt, 1984). The RBV is therefore concerned with understanding the relationship between a firm’s resources, capabilities, competitive advantage, and profitability (Collis and Montgomery, 1995; McGee and Finney, 1997; Grant, 1991). It concerns firms understanding their individual sources of competitive advantage as the starting point for renewing their advantages (Penrose, 1959; Barney, 1991; and Peteraf, 1993).

The RBV focuses upon the relationship between a firm’s internal characteristics and performance, and it has been deemed a fundamental explanation of how and why firms attain competitive advantage. Indeed, many believe that the RBV explains better than any other the factors that might enable or not enable the achievement of positive firm performance. The RBV deems that each firm is a collection of unique resources and capabilities, each providing the foundation for competitive strategy (Hitt et al., 1985). The existence of these unique resources and capabilities indicates firm heterogeneity and should generate competitive advantage if appropriately deployed by a firm’s managers (Barney, 1991). Unlike the MBV, the RBV is therefore crucial for the determination of strategic actions (Grant, 2001), although the chosen strategy, based upon resources and capabilities, should enable the exploitation of core competencies vis-à-vis external opportunities.

The work of Penrose (1959) provides the foundation upon which the modern understanding of the RBV exists. Penrose identified that each firm constitutes a pool of interchangeable resources, hence firm heterogeneity, and that while possession of unique resources were fundamental in attaining firm performance, which also gave rise to imperfect competition and supernormal profits, mere resource possession was insufficient. Instead, Penrose found a link between resource application, revenue creation, and firm performance. The RBV did not gather momentum until the 1960s when it was found that sustainable competitive advantage may be achieved by utilising internal strengths and depends upon the successful matching
between internal capabilities and changing external environments (Ansoff, 1965; Chandler, 1962; and Hofer and Schendel, 1978).

Wernerfeldt (1984) was another early researcher to find a link between the resources of firms and competitive advantage, and he coined the phrase the ‘resource-based view’. Building upon Penrose (1959), Wernerfeldt (1984) considered firms as resources and not product markets and developed ways of examining the relationship between firm resources and profitability. Despite this, a lack of interest in the RBV meant that the theory was mainly dormant in the 1980. However, various authors (including Hall, 1992 and Grant, 1991) found that firms with particular resources and capabilities were able to outperform key competitors by generating higher rent. This also found that firm performance differed not only between firms within the same industry (Hansen and Wernerfelt, 1989 and Pisano et al., 1997) but also within the narrower scope of strategic groups within industries (Lewis and Thomas, 1990). As such, the difference in firm performance is much more notable within rather than across industries. Since the 1990s, the RBV has become a central part in strategic management.

Given it is both the external and internal environments within which firms of all forms exist and which may help to explain their competitive advantages, this research is based upon both the MBV and the RBV. However, a greater emphasis is placed upon the RBV as this is less often undertaken within the context of airlines. Because of this, Chapter 4.4 explores firm resources and capabilities which underpin the RBV.

4.4 Resources and capabilities

The RBV is premised upon the desired consequence of managerial effort being the attainment of sustainable competitive advantage and, consequently, the achievement of above-average returns vis-à-vis industry and key competitors. This is achieved by the “superior organisational resources and capabilities to modify the industry’s structure or change the competitive game” (Barney, 1991; Prahalad and Hamel, 1990), thereby effectively utilising internal resources to outperform the competition and to create sustainable competitive advantage. Crucially, resources and capabilities should also prevent losses, yet the recurring financial ill-performance of airlines and their very low ROIC questions the resources and capabilities of airlines (IATA, 2005).
Above-average firm performance does not materialise from merely accumulating potentially rent-generating resources (Teece and Pisano, 1994), and it does not simply concern unique bundles of resources. Instead, it necessitates more effectively utilising available resources, and Conner (1991) shows that it requires management leadership that is creative, imaginative, entrepreneurial, and with a long-term investment in resources. Inherent in this is resource selection, with the selection and deployment of resources coexisting with strategic industry factors, particularly supplier power, competitive intensity, and industry and product market structure (Oliver, 1997). Together, these influence rent-generating potential. Amit and Schoemaker (1993) insist that “the challenge for managers is to identify, develop, protect, and deploy resources and capabilities in a way that provides a firm with a sustainable competitive advantage and thereby superior return on capital.”

Greater profitability may be achieved either through maximising resource productivity or from deploying resources in a more profitable manner. Yet resources are not in themselves valuable or productive but rather simply enable a firm to perform particular activities within specific markets. Indeed, the RBV shows that competitive advantage does not materialise from the final product or offered service but from the resources that produced them (Hall, 1992). However, competitive advantage will not be sustainable unless the firm uses its resources “to enable it to produce efficiently and/or effectively a market offering that has value for some market segment or segments” (Hunt and Moran, 1995, p.6). Achieved through organisational capabilities, this indicates that firms must continually deliver customer value, hence the intrinsic role of resources in developing value-creating strategies (Porter, 1980; Barney, 1991). Indeed, the RBV suggests that managers may obtain greater advantage by “combining, developing, and utilising resources to create more valuable results than competitors” (Conner, 1991). As such, resources are merely inputs into the production process and are the intermediate link between activities and advantage (Grant, 1991).

Teece et al. (1997, p.511) consider resources to be “firm-specific assets that are difficult if not impossible to imitate. Such assets are difficult to transfer among firms because of transaction costs and transfer costs and because the assets may contain tactic knowledge.” In addition, such assets or resources may be heterogeneously distributed and connected across different firms, albeit in different resource configurations. The bundles of firm resources concern different types of resources that may be connected to each other in different ways, and refer to different kinds of resource structures within firms. Table 4.1 indicates various
resource bundles that have been identified from literature, although Acedo et al. (2006) indicate that much disagreement and confusion exists concerning terminology.

**Table 4.1: The concept of firm resources**

<table>
<thead>
<tr>
<th>Theorist</th>
<th>Tangible assets</th>
<th>Intangible assets</th>
<th>Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wernerfelt (1984)</td>
<td>Fixed assets</td>
<td>Blueprints</td>
<td>Cultures</td>
</tr>
<tr>
<td>Hall (1992)</td>
<td>-</td>
<td>Intangible assets</td>
<td>Intangible capabilities</td>
</tr>
<tr>
<td>Hall (1993)</td>
<td>-</td>
<td>Assets</td>
<td>Competencies</td>
</tr>
<tr>
<td>Prahalad and Hamel (1990)</td>
<td>-</td>
<td>-</td>
<td>Core competencies</td>
</tr>
<tr>
<td>Itami (1987)</td>
<td>-</td>
<td>-</td>
<td>Invisible assets</td>
</tr>
<tr>
<td>Amit and Schoemaker (1993)</td>
<td>-</td>
<td>-</td>
<td>Intermediate goods</td>
</tr>
<tr>
<td>Hitt and Ireland (1985), Hofer and Schendel (1987)</td>
<td>-</td>
<td>-</td>
<td>Distinctive competencies</td>
</tr>
<tr>
<td>Irvin and Michaels (1989)</td>
<td>-</td>
<td>-</td>
<td>Core skills</td>
</tr>
</tbody>
</table>

As Table 4.1 illustrates, resources are commonly categorised into three sub-groups: tangible resources; intangible resources; and capabilities.

Tangible resources are physical assets, such as property, vehicles, and machinery, that have a fixed long-term capacity (Block and MacMilan, 1985), although Grant (2001) found tangible resources also include debtors, bank deposits, and capital. Unlike intangible assets, tangible assets are comparatively easy to measure. However, tangible assets are unlikely to be sources of sustainable competitive advantage because they are easy to duplicate and are therefore relatively imitable, substitutable, and mobile. Mobile assets, where a firm will face no cost disadvantage in developing, acquiring, or using such assets (Barney, 1995), are likely to only offer a temporary competitive advantage. In contrast, intangible sources are increasingly deemed the most important strategically (see, for example, Barney, 1991; Carmeli, 2001; Hall, 1992, 1993; Itami and Roehl, 1987; Michalisin et al., 1997). Unlike tangible resources, intangible resources are based upon knowledge or information, for example organisational culture, product reputation, and a firm’s brand. The capacities of intangible assets are unlimited, and the value of them may be exploited by renting them (such as licences or patents) or selling them (for example, brands) (Brock and MacMilan, 1985).

A variety of intangible resources have been found to impact firm performance, especially tactic knowledge (Berman et al., 2002); customer relationships (Gouthier and Schmid, 2003);
firm reputation and organisational culture (Michalisin et al., 1997); cooperative capabilities (Tyler, 2001); human capital (Hitt et al., 2001); and information technology (Powell and Dent-Michallef, 1997). According to the RBV, intangible resources are more likely to be strategic assets because they have greater likelihood of being rare, valuable, and imperfectly imitable (Barney, 1991), meaning that a greater barrier to duplication exists, at least in the short-term. After all, they have been nurtured and developed over time and are considerably more firm-specific than tradable, transferable, and imitable tangible resources (Teece et al., 1997).

Based upon a survey of 95 CEOs from disparate industries, Hall (1992) identified the degree to which intangible assets impacted firm performance. Largely irrespective of industry, business type, and performance group, all CEOs deemed firm reputation, product reputation, and employee knowhow, the latter ambiguously defined, as the most important intangible resources affecting the performance of their firms.

In a later study, involving interviewing the managing director or personnel director of six financially successful UK firms, Hall (1993) found similar results to his previous work: that the most significant intangible resources were firm reputation, employee knowhow, perception of quality standards; and the ability to manage change. But unlike his previous research, Hall (1993) identified that perception of quality, perception of service, ability to manage change, ability to innovate, ability to work effectively within a team, and management style contributed to firm performance. Thus, and based upon Hall (1992, 1993) and regardless of industry, firm reputation, product reputation, employee knowhow, and organisational culture were deemed the key intangible resources. It is these crucial areas, therefore, that need to be developed, protected, and exploited to increase a firm’s competitiveness (Hall, 1992). However, while the findings of Hall (1992, 1993) were significant they were undermined by a small sample size that concerned six very different industries, with resources in one industry perhaps inapplicable to another (Barney, 1991) and not applying the RBV to indicate the degree to which the resources examined were valuable, rare, imperfectly imitable, and non-substitutable (for instance, the VRIN framework). As such, they potentially did not constitute strategic assets and sustainable sources of competitive advantages, and the list of resources were generalised and unspecific to any particular industry, so potentially omitting important resources for specific industries.
Based upon the findings and limitations of Hall (1992, 1993), Carmeli (2001) used the VRIN framework, so integrated his work with the RBV, to analyse whether ‘core’ intangible resources in firms with high performance, by net profit, net profit margin, revenues, and return on equity, differed from firms with low performance. Surveying the CEOs of ten firms, Carmeli (2001) provided 22 intangible resources that have been previously identified elsewhere (Aaker, 1989; Hall, 1992, 1993; Fernandez et al., 2000; Itami and Roehl, 1987). Of these 22 intangible resources, the CEOs were required to determine the seven most valuable resources to each firm and to distribute 105 points among them per each element of the VRIN framework. Carmeli (2001) found that firms with high and low performance both had core resource profiles, with differences among resource categories that identified the requirement of firm heterogeneity. For firms with high performance, organisational strategy, managerial competence, organisational culture, and the ability to manage were core resources, vis-à-vis the ability to raise capital, marketing, business development, product or service reputation, and intellectual property for firms with low performance. However, various limitations have been identified, including the small sample size, using firms from different industries, an incomplete list of resources, and no qualitative aspect to the research.

Unlike resources, which have been hitherto discussed, capabilities are often called distinctive competencies and are considered invisible assets (Itami and Roehl, 1987) or intermediate goods (Amit and Schoemaker, 1993) and they play a fundamental role in firms. This is because they comprise the skills of individuals and teams, cultural strengths, and organisational routines and interactions through which all tangible and intangible resources are coordinated, allocated, and deployed to achieve a desired outcome (Grant, 1991; Amit and Schoemaker, 1993). Hence, capabilities are the capacity of a pool of coordinated resources to perform specified activities, with research finding that firms that more effectively develop and exploit capabilities perform more effectively than those that do not (Conant et al., 1990; Hambrick and Cannella, 1993; McDaniel and Kolari, 1987). This may be strengthened further from the gradual accumulation of specialised capabilities (Barney, 1991), thereby reinforcing intangible barriers to the duplication of capabilities.

Given that not all resources are strategically important, Wenerfelt (1984) and Barney (1991) identified that only physical, human, and organisational resources – which enable a firm to increase efficiency and effectiveness – can be deemed true resources. Table 4.2 provides an overview of key resource sub-areas from literature.
Table 4.2: The composition of a firm’s resources

<table>
<thead>
<tr>
<th>Physical resources(^1)</th>
<th>Human resources(^2)</th>
<th>Organisational (capital) resources(^3)</th>
<th>General resources(^4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>Training</td>
<td>Reporting structure</td>
<td>Financial</td>
</tr>
<tr>
<td>Plant and Equipment</td>
<td>Experience</td>
<td>Formal/informal planning</td>
<td>Physical</td>
</tr>
<tr>
<td>Geographic Location</td>
<td>Judgement</td>
<td>Controlling systems</td>
<td>Human</td>
</tr>
<tr>
<td>Access to raw materials</td>
<td>Intelligence</td>
<td>Coordinating systems</td>
<td>Technological</td>
</tr>
<tr>
<td></td>
<td>Relationships</td>
<td>Informal relations among groups</td>
<td>Reputational</td>
</tr>
<tr>
<td></td>
<td>Insights of managers/workers</td>
<td>Informal relations between a firm and those within its environment</td>
<td>Organisational</td>
</tr>
</tbody>
</table>

\(^1\) Williamson (1975); \(^2\) Becker (1964); \(^3\) Tomer (1987); and \(^4\) Hoffer and Schendell (1978).

4.5 Sustainable competitive advantage

Whether resources provide a sustainable competitive advantage depends upon the type and nature of the resource, the capabilities a firm has, how these have been amassed, and how they are used. Resources therefore provide the potential for competitive advantage.

Sustainable competitive advantage necessitates that resources must be scarce, unique, non-tradable, inimitable, durable, idiosyncratic, and non-substitutable (Rumelt, 1984; Barney, 1991; Mahoney and Pandian, 1992; Peteraf, 1993; and Amit and Schoemaker, 1993). As such, markets for resources and capabilities cannot and do not exist.

An effective way to understand the sustainability of competitive advantage is offered by the VRIN framework. This comprises resources that have value, where resources must provide value or counteract threats posed by competitors; are rare, so the resources cannot be obtained and utilised by a number of competitors; imperfectly imitable (or nowadays hard to inmate), so they cannot be duplicated by competitors; and must not have substitutes (or nowadays be hard to substitute), for instance that the resources cannot be easily imitated or commonly used by competitors\(^{15}\) (Henkel et al., 2014). Barney (1991) found that firms that use resources meeting the full requirements of the VRIN framework are more likely to attain

\(^{15}\) The requirement of not having substitutes is similar to resources being imperfectly imitable. As such, Barney (1997), in response to criticism from Black and Boal (1994), replaced not having substitutes with organisational process, with the VRIN becoming VRIO. However, this is seldom used in practice.
sustainable competitive advantage, with such resources deemed core competencies, while adherence to the framework explains the performance differences among firms (Barney, 1991). This can be seen within Table 4.3.

Table 4.3: Estimating the level of average firm performance in an industry

<table>
<thead>
<tr>
<th>Are the resources:</th>
<th>Valuable?</th>
<th>Rare?</th>
<th>Hard to imitate?</th>
<th>Hard to Substitute?</th>
<th>Exploited by firm?</th>
<th>Competitive implications</th>
<th>Likely firm performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Competitive disadvantage</td>
<td>Below-average</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Competitive parity</td>
<td>Average</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Temporary advantage</td>
<td>Above-average</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Sustained advantage</td>
<td>Consistently above-average</td>
</tr>
</tbody>
</table>


4.6 Summary

This chapter examined competitive advantage generally, the MBV perspective of it, and, in particular, the RBV and firm resources.

It was shown that competitive advantage is a crucial requirement for all firms including airlines, and that firms should have a competitive strategy that it based upon obtaining competitive advantage. While many factors may enable competitive advantage, it is especially important to attain advantage in competitive markets. That airline markets within Asia are growing in competitiveness from the emergence, growth, and evolution of LCCs necessitates strong competitive advantages for Asia’s airlines, particularly network airlines.

Two schools of thought exist to explain competitive advantage: the market based view of the firm and the resource-based view of the firm. With the MBV, every firm operates within an external environment which is often changeable, complex, and uncertain. Clearly, this is especially the case for the airline industry. The MBV shows that it is an industry’s structural characteristics which have a significant impact upon the ability of firms within an industry to achieve above-average returns as all firms are considered homogeneous in terms of possessed resources and capabilities. It is this which gives rise to ‘us too’ strategies.
Unlike the MBV, the RBV concerns the internal environment of firms with each firm possessing a collection of unique resources and capabilities which each provide the foundation for competitive strategy. Resources enable firms to perform particular activities within specific markets, and they provide the potential for competitive advantage. If resources are effectively deployed and utilised they should achieve competitive advantage, including a greater ability to compete and both superior financial performance and also the prevention of losses. Intangible resources are more likely to be strategic assets, and important intangible resources include reputation, knowhow, quality standards, the ability to manage change, and organisational culture. The VRIN framework enables the identification of the sustainability of competitive advantage, and resources which meet all four requirements are deemed to be core competencies which, if exploited, should result in consistently above-average performance.

While the MBV and RBV are often considered separately, they do in fact simultaneously exist, for it is both the external and internal environments of firms which determine their targeted market segments and in turn their strategic positions; product and operational attributes; costs, revenues, and complexity; value propositions; degree of product differentiation and commoditisation and the extent to which they compete on price; and firm performance. It is for these reasons that this theoretical framework is used to understand the competitive advantage and situation of Asian network airlines.

Having reviewed the literature and presented the theoretical framework which underpins this research, it is now necessary to focus upon the collection and use of data, which is undertaken in Chapter 5.
5.0 DATA COLLECTION AND ANALYSIS METHODS

There are many airlines across Asia each with idiosyncratic strategies and differing lengths of existence, sizes, regulatory environments, levels of performance, competitive challenges, and degree of exposure to LCCs. Given this, this chapter initially determines the selection of airlines to be used within this research in order to answer the research objectives and, in turn, the research aim (see Chapter 1.2) based upon the identified gaps in knowledge (see Chapter 3.5).

Different methods of data collection were chosen for this research, including secondary data particularly from airline annual reports and websites and industry publications and databases; questionnaire surveys; resource surveys; and interviews with industry experts. The collected data were then analysed in a number of ways, including by identifying the core competencies of Asian network airlines through the use of the VRIN framework and by establishing the importance and difficulty of competitive responses in competing with LCCs. Analysis also included the strategic capabilities of Asian network airlines to compete with LCCs, and the application of the product and organisational architecture model to compare Asian LCS and LCCs to identify the sources of competitive advantages and how LCS may strengthen their strategies. Correlations between means were tested throughout for relationships and significance using Spearman’s $r$.

A timeline of this research, illustrating broad tasks and start and end periods, is shown within Table 5.1.
### Table 5.1: A timeline of this research

<table>
<thead>
<tr>
<th>Task</th>
<th>Duration</th>
<th>Start date</th>
<th>End date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine-tuning research problem, questions, aim, objectives</td>
<td>½ month</td>
<td>Beginning October, 2012</td>
<td>Mid-October, 2012</td>
</tr>
<tr>
<td>Research and write literature review</td>
<td>3 months</td>
<td>Mid-October, 2012</td>
<td>Mid-January, 2013</td>
</tr>
<tr>
<td>Determine and write research methods</td>
<td>1 month</td>
<td>Mid-January, 2013</td>
<td>Mid-February, 2013</td>
</tr>
<tr>
<td>Research and write theoretical framework</td>
<td>2 ½ months</td>
<td>Mid-February, 2013</td>
<td>End-April, 2013</td>
</tr>
<tr>
<td>Design and test interview questions, questionnaire survey questions, and resource survey</td>
<td>2 months</td>
<td>Beginning May, 2013</td>
<td>Beginning July, 2013</td>
</tr>
<tr>
<td>Carry out primary data collection</td>
<td>3 months</td>
<td>Beginning July, 2013</td>
<td>End-September, 2013</td>
</tr>
<tr>
<td>Transcribe and analyse interviews</td>
<td>2 months</td>
<td>End September, 2013</td>
<td>Beginning December, 2013</td>
</tr>
<tr>
<td>Analyse questionnaire results</td>
<td>1 ½ months</td>
<td>Mid-December, 2013</td>
<td>End January, 2014</td>
</tr>
<tr>
<td>Analyse resource survey results</td>
<td>1 month</td>
<td>Beginning February, 2014</td>
<td>Beginning March, 2014</td>
</tr>
<tr>
<td>Write analysis and discussion based from collected and analysed data (7 chapters)</td>
<td>8 ½ months</td>
<td>Mid-March, 2014</td>
<td>End-November, 2014</td>
</tr>
<tr>
<td>Conclusion and introduction</td>
<td>2 months</td>
<td>Beginning December, 2014</td>
<td>Beginning February, 2015</td>
</tr>
<tr>
<td>Complete read-through by researcher and primary supervisor</td>
<td>3 months</td>
<td>Mid-February, 2015</td>
<td>Mid-May, 2015</td>
</tr>
<tr>
<td>Correlations made and submission</td>
<td>2 months</td>
<td>Mid-May, 2015</td>
<td>Mid-July, 2015</td>
</tr>
</tbody>
</table>

#### 5.1 Sampling

It is important to identify the criteria that are used to select the targeted airlines in this research in order to provide the sample population. The first step is to identify the geographic focus, which is Asia, with Asia comprising various sub-regions. These are shown in Figure 5.1.
Figure 5.1: Map of Asia and its sub-regions

Of the various sub-regions in Asia, Central Asia was excluded from this research because the countries therein, such as Kazakhstan, Turkmenistan, and Uzbekistan, have some combination of these criteria: they do not have home LCCs; they have extremely little LCC penetration, often less than 5% and typically based upon LCCs from the United Arab Emirates (flydubai and Sharjah’s Air Arabia) or Turkey (Pegasus); and because network airlines in Central Asia do not have LCS. While Western Asia, more commonly known as the Middle East, is geographically part of Asia, it has been excluded because it is ordinarily considered a separate region to Asia within aviation. Thus, including it within Asia would be peculiar for aviation research.

Given these exclusions, this research is focused upon network airlines, LCS, and LCCs within three geographic sub-regions: South Asia; Southeast Asia; and Northeast Asia. These three sub-regions have resulted in 24 possible countries, with five countries within South Asia, 11 within Southeast Asia, and eight within Northeast Asia. These 24 countries have been further narrowed according to the following criteria, with this criteria ensuring that

---

16 The exception is Pegasus Asia which is a joint venture between Turkey’s Pegasus Airlines and Kyrgyzstan’s Air Manas. Pegasus Asia commenced domestic services in December 2013 presently has two aircraft.
appropriate and relevant airlines are chosen in terms of applicability for the topics of this research. Note that selection per the following criteria is based upon data from 2013 unless otherwise stated.

- Whether each country has a reasonably high LCC penetration which is ascertained by using CAPA and Flightglobal Pro data and is based upon LCC seats as a proportion of total seats for domestic and international flights;

- If the LCC penetration rate in each country is growing year-over-year based upon the year of the first LCC within each country until 2013;

- If network airlines within each country have publicly stated that they anticipate LCCs to grow rapidly to, from, or within their specific country;

- If the primary network airline within each country competes to a reasonable degree with LCCs from any of the three Asia sub-regions in question, with ‘reasonably’ for this research based upon data from OAG Schedules iNET;

- Network airlines that have, or have expressed an interest in having, a LCS; and

- Network airlines that have been deemed ‘interesting’ or ‘unusual’ by the researcher, for example if they have categorically announced that they will not establish a LCS or if they have previously had a LCS but no longer do.

A table of this selection process is shown within Table 5.2.
Table 5.2: Original 24 countries within Asia and a means of narrowing the target population in 2013*

<table>
<thead>
<tr>
<th>Country</th>
<th>Asia sub-region</th>
<th>LCC penetration $^{17}$ (%)</th>
<th>LCS of key network airlines?</th>
<th>Do the key network airlines compete with LCCs from the three sub-regions of Asia that are focused on?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>South</td>
<td>41.8</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Nepal</td>
<td>South</td>
<td>10.6</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Bhutan</td>
<td>South</td>
<td>0.0</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>South</td>
<td>13.0</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Bangladesh</td>
<td>South</td>
<td>3.5</td>
<td>No</td>
<td>Yes – but only 1 route</td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td>Southeast</td>
<td>21.7</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>Southeast</td>
<td>14.2</td>
<td>No</td>
<td>Yes – but only 1 route</td>
<td></td>
</tr>
<tr>
<td>Laos</td>
<td>Southeast</td>
<td>1.9</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>Southeast</td>
<td>22.0</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>Southeast</td>
<td>33.9</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>Southeast</td>
<td>52.3</td>
<td>No; see comments</td>
<td>Yes</td>
<td>Firefly used to operate 737s to compete with AirAsia, but these were removed following the potential Malaysia Airlines-AirAsia relationship. This did not materialise, and Firefly now exclusively uses turboprops</td>
</tr>
<tr>
<td>Singapore</td>
<td>Southeast</td>
<td>30.7</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Southeast</td>
<td>46.9</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>East Timor</td>
<td>Southeast</td>
<td>0.0</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Brunei</td>
<td>Southeast</td>
<td>14.2</td>
<td>No</td>
<td>Yes – but only 2 routes</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>Southeast</td>
<td>53.4</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Macau</td>
<td>Northeast</td>
<td>21.4</td>
<td>No</td>
<td>Yes – but only 3 routes</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Northeast</td>
<td>7.3</td>
<td>No, but forthcoming; see comments</td>
<td>Yes</td>
<td>Jetstar Hong Kong is a planned LCS. HK Express was recently turned into a LCC, and is the LCS of Hong Kong Airlines. Cathay Pacific has clearly stated it will not begin a LCS.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Northeast</td>
<td>&lt;3.0</td>
<td>Coming</td>
<td>Yes</td>
<td>Two network airlines are to launch LCS</td>
</tr>
<tr>
<td>China</td>
<td>Northeast</td>
<td>&lt;5.0</td>
<td>No</td>
<td>Yes</td>
<td>Three network airlines have each expressed interest in a LCS</td>
</tr>
<tr>
<td>Mongolia</td>
<td>Northeast</td>
<td>0.0</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>North Korea</td>
<td>Northeast</td>
<td>0.0</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>Northeast</td>
<td>18.9</td>
<td>Yes</td>
<td>Yes</td>
<td>New LCS from Asiana is coming (Seoul Air)</td>
</tr>
<tr>
<td>Japan</td>
<td>Northeast</td>
<td>12.4</td>
<td>Yes</td>
<td>Yes</td>
<td>LCCs only really started properly around 2011</td>
</tr>
</tbody>
</table>

* Some details have changed between 2013 and 2014, particularly related to LCC penetration rates and, generally, competition, and the creation of one LCS in both Hong Kong (HK Express) and Taiwan (VAir). Domestic and international LCC penetration by total number of seats was divided into two to reflect total penetration.
Using the previously mentioned selection criteria, the 24 countries shown within Table 5.2 were narrowed to 17, with Nepal, Bhutan, Bangladesh, Laos, East Timor, Mongolia, and North Korea excluded. From these 17 countries, and based upon the year 2012, there are 41 network airlines (of some form and size), 15 LCS, and 31 LCCs, for a total target population of 87.

It is important to note that where a country has multiple network airlines, such as China, only those considered to be the primary or more important are included, with this determined by total revenue, passengers, and their degree of competition with LCCs. In terms of LCS and LCCs, only those that overwhelmingly operate within short-haul markets, defined as being within four hours, are included, so AirAsia X and Scoot are excluded. Furthermore, those airlines which were planned but not operating at the time of sampling are excluded, so AirAsia India, Jetstar Hong Kong, and Spring Japan are excluded. HK Express is an exception: it was previously operating as a full-frills airline of the Hainan Group but it was transformed into a LCS. It was beginning to embark on its transformation during the sampling process, so it was included.

Of the targeted population of 87 airlines (network, LCS, and LCC combined), 49 formed the sample for this research. These can be seen in Table 5.3. The remaining 38 airlines did not respond to requests to participate or agreed to participate but then did not. The sampled 49 airlines participated in this research in terms of at least one form of data collection. It is important to note that these 49 airlines represent the majority of the key network airlines, LCS, and LCCs in the three sub-regions of Asia that this research focuses upon. The three primary exceptions were Singapore Airlines, China Southern, and Japan Airlines, but their absence does not negatively impede this research or make the results less generalisable. This is because of the inclusion of similar airlines in terms of business model from the same country (for example, SilkAir, Air China, China Eastern, and All Nippon); because of the number of network airlines surveyed overall; and because of the representativeness of all 17 Asian countries.

\[\text{footnote}{18}\] AirAsia India commenced operations in June 2014 and Spring Japan in August 2014.
<table>
<thead>
<tr>
<th>Country</th>
<th>Network airlines</th>
<th>LCS</th>
<th>LCCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>Air India</td>
<td>Air India Express</td>
<td>IndiGo</td>
</tr>
<tr>
<td></td>
<td>Jet Airways</td>
<td></td>
<td>SpiceJet</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GoAir</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>SriLankan Airlines</td>
<td>Mihin Lanka</td>
<td>None</td>
</tr>
<tr>
<td>Myanmar</td>
<td>Myanmar Airlines (MAI)</td>
<td>None</td>
<td>Golden Myanmar</td>
</tr>
<tr>
<td>Cambodia</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Vietnam Airlines</td>
<td>Jetstar Pacific</td>
<td>VietJet</td>
</tr>
<tr>
<td>Thailand</td>
<td>Thai Airways</td>
<td>Nok Air</td>
<td>Thai AirAsia</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Malaysia Airlines</td>
<td>None</td>
<td>AirAsia Malaysia</td>
</tr>
<tr>
<td>Singapore</td>
<td>SilkAir</td>
<td>Tigerair</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jetstar Asia</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Garuda Indonesia</td>
<td>Citilink</td>
<td>Lion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Indonesia AirAsia</td>
</tr>
<tr>
<td>Brunei</td>
<td>Royal Brunei</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Airlines</td>
<td>None</td>
<td>Cebu Pacific</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tigerair Philippines</td>
</tr>
<tr>
<td>Macau</td>
<td>Air Macau</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Hong Kong Airlines</td>
<td>HK Express</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cathay Pacific</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dragonair</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>China Airlines</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EVA Air</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Air China</td>
<td>None</td>
<td>Spring Airlines</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>Korean Air</td>
<td>Air Busan</td>
<td>Jeju Air</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jin Air</td>
<td>Eastar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>T'way</td>
</tr>
<tr>
<td>Japan</td>
<td>All Nippon</td>
<td>Peach</td>
<td>Skymark</td>
</tr>
<tr>
<td>Totals</td>
<td>22</td>
<td>11</td>
<td>16</td>
</tr>
</tbody>
</table>
5.2 Data collection

5.2.1 Data collection: secondary data

For this research, internal secondary data is crucial in helping to achieve objective 7\textsuperscript{19}, for partial analysis of this objective relies upon the collected data. Lancaster (2005) showed that secondary data may be both external and internal in nature. External secondary data primarily concerns journal papers, industry press, government reports, and published articles. Such sources were used for this research’s literature review (see Chapter 2 and Chapter 3) and findings were then related to all sources of literature to confirm, refute, or to add to knowledge. Internal secondary data involves materials such as company websites, annual reports, historic traffic data, and written reports from industry bodies and analysts. This is mainly used for forecasting, planning, analysing, and evaluating companies, and for general contextual reasons. This data is collected through the annual reports and websites of the analysed LCS, their parent network airlines as appropriate, and the LCCs with which they most directly compete. Supporting data is provided via established industry sources, particularly Centre for Aviation (formerly but still very frequently known as CAPA), AirportIS, Flightglobal Pro, OAG Schedules iNET, ASCEND, and Flightstats.com. Some of these required a subscription to the membership-only areas to which the researcher has access.

5.2.2 Data collection: questionnaire surveys

For this specific research, a large and representative sample of airlines (the actual number of 49 was deemed appropriate and representative) was required from each of the three business models: network airline (22); LCS (11); and LCC (16). Therefore questionnaire surveys are a suitable method of data collection because according to Pinsonneault and Kraemer (1993, p.77) a survey is a “means for gathering information about the characteristics, actions, or opinions of a large group of people”. While most survey questions were identical across these three models, slight alterations and additions were made to reflect the specific model for which the participants work as misunderstandings may otherwise have resulted. A copy of the survey questions asked to network airlines is shown in Appendix 1.

\textsuperscript{19} To analyse the sources of competitive advantage for LCS relative to their key LCC competitors in terms of intangible resources and product and organisational attributes.
For this research, data were collected via questionnaires primarily about the following areas:

- The consequences of LCCs on Asian network airlines;

- The potential competitive responses of the sampled airlines by the importance and difficulty of implementation;

- The relative importance of the threat posed by LCCs against other reasons for the creation of LCS by network airlines; and

- The extent to which LCS may be able to remedy or overcome the numerous problems often faced by network airlines that has resulted partially from the advancement of LCCs.

For the sampled airlines, senior personnel, such as senior managers, directors, or vice-presidents, from strategy, finance, business development, or commercial areas were required to participate as they would have the required knowledge to answer the set questions. Indeed, it is crucial to harness the wisdom and experience of senior executives, with Schnell (2005) finding that 60.1% of airline managers are leaders of their departments and report regularly to a vice-president or to the CEO. This empowers them and instils knowledge into them, with company-wide knowledge furthered by attending regular meetings with colleagues from other departments. Schnell (2005) also found that the average airline manager has 17.1 years’ experience within the airline industry and nine years at their current airline, which suggests that their answers should reflect the situation faced by the airline.

The questions for the survey come from the literature review and the theoretical framework. The difficulties in obtaining a satisfactory number of responses to surveys is well documented, with various authors (for example, Groves and Couper, 1998 and De Heer, 1999) indicating that it is also difficult to persuade relevant personnel to cooperate after they have been contacted. Yu and Cooper (1983) and Martin et al. (1989) found that the response rate to surveys could be increased from around 33% to 39% by increasing the personalisation of surveys. Given this, this researcher identified the required personnel from most of the sampled airlines from LinkedIn, a business-orientated social networking website, and developed a relationship with them via this medium or via email. This concerned
communicating with them in an informal manner for a couple of months on industry-related topics, and this approach appeared to work well. Industry contacts introduced the researcher to personnel at certain airlines in the sample that could not otherwise be reached. Each respondent was sent a web-enabled survey which they clicked to activate the survey. The survey was created and administered using Bristol Online Survey (BOS).

Prior to the surveys being distributed, pilot testing was undertaken because Levy and Lemeshow (1999) indicated that it is important to test the survey itself and the survey procedures. Indeed, Oppenheim (1966) found that survey questions may need to be revised as many as eight times to produce unambiguous questions that will yield satisfactory and required data. For this research, the survey was sent to personnel in equivalent roles within four European airlines, with these found via LinkedIn or personal contacts. They provided valuable feedback concerning the length of the survey; the likely time to complete it; the order of topics (especially questions concerning material perceived to be sensitive to the company); and the wording of some questions. They suggested that less use of open-ended questions and a greater use of the multiple-choice answers, subsequently interpreted to mean the Likert scale, would yield more valid and precise data. They also recommended that the allocation of points between selected resources, as the means of data collection for analysis of internal firm resources, was too complicated and time-consuming to complete via BOS and recommended that using Excel would simplify and expedite the process, so increasing the likelihood of greater completion (see Chapter 5.2.3).

5.2.3 Data collection: resources survey

A separate survey was considered necessary for this research in addition to the questionnaire survey because this appropriately separates the very different questions being asked. It was also necessary because the nature of the data required a tailor-made method as shown through the analysis of this data.

As the theoretical framework showed (see Chapter 4), defining the ‘core resources’ of a firm is a complicated task. Hoskisson et al. (1999, p.442) suggested that this is because “the RBV emphasises the idiosyncratic nature of a firm’s resources and capabilities, empirical testing of the resource-based theory faces great challenges.” Yet the identification of resources, especially intangible resources, is crucial to determine what derives firm advantage and
performance, and this is no different for airlines. As such, the ranking of resources is a fundamental requirement and commonplace method (Hall, 1992). However, the ranking of resources has traditionally been limited because of utilising the ordinal ranking system (Robinson, 2008), for it produces a ranking which is insufficiently differentiated. It therefore provides limited information between resources. As such, Carmeli (2001) used the interval rating technique which Collis and Montgomery (1995) determined as “allowing the superiority of resources to be analysed more accurately.” This therefore produces results which are more valuable. It is for this reason that this research into internal resources also utilises the internal rating technique.

The survey respondents received the link to the survey and an Excel file at the same time. They were asked to complete and to return this file before or after the survey had been completed, and, based on the pilot test, it took about five minutes to complete. This file contained a list of instructions together with an example of a completed file, as shown in Appendix 2. Within the file, participants were given an alphabetically ordered list of 36 intangible resources. The list of resources is shown in shown within Table 5.4. Note that these resources were a combination of those generic to all firms (see, for example, Aaker, 1989; Carmeli, 2001; Hall, 1992, 1993; Ferdandez et al., 2000; Itami and Roehl, 1987, Robinson, 2008) and also those specific to airlines.

<table>
<thead>
<tr>
<th>Table 5.4: Resources used in this research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to learn</td>
</tr>
<tr>
<td>Ability to raise funds</td>
</tr>
<tr>
<td>Aircraft leases</td>
</tr>
<tr>
<td>Bilateral air service agreements /traffic rights</td>
</tr>
<tr>
<td>Brand</td>
</tr>
<tr>
<td>Business environment</td>
</tr>
<tr>
<td>Customer focus</td>
</tr>
<tr>
<td>Databases /information systems</td>
</tr>
<tr>
<td>Decision-making capabilities</td>
</tr>
<tr>
<td>Distribution system</td>
</tr>
<tr>
<td>Entrepreneurial capabilities</td>
</tr>
<tr>
<td>Financial stability</td>
</tr>
<tr>
<td>Intellectual property(^{20})</td>
</tr>
<tr>
<td>Knowhow</td>
</tr>
<tr>
<td>Legal knowledge</td>
</tr>
<tr>
<td>Managerial competence/experience</td>
</tr>
<tr>
<td>Managing principles/corporate governance(^{21})</td>
</tr>
<tr>
<td>Marketing/promotional activities/strategies</td>
</tr>
</tbody>
</table>

\(^{20}\) Trademarks, copyrights, patents, etc.  
\(^{21}\) For instance, how is management structured and communications and reporting drawn?
From these 36 resources, the participants were initially asked to choose up to seven resources that are possessed by their firm and to distribute 203 points between them based upon the value of each selected resource to the firm’s performance. The Excel file was programmed to automatically calculate the answers so that it was as straightforward as possible for the participants, thereby increasing completion and reducing errors. Per Carmeli (2001), the number of points to allocate among resources (203) was calculated by the number of resources (36) minus seven (the number of resources to be selected) multiplied by seven. Seven is used because of the interval weighting technique which rates attributes from one to seven. The ranking of resources has traditionally been limited because of utilising the ordinal ranking system (Robinson, 2008), whereby respondents state a score of one to seven for each resource as it produces a ranking which are insufficiently distinguished. By contrast, Carmeli (2001) used the interval rating technique which Collis and Montgomery (1995) determined as allowing the superiority of resources to be analysed more accurately. It is for this reason that this research into intangible resources also utilises the interval rating technique. For example, organisational communication and organisational reputation are two commonplace intangible resources. If it was perceived that reputation was more valuable than communication, it would, when using ordinal ranking technique, receive a score of one and communication two. However, reputation may, when using the interval ranking technique, receive 46 points, while communication may receive 29 points. The relative difference between the two can then be identified.

The respondents were asked to select and to score the resources per the provided instructions. They were then asked to distribute the 203 points among their seven (or fewer) resources according to each part of the VRIN criteria, as cited by Barney (1991). They then had to distribute 203 points among the seven chosen resources based upon their perceived value; then their rareness; then their inimitability; and finally their substitutability. While valuable resources must have more than zero points, zero points could be allocated for the rarity, inimitability, and substitutability. For example, the ability to learn could be a highly valuable resource yet receive zero points for not being rare. Thus, a resource could receive a high or low score for value (note that a high score is required if the resource is to be deemed strategic) and a high, low, or zero score for rareness, inimitability, and substitutability.

22 Chapter 4.4 showed that the VRIN framework concerns resources that are valuable, rare, not easily imitated, and not easily substituted. Those resources that meet all four requirements are deemed strategic assets or core competencies because they are sustainable internal sources of competitive advantage.
Carmeli (2001) recognised that, irrespective of a firm’s performance, it will have only a small bundle of core resources. This research determines what the core resources are for network airlines, LCS, and LCCs within Asia. This will establish not only core resources for airlines generally, but, more importantly, core resources for clusters arranged by type of business model. The VRIN framework will determine the internal sources of advantage for network airlines within short-haul markets with LCC competition, and LCS relative to their key LCC competitors. It will also enable a comparison of core resources between airlines and firms within other industries.

The results consider separately the most valuable, rare, not easily imitated, and not easily substituted resources. The total score for each resource is summed from the scores given by all the participants for each resource. This process enables the identification of differences between resources within each category and among each category. This is crucial because a fundamental assumption of the RBV is heterogeneity of resources across firms (Barney, 1991; Peteraf, 1993), for example a firm’s idiosyncratic culture, brand, traffic agreements, and nature and extent of leadership and financial stability.

5.2.4 Data collection: interviews

The qualitative technique used in this research relies on data collected from interviews with senior management from strategy, finance, business development, or commercial areas. According to Kvale (1996, p.70), qualitative interviews are a “uniquely sensitive and powerful method for capturing the experiences and meaning of the subject’s everyday world.” Jankowicz (2005) suggested that interviews are ordinarily undertaken when “there are large numbers of questions to be answered; the questions are either complex or open-ended; and when the order and the logic of questioning may need to be varied.” The views of senior individuals involved in the everyday life of an airline allow deeper investigation from a management perspective, clearly crucial for this research, and are a reliable source of information.

Structured, or in-depth, interviews involve asking each participant the same questions, thereby ensuring standardisation and greater comparability (Mathias and Johnson, 2008), with this form usually used to obtain quantifiable data (Saunders et al., 2007). However,
structured interviews are rigid in nature (Hersen and Turner, 2003), so they may prohibit flexibility and adaptability. In contrast, unstructured interviews enable subjects to be explored much more deeply, so they are frequently utilised for exploratory data collection (Klenke, 2008). However, this approach would yield unstandardised information and interpretation would be considerably less effective (Klenke, 2008).

Semi-structured interviews are used in this research because they allow the researcher to ask each interviewee the same questions. But they are also flexible in approach and can facilitate “probing of specific themes taking account of each participant’s particular experiences” (Phillimore and Goodson, 2004, p.222). This means that the researcher can ask different questions alongside the standard questions while ignoring questions that have already been suitably addressed. This approach is preferable because in-depth and useful answers may result, and perhaps beyond what was originally envisaged. The interview questions for Asian network airlines and the order of them can be seen in Appendix 3. Questions for LCS and LCCs were only slightly reworded as necessary given their particular models and experiences.

Kvale (2007) found that a researcher should interview as many people as necessary to determine what he or she needs to know, while arguing that if too many people are interviewed misinterpretations of ideas may result. For this research, 13 people are interviewed across all three business models, which is considered to be a good number of interviewees given the positions that they hold and their consequent insights; the length of the interviews (45 minutes to 1 hour and 30 minutes); and the breadth of questions. That management from airlines following all three models were interviewed allowed the researcher to gain appropriate information from all three perspectives to attain a greater, encompassing understanding to help meet the research objectives. Despite three different models, the interview questions were the same aside from some slight alterations to the wording to reflect the model for which the interviewees work.

Further to Table 5.2 and the selection criteria which preceded it, criteria used to select airlines for interview are: whether the country has significant LCC penetration; if the airline or country is likely to experience much LCC competition in the near future based on findings in literature; if the airlines are better performing financially or larger in size; and if they are the main part of joint-ventures across Asia, such as AirAsia (the main unit being from Malaysia),
Jetstar (Singapore), and Tigerair (Singapore). It is notable that those from Northeast Asia typically did not wish to be interviewed.

Before conducting the interviews, it was important to pilot-test the questions. Kvale (1996) identified that testing the questions and increasing the confidence of the researcher and interviewer through practice is a crucial requirement before undertaking real interviews. The pilot-testing was done with two senior managers within the UK in equivalent roles to those that the researcher would interview in Asia: Jochen Schnadt, Chief Commercial Officer of Monarch Airlines, and David Bowden, Chief Financial Officer of bmi regional. These two interviewees were asked to comment on how they understood the questions and where improvement was necessary. The primary findings were that some questions were ambiguous and could therefore result in uncertain or incorrect information, and that the order of questions should be such that the most crucial questions are asked first. The interview questions were therefore adjusted appropriately prior to the actual interviews.

Table 5.5 shows who the researcher interviewed in order to obtain a clearer view of the sources of their airlines’ competitive advantage, problems encountered when competing with LCCs, lessons learned from their competitors, and their views on LCS. It is important to note that of these 13 only the first seven were in the end used in this research following the decision to focus, in terms of the qualitative approach, on the perspective of network airlines. Indeed, this thesis is predominately focused upon network airlines, in particular, and how they may compete more effectively and gain and sustain advantage.

<table>
<thead>
<tr>
<th>Person</th>
<th>Position</th>
<th>Airline</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aloke Singh</td>
<td>Executive Director of Planning and Strategy</td>
<td>Air India</td>
<td>Network airline</td>
</tr>
<tr>
<td>Abhijit Das Gupta</td>
<td>Vice President Planning, Strategy and Alliances</td>
<td>Jet Airways</td>
<td>Network airline</td>
</tr>
<tr>
<td>Liew Chee Khuan</td>
<td>Vice Present Long Term Planning</td>
<td>Malaysia Airlines</td>
<td>Network airline</td>
</tr>
<tr>
<td>James Hughes-Hallet</td>
<td>Finance Director</td>
<td>Cathay Pacific</td>
<td>Network airline</td>
</tr>
<tr>
<td>Michael Burke</td>
<td>Assistant Director, Planning and Commercial</td>
<td>Hong Kong Airlines</td>
<td>Network airline</td>
</tr>
<tr>
<td>Ianthe Aquino</td>
<td>Vice President, Revenue</td>
<td>Philippine Airlines</td>
<td>Network airline</td>
</tr>
<tr>
<td>Nicodemus Lampe</td>
<td>Vice President, Sales and Marketing</td>
<td>Garuda Indonesia</td>
<td>Network airline</td>
</tr>
<tr>
<td>Tara Nadu</td>
<td>Chief Commercial Officer</td>
<td>Air India Express</td>
<td>LCS</td>
</tr>
<tr>
<td>Philipp Dietlin</td>
<td>Vice President, Commercial</td>
<td>Nok Air</td>
<td>LCS</td>
</tr>
<tr>
<td>Widi Wirat</td>
<td>Director, Strategy</td>
<td>Citilink</td>
<td>LCS</td>
</tr>
<tr>
<td>Andrew Cowen</td>
<td>Deputy CEO</td>
<td>HK Express</td>
<td>LCS</td>
</tr>
<tr>
<td>Sam Issac</td>
<td>Chief Financial Officer</td>
<td>SpiceJet</td>
<td>LCC</td>
</tr>
<tr>
<td>Joanna Ibrahim</td>
<td>Head of Strategy</td>
<td>AirAsia Malaysia</td>
<td>LCC</td>
</tr>
</tbody>
</table>
While face-to-face interviews can be costly and time-consuming (Hague and Hague, 2004), especially when interviewees are abroad, it was decided to interview all 13 interviewees in their offices across Asia. This was undertaken between July and August 2013. The duration of these interviews varied between 45 minutes and 1 hour and 30 minutes, and a recorder was used so that the interviews could be saved and then transcribed. Litosseliti (2003) suggested that, unlike online interviews, face-to-face interviews are personal and permit a pleasant, comfortable environment that could result in more freely disclosed information. It also allows the researcher to walk around and to observe facilities and activities, with Yin (1994, p.93) finding that “observational evidence is often useful in providing additional information about the topic being studied.”

5.3 The use of data

5.3.1 Analysis: competitive responses

The literature review identified the need for firms to determine whether or not they need to compete at every price point within a market. This also applies to airlines, and it concerns to what degree network airlines should compete with LCCs. Of course, they ordinarily do compete with LCCs, especially as LCCs increase market dominance through market and passenger penetration and market share (Wong, 2003), which necessitates analysis of which competitive responses may be more or less important and difficult to implement. Given the insatiable growth of LCCs within Asia is particularly pertinent for Asian network airlines. There are a many potential competitive responses across the entire sphere of firms, with this research concerned with 37 responses across six distinct categorises These 37 responses are a combination of those generic to all firms and those specific to airlines, and they are shown within Table 5.6.
### Table 5.6: Competitive response categories and specific responses

<table>
<thead>
<tr>
<th>Competitive response category</th>
<th>Specific competitive response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productivity</strong></td>
<td></td>
</tr>
<tr>
<td>Reducing labour</td>
<td></td>
</tr>
<tr>
<td>Increasing aircraft utilisation</td>
<td></td>
</tr>
<tr>
<td>Increasing labour productivity</td>
<td></td>
</tr>
<tr>
<td>Reducing turnaround times</td>
<td></td>
</tr>
<tr>
<td>Increasing seating density</td>
<td></td>
</tr>
<tr>
<td><strong>Cost and rationalisation</strong></td>
<td></td>
</tr>
<tr>
<td>Changing to one fleet</td>
<td></td>
</tr>
<tr>
<td>Ability to reduce costs to within 30% of LCCs</td>
<td></td>
</tr>
<tr>
<td>Reducing the use of distribution intermediaries</td>
<td></td>
</tr>
<tr>
<td>Negotiating with airports/other suppliers to reduce charges/costs</td>
<td></td>
</tr>
<tr>
<td>Unbundling the product</td>
<td></td>
</tr>
<tr>
<td>Ability/speed to exit unprofitable markets</td>
<td></td>
</tr>
<tr>
<td>Outsourcing particular areas</td>
<td></td>
</tr>
<tr>
<td><strong>Revenue and fare</strong></td>
<td></td>
</tr>
<tr>
<td>Increasing the role of cargo</td>
<td></td>
</tr>
<tr>
<td>Revenue from alliance/codeshare partners</td>
<td></td>
</tr>
<tr>
<td>Travel policy agreements</td>
<td></td>
</tr>
<tr>
<td>Commission-based components</td>
<td></td>
</tr>
<tr>
<td>Driving more sales through your website</td>
<td></td>
</tr>
<tr>
<td>Simplifying fares</td>
<td></td>
</tr>
<tr>
<td><strong>Product</strong></td>
<td></td>
</tr>
<tr>
<td>Increasing product differentiation</td>
<td></td>
</tr>
<tr>
<td>Enhancing quality to premium passengers</td>
<td></td>
</tr>
<tr>
<td>More emphasis on longer-haul flights</td>
<td></td>
</tr>
<tr>
<td>Greater reliance on connecting passengers</td>
<td></td>
</tr>
<tr>
<td>Maintaining premium cabins</td>
<td></td>
</tr>
<tr>
<td>Frequent flyer programmes</td>
<td></td>
</tr>
<tr>
<td><strong>Marketing</strong></td>
<td></td>
</tr>
<tr>
<td>More effectively targeting chosen market segments</td>
<td></td>
</tr>
<tr>
<td>Building value through customer relationship management</td>
<td></td>
</tr>
<tr>
<td>More effectively segmenting each market</td>
<td></td>
</tr>
<tr>
<td>Leveraging brand strength</td>
<td></td>
</tr>
<tr>
<td>Effectively meeting the needs/requirements of customers</td>
<td></td>
</tr>
<tr>
<td>Increasing advertising</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
</tr>
<tr>
<td>Pursuing mergers and acquisitions</td>
<td></td>
</tr>
<tr>
<td>Joint-purchasing agreements with alliance members</td>
<td></td>
</tr>
<tr>
<td>Equity investments in other airlines</td>
<td></td>
</tr>
<tr>
<td>Diversifying</td>
<td></td>
</tr>
<tr>
<td>High market share in markets with LCC competition</td>
<td></td>
</tr>
<tr>
<td>Creating a LCS</td>
<td></td>
</tr>
<tr>
<td>Ability of management to quickly introduce changes</td>
<td></td>
</tr>
</tbody>
</table>
There are various techniques that could be employed to analyse the degree to which these 37 competitive responses are worthy of being pursued for implementation, and thereby evaluating and ranking them. These include ascertaining a weighting for each response and getting each sampled network airline to assign rankings, or scores, to both the importance and difficulty of them. The end would then be the weighting multiplied by the ranking for importance minus the weighting multiplied by the ranking for difficulty. Another option would be the ‘success probability-attractiveness’ matrix, which is a strategic analysis tool. This would require the determination of whether each competitive response has a high or low probability of success and a high or low attractiveness, so enabling the positioning of each response into one of four quadrants. The end result would clearly identify those resources which are more and less worthy of being implemented. However, this would yield imprecise results within the four broad quadrants.

For this research, however, a different approach to analysis was taken because this would be more comprehensive, precise, and effective for airlines. It outcome also forms the basis of the determination of strategic capability (see Chapter 5.3.2). The starting point of the analysis was the collection of data from the questionnaire surveys with the 22 network airlines in terms of the 37 competitive responses that may be utilised by them in trying to compete with LCCs. For this, 74 questions were asked. Of these 74 questions, 37 questions were asked on the level of importance placed by each airline on each of the competitive responses, with the level of importance reflecting the degree to which each response may enable the airline to compete effectively with LCCs. In addition, 37 questions were asked concerning the level of difficulty each network airline considered each of the competitive responses to be, with the level of difficulty reflecting the degree of constraint felt while implementing specific response strategies. The level of importance and difficulty for each competitive response was measured using a five-point Likert scale. For the level of importance, the options were: very unimportant to implement; unimportant; neither unimportant nor important; important; and very important. For level of difficulty, the options were: very difficult; difficult; neither difficult nor easy; easy; and very easy.

The collected data were then used to find the mean result for the level of importance and difficulty for each specific response across all surveyed Asian network airlines. This enabled the ranking of each of the 37 responses on an ordinal basis, with ordinal ranking for competition within an aviation context used by O’Connell and IATA (2007). Ranking is a
very useful tool as it assists in identifying problems and preferences, and it can help in identifying which responses to pursue and to avoid. For example, is increasing labour productivity more important for network airlines than increasing aircraft utilisation? Is increasing product differentiation more difficult to undertake than increasing the emphasis on longer-haul services, for example beyond the reach of LCCs? Each competitive response category could also then be ranked by importance and difficulty. For example, are revenue-based competitive responses more important than cost and rationalisation responses? The survey findings also enabled the identification of how the importance and difficulty of responses varied by individual airline and any clusters of airlines, while determining how they vary by Asian sub-region. For example, are there any responses across all three sub-regions that are consistently more or less important or difficult? Are productivity-based competitive responses, for example, more important in one sub-region in Asia than in another?

Finally, this data were used as the foundation for helping to determine which responses Asian network airlines should consider pursuing and which they should consider avoiding based upon their perceived importance, difficulty, likely effectiveness, and potential sustainability, and the degree to which Asian network airlines are capable of competing with LCCs (see chapter 5.3.2).

5.3.2 Analysis: the strategic capability of Asian network airlines

For this research, it is vitally important to establish how effective the sampled 22 network airlines are at competing with LCCs. This then enables comparison between airlines through benchmarking. This may be established through SWOT analysis; best practice analysis; value chain analysis; analysis of key performance indicators; and peer benchmarking. However, none of these would be particularly suitable for ascertaining strategic capability because they would not consider competitive responses and how important and difficult they are to implement.

Johnson et al. (2005) stated that strategic capability concerns the adequacy and suitability of the resources and competencies of a firm for it to survive and to prosper. Teece et al. (1997) identified that strategic capability is the primary driver of competitive advantage because
when management reconfigures their resources and operational routines they may obtain maximum returns.

For this research, the determination of the strategic capability of each Asian network airline indicates the degree to which they may be capable of competing with LCCs. The process of ascertaining strategic capability concerns the application of a methodology developed by O’Connell and IATA (2007, p.298), who sought to “to provide a methodology which measured the capability of how much each full service airline could respond to low cost carriers and compare each airline’s response strategy.”

O’Connell and IATA (2007) established that the strategic capability of each network airline is ascertained by the competitive responses that it deems important to implement in competing with LCCs subtracted from the level of difficulty that each airline faces in implementing them. The starting point was the collection of data from the surveys regarding the 37 competitive responses that may be utilised by network airlines in trying to compete with LCCs and the 74 questions on them. The airline with the lowest average score for difficulty was classified as the benchmark airline, for they had the least difficulty of all sampled airlines in implementing the competitive responses. Benchmarking is the most common technique for airlines to improve performance (Francis et al., 2005), with benchmarking a means by which to strengthen competitive advantage (Mittelstadedt, 1992). The difference between the benchmark network airline and the other sampled airlines is statistically represented by the average deviance, as shown in Equation 1.

**Equation 1:** Calculation of average deviance for level of difficulty

\[
D_a = \frac{1}{n} \sum_{j=1}^{n} (x_{aj} - X_j) = \geq 0
\]

Where:
- \(D\) = Difficulty in implementing responses to compete with LCCs
- \(a\) = Each specific airline
- \(n\) = Number of competitive responses (in this instance, 37)
- \(x_{aj}\) = Ranking of j questions in survey (i.e. difficulties) for a specific airline
- \(X_j\) = Ranking of j questions in survey (i.e. difficulties) for the benchmark airline

Source: O’Connell and IATA (2007)
The network airline with the highest mean score for the importance of competitive responses in competing with LCCs was classified as the benchmark airline, as this carrier was the most effective in competing with them. The difference between the benchmark network airline and the other sampled airlines is statistically represented by the average deviance, as shown in Equation 2.

**Equation 2:** Calculation of average deviance for level of importance

\[
I_a = \frac{1}{n} \sum_{i=1}^{n} (y_{ai} - Y_i) = \leq 0
\]

where:
- \(I\) = Importance of responses to compete with LCCs
- \(a\) = Each specific airline
- \(n\) = Number of competitive responses (in this instance, 37)
- \(y_{ai}\) = Ranking of i questions in survey (i.e. importance) for a specific airline
- \(Y_i\) = Ranking of I questions in survey (i.e. importance) for the benchmark airline

Source: O’Connell and IATA (2007)

The strategic capability of each network airline is the difference between the average deviance of the responses that they each consider important to implement in competing with LCCs, and the average deviance of difficulty that each find the responses to be to implement. This can be seen in Equation 3.

**Equation 3:** Calculation of strategic capability

\[
S_a = I_a - D_a
\]

Source: O’Connell and IATA (2007)

It is important to note that if the same network airline is calculated as the benchmark for both \(D(a)\) and \(I(a)\), then \(S(a)\) is zero. If this is not the case, the airline with the least negative \(S(a)\) is the airline with the strongest strategic capability. It is this airline that will then be the new benchmark airline against which all others will be compared. The network airline with the greatest strategic capability will become the new benchmark and will be compared to all other airlines.
5.3.3 Analysis: product and organisational architecture

There are many ways of defining ‘business model’, with literature confirming that it normally comprises elements or pieces which combine to form the architecture of a firm. This is confirmed by Timmers (1998), who defined a business model as the architecture for a firm’s product, service, and information flows. Apel et al. (2006) showed that a business model describes the benefits offered and the sources of revenues. Rappa (2003, p.3) adds the concept of sustainability: a business model is “the method of doing business by which a firm can sustain itself.”

This research requires comprehensive analysis of a large number of elements of both LCS and their key LCC competitors to understand what underpins their business models, what drives their profitability or loss, and what explains their sources of revenues and costs. It also then determines how strong they are, their key sources of strengths and weakness, and how sustainable their individual strategies might be. Finally, it helps to identify on what they should focus to increase their competitiveness. Various methods enable the determination of how strong or otherwise a firm is, such as SWOT analysis, PESTEL analysis, and key performance indicators. But none of these are sufficiently detailed or analytical to thoroughly compare them. More detailed tools for business model analysis, such as object-orientated analysis and design, are not applicable to airlines and their idiosyncratic composition, so are less relevant. As such, this research uses the business model framework within an aviation context devised by Mason and Morrison (2008), whereby a business model is the consequence of a firm’s product and organisational architecture. This is highly appropriate for airlines because it has been devised with them in mind. However, a general product and organisational architecture model (POA), which could be applied to all firms, is shown in Figure 5.2.

For airlines, the POA is a means by which airlines may be consistently compared. This is by identifying the individual attributes that define airline business models, thereby enabling comparison and analysis of airlines and their competitive environments. A POA framework specific to airlines, which is comprehensively followed in this research, is shown in Figure 5.3.
Figure 5.2: A general product and organisational architecture framework

Source: Mason and Morrison (2008)
Figure 5.3: An airline-specific product and organisational architecture framework

Source: Mason and Morrison (2008)
Mason and Morrison (2008) show that the POA enables the analysis of the core attributes of the product architecture, for instance the elements of service that define an airline’s product relative to consumer preferences and competitors. These concern three categories: connectivity; convenience; and comfort. These three areas define the product against consumer preferences which impacts demand within specific competitive environments. The three areas are ordered according to the general fixed or avoidable nature of their costs. The POA also enables the analysis of organisational architecture, for instance the vertical structure, production, and distribution of the airline. An airline’s organisational architecture is ultimately based upon, and is influenced by, its core product bundling.

Mason and Morrison (2008, p.75) indicate that “both product and organisational architecture contribute to the creation and sustainability of profits.” Given this, POA analysis is an important means of understanding what explains an airline’s costs, revenues, and complexity, and how they interplay to achieve profitability. POA analysis is therefore important in evaluating the potential sustainability of airline business models. This research uses the POA framework to identify the sources of advantage and performance of LCS between themselves and against their key LCC competitors, their similarities and dissimilarities, and ways for LCS to improve relative to their key LCC competitors. This is especially important given the typically underperforming nature of LCS (see, for example, Pearson and Merkert, 2014; Gillen and Gados, 2008; and Morrell, 2005). The usefulness of LCS may therefore increase for their network airline parents, and this may help to strengthen network airlines and to improve their performance.

The POA methodology used in this research uses benchmark metrics as attributes. Mason and Morrison (2008, p. 77) show that “by developing separate indices for different elements in the business model the interaction between the items and the importance of each item to the overall performance of each airline can be more easily identified and their impact on the overall [financial] performance assessed.” The POA model consists of eleven indices: profitability; cost drivers; revenue achievement; connectivity; convenience; comfort; distribution/sales; aircraft productivity; labour productivity; airport attractiveness; and market structure. Each of these eleven indices contains a number of benchmark attributes, with a total of 36 identified by Mason and Morrison (2008). Table 5.7 summaries the indices and attributes used in this research, and it provides data sources and a justification or description or both of the inclusion of each attribute. It is important to note that Mason and Morrison
(2008) developed the POA and its specific indices and attributes for use in comparing LCCs with similar sector lengths. However, O’Connell and Heinz (2013) indicated that the indices and attributes may be adapted or removed as necessary to reflect analysis of network airlines, other business models, or specific geographic regions. They may also be removed or changed in response to the unavailability of appropriate data. In this research, the “airport attractiveness” index has been omitted because of the lack of secondary airports in the three Asian sub-regions, while various attributes have been excluded typically from a lack of data, including operating revenue per sector (within the revenue index); baggage services as a measure of service quality by this metric (within convenience); and the number of passengers per flight and cabin crew (within comfort). Conversely, new attributes have been added, including the mean number of seats within operated aircraft, seating density, and load factor. Given these changes, the POA for this research is based upon ten indices and 27 product and organisational attributes.
<table>
<thead>
<tr>
<th>Index</th>
<th>Benchmark attribute</th>
<th>Data source</th>
<th>Justification/description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability</td>
<td>Operating margin (%)</td>
<td>Annual report</td>
<td>Identifies overall success of airline by this aspect of performance</td>
</tr>
<tr>
<td>Cost</td>
<td>Cost per ASK ($ cents)</td>
<td></td>
<td>Summarises cost position of airline</td>
</tr>
<tr>
<td>Revenue</td>
<td>Revenue per ASK ($ cents)</td>
<td></td>
<td>Summarises revenue position of airline</td>
</tr>
<tr>
<td>Mean fare paid ($)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>Departures per airport per day</td>
<td>AirportIS</td>
<td>Measure of network density</td>
</tr>
<tr>
<td>Number of routes offered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All destinations available at airports served</td>
<td>OAG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convenience</td>
<td>Mean weekly frequency per route</td>
<td>AirportIS</td>
<td>Measure of convenience</td>
</tr>
<tr>
<td>Airport location: distance from nearest population centre (km; mean)</td>
<td>Google Maps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punctuality</td>
<td>Mean weekly frequency per route</td>
<td>Flightstats</td>
<td>On-time departure within 15 minutes of scheduled</td>
</tr>
<tr>
<td>Comfort</td>
<td>Passengers per flight (mean based upon average mean seating)</td>
<td>Annual report</td>
<td>Measure of comfort quality</td>
</tr>
<tr>
<td>Economy seat width (inches) (on most populous aircraft)</td>
<td>Seatguru</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economy seat pitch (inches) (on most populous aircraft)</td>
<td>Seatguru</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>Internet distribution (%)</td>
<td>Annual report</td>
<td>Measure of cost-effectiveness and simplificity of distribution</td>
</tr>
<tr>
<td>Aircraft</td>
<td>Utilisation (aircraft hours per 24 hours)</td>
<td>ASCEND</td>
<td>Measure of fleet productivity and highlights airlines with longer sectors</td>
</tr>
<tr>
<td>Sectors per day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of seats (mean)</td>
<td></td>
<td>Airfleets.net</td>
<td>Measure of comfort and potential for unit and seat costs</td>
</tr>
<tr>
<td>Most populous aircraft in fleet (%)</td>
<td>CAPA</td>
<td></td>
<td>Implications for maintenance</td>
</tr>
<tr>
<td>Seat density of maximum permitted (%) based on most populous aircraft</td>
<td>Airfleets.net</td>
<td>Measure of seating density</td>
<td></td>
</tr>
<tr>
<td>Load factor</td>
<td></td>
<td>Annual report</td>
<td>Measure of number of seats filled with fare-paying passengers</td>
</tr>
<tr>
<td>Labour</td>
<td>Passengers per employee</td>
<td>Annual report</td>
<td>Measure of employee productivity</td>
</tr>
<tr>
<td>Employees per aircraft</td>
<td></td>
<td>Annual report</td>
<td></td>
</tr>
<tr>
<td>ASK per employee (’000)</td>
<td></td>
<td>Annual report</td>
<td></td>
</tr>
<tr>
<td>Market structure</td>
<td>Median HHI (seats)</td>
<td>AirportsIS</td>
<td>Measure of competitiveness of the markets in which each airline operates. The HHI ranges from 0 to 10,000 with 10,000 being a perfect monopoly</td>
</tr>
<tr>
<td>Average HHI (seats)</td>
<td></td>
<td>AirportsIS</td>
<td></td>
</tr>
<tr>
<td>Average number of competitors per market</td>
<td>AirportsIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity share of seats (%)</td>
<td></td>
<td>AirportsIS</td>
<td></td>
</tr>
</tbody>
</table>
The methodology used to calculate the relevant benchmark attributes for each analysed airline was based on best-in-class whereby each airline was scored in relation to the best-in-class airline for each specific attribute. The approach taken follows that of Mason and Morrison (2008), whereby two calculations of best-in-class were used depending upon whether the best-in-class attribute was the lowest or highest value. For example, the lowest value represents the best-in-class for the cost-per-ASK attribute, while the highest value represents the best-in-class for the punctuality attribute. Where it was not always clear whether the best-in-class value was the highest or lowest, judgement by the researcher was taken based upon the Asian context and the approach taken by Mason and Morrison (2008). Equation 4 and Equation 5 provide the calculations of benchmark attributes for individual attributes.

**Equation 4:** Calculation of benchmark attribute where highest value is best-in-class

\[
Benchmark \ Ratio = \frac{Airline's \ Performance}{Best \ in \ class \ performance}
\]

Source: Mason and Morrison (2008)

**Equation 5:** Calculation of benchmark attribute where lowest value is best-in-class

\[
Benchmark \ Ratio = \frac{(Worst \ in \ class - Airline \ performance)}{(Worst \ in \ class - Best \ in \ class)}
\]

Source: Mason and Morrison (2008)

Equation 4 indicates an individual airline’s performance as a fraction of the best-in-class, with the best-in-class achieving a score of 1.0. Equation 5 positions an individual airline on a scale from the best-in-class airline to the worst-in-class; the former will achieve a score of 1.0 and the latter 0. An airline with a score of 51%, for example, positions the airline 0.51 along the continuum from worst to best, while a score of 17% positions the airline 0.17 along it.

After each benchmark attribute for each airline was calculated, the results were amalgamated to calculate the overall index. The initial task was the calculation of weights for each benchmark attribute as certain attributes in the index were of higher significance than others. Following Mason and Morrison (2008), the weights are based upon the correlation of each benchmark attribute with profitability. The values of these weights varied from 0 to 1, with 1 being the greatest weight. Using this weighting, each index was calculated using Equation 6.
**Equation 6:** Weighted index score calculation

\[
Weighted \, Index \, Score = \frac{\sum_{i=1}^{n} \omega_i x_i}{\sum_{i=1}^{n} \omega_i} \quad (Where \, \omega \, is \, the \, weight \, and \, x \, the \, benchmark \, item \, score)
\]

Source: Mason and Morrison (2008)

The final index score was then calculated as shown in Equation 7, with this relating each airline to the best-in-class in terms of the specific area of analysis, for example cost, revenue, or profitability.

**Equation 7:** Final index score calculation

\[
Final \, Index \, Score = \frac{\text{(weighted score)}}{\text{(best weighted score)}} \times 10
\]

Source: Mason and Morrison (2008)

After the final index scores for each individual airline have been calculated, the results are to be presented as kiviat diagrams. Figure 5.4 reflects an example of the output of the POA analysis in the form of a kiviat diagram, as provided by Mason and Morrison (2008, p.81).

**Figure 5.4:** Example of product and organisational architecture output
Kiviat diagrams provide a meaningful representation of the business models of the analysed airlines, with Chambers et al. (1983) finding that such diagrams are an effective way to display multiple observations. The kiviat diagrams were calculated using average index scores to compare different performance levels among airlines and business models. This enables the identification and examination of areas of weakness and strength and what may explain these. This identifies the areas and attributes that the analysed airlines, but especially LCS, may wish to improve to increase their competitiveness. In addition, index scores are correlated with profitability to achieve an understanding of the areas that drive profitability for the analysed airlines. Those airlines that perform best in these areas are deemed to have sustainable business models as economic sustainability is driven by profit and continuous returns.

5.4 Summary

This chapter provided the selection criteria for the sampling of airlines to be used in this research, before detailing the means of data collection and the ways in which the data will be analysed.

From a target population of 87 airlines, 49 airlines across 17 countries within Asia formed the sample of this research. Airlines from Central Asia and the Middle East were excluded, with these 17 countries within South, Southeast, and Northeast Asia. The sample of 49 airlines comprises 22 network airlines, 11 LCS, and 16 LCCs.

A variety of means of data collection were employed in this research, each well justified in being undertaken. These include secondary data, particularly for background information, obtained from airline websites and annual reports and from industry databases and publications. For primary data collection, questionnaire surveys were carried out with all 49 sampled airlines, with these surveys especially used to establish the consequences of LCCs on Asian network airlines; competitive responses to LCCs; reasons for the creation of LCS; and the use by Asian network airlines of LCS. An Excel file was utilised alongside the questionnaire surveys as a means of collecting data on intangible resources. For this, participants were given a list of 36 resources and had to distribute 203 points across their selected seven resources according to the VRIN framework based upon the value of each selected resource to each airline’s performance. Face-to-face semi-structured interviews were
conducted with senior management from 12 Asian airlines, which comprised six Asian network airlines, four LCS, and two LCCs. Those who completed the questionnaire and interviews were from strategy, finance, business development, or commercial areas. Table 5.8 shows which questions were used from the questionnaire for each chapter and the subsequent form of analysis.

**Table 5.8: Questions used from the survey and the type of analysis for which they’re used**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Chapter title</th>
<th>Type of analysis</th>
<th>Questions used from the questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>Analysis and discussion: Interviews</td>
<td>Interviews</td>
<td>Not applicable as it is based on interviews (see 5.2.4)</td>
</tr>
<tr>
<td>7.0</td>
<td>Analysis and discussion: Sources of internal competitive advantage</td>
<td>VRIN analysis</td>
<td>Not applicable as it is based on data that was collected via a resource survey (see 5.2.3)</td>
</tr>
<tr>
<td>8.0</td>
<td>Analysis and discussion: The changing environment within Asia</td>
<td>Mean scores and rankings</td>
<td>1, 2, 3, 4, 5, 6 and 25, 26, 27, 28, 29</td>
</tr>
<tr>
<td>9.0</td>
<td>Analysis and discussion: The strategic capability of Asian network airlines to compete with low-cost carriers</td>
<td>Strategic capability analysis</td>
<td>7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17. Determination of perceived performance from 30, 31</td>
</tr>
<tr>
<td>10.0</td>
<td>Analysis and discussion: Competitive responses in competing with low-cost carriers</td>
<td>Importance and difficulty analysis</td>
<td>7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17</td>
</tr>
<tr>
<td>11.0</td>
<td>Analysis and discussion: Reasons for creating low-cost subsidiaries</td>
<td>Mean scores and rankings</td>
<td>19, 20, 21, 22, 23, 24</td>
</tr>
<tr>
<td>12.0</td>
<td>Analysis and discussion: Product and organisational architecture analysis of low-cost subsidiaries</td>
<td>POA analysis</td>
<td>Not applicable as it uses data that was derived from multiple secondary sources and not a questionnaire (see 5.2.1)</td>
</tr>
</tbody>
</table>

The use of data involved various means of appropriate, justified, and meaningful analysis, including the identification of the importance and difficulty of Asian network airlines implementing 37 potential competitive responses in competing with LCCs and the establishment of how capable each sampled Asian network airline is in competing with LCCs using strategic capability methodology. It also included the application of the product and organisational architecture model which utilised ten indices and 27 attributes to compare Asian LCS and LCS with LCCs to establish their competitive advantages and to examine how LCS may strengthen their strategies to be of greater value to their parent network airline owners. Table 5.9 provides a holistic order of the remainder of this thesis and how each chapter fits together and flows.
**Table 5.9: Justification of the order of this thesis**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Chapter title</th>
<th>Justification of order and demonstration of how they fit together</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>Analysis and discussion: Interviews</td>
<td>This chapter concerns competitive advantage and what impacts it within an Asian context in terms of both the internal and external perspectives</td>
</tr>
<tr>
<td>7.0</td>
<td>Analysis and discussion: Sources of internal competitive advantage</td>
<td>Given the identification of the above, the internal perspective is increasingly important in explaining competitive advantage. As such, this chapter looks specifically at those resources within Asian network airlines account for their competitive advantage</td>
</tr>
<tr>
<td>8.0</td>
<td>Analysis and discussion: The changing environment within Asia</td>
<td>Against the key sources of advantage for Asian network airlines, this chapter looks in detail when they may respond to LCCs; the impact of LCCs on them; and if and how customer motivations are changing. How strong are their advantages relative these developments?</td>
</tr>
<tr>
<td>9.0</td>
<td>Analysis and discussion: The strategic capability of Asian network airlines to compete with low-cost carriers</td>
<td>The growth of LCC activity within certain Asian countries has been exponential. And given the identified impacts of LCCs in the preceding chapter, precisely how good are Asian network airlines at competing with LCCs? What are their strategic capabilities in doing so?</td>
</tr>
<tr>
<td>10.0</td>
<td>Analysis and discussion: Competitive responses in competing with low-cost carriers</td>
<td>Now that the strategic capabilities of each surveyed Asian network airline has been demonstrated, this chapter looks at what specific competitive responses they should pursue or avoid based on their difficulty and importance of implementation</td>
</tr>
<tr>
<td>11.0</td>
<td>Analysis and discussion: Reasons for creating low-cost subsidiaries</td>
<td>Of the many competitive responses analysed in the preceding chapter, a crucial and growing response is the creation of LCS. As a result, this chapter comprehensively analyses why they are created and how they may benefit their network airline parents.</td>
</tr>
<tr>
<td>12.0</td>
<td>Analysis and discussion: Product and organisational architecture analysis of low-cost subsidiaries</td>
<td>Despite the high popularity of LCS in Asia, they are ordinarily perceived to perform ineffectively. Because of this, this chapter thoroughly analyses them in themselves and in comparison to their key LCC competitors to identify areas of improvement for greater competitiveness</td>
</tr>
</tbody>
</table>
6.0 ANALYSIS AND DISCUSSION: INTERVIEWS

The ability of one firm to compete with other firms will determine their likely success or failure, especially within competitive markets. This is particularly pertinent given the increasing competition for many network airlines within Asia, which is further supported because the achievement, let alone the sustainment, of competitive advantage is very difficult.

Based upon interviews conducted with six senior management from six Asian network airlines (see Chapter 5.2.4), Chapter 6 examines the sources of competitive advantage for Asian network airlines, the relationship between the internal and external environments within which they exist, and the potential consequences if internal environments do not adapt to changing external environments. This is based upon both the RBV, which concerns the internal perspective of firms and resources and capabilities, and the MBV of the firm, which involves the external perspective and factors which may influence competition and pricing (see Chapter 4.2 and Chapter 4.3).

6.1 How would you define competitive advantage?

There was unanimous agreement among the interviewees from Asian network airlines that competitive advantage is important to attain and to sustain. Abhijit Das Gupta, from Jet Airways, said:

“It’s the only thing that matters. If you have a competitive advantage, you do not always have to be the cheapest carrier. As long as we are able to extract this willingness to pay from the consumer, you can at least offer some portion of your inventory [for instance, seats] at a fare level that is higher than the competition.”

The importance of advantage is especially high because of the indefinite length of its existence, and it will seldom continuously exist irrespective of the source of advantage. Thus, James Hughes-Hallett, from Cathay Pacific, said that: “The lack of continuity effectively means: where do we see competitive advantage going in the future?” This concerns appropriately adjusting aspects of an airline’s overall composition in response to
competition, which indicates the need to renew and strengthen existing sources of advantage while identifying and adopting new sources of advantage. This confirms Collis (1998) who identified that firms must be proactive and adapt their strategies to reflect changing external environments and imperatives. That competitive advantage may not persist in one form is primarily because of the consequences of the changing external competitive environment. The finite nature of existing competitive advantage confirms Teece et al. (1997) who established the need for firms to possess dynamic capability to reconfigure resources in the face of changing external environments, so ensuring tighter strategic fit. Alok Singh, from Air India, suggested that:

“The fact is that others are growing and evolving so your competitive advantage is getting diminished to an extent. For example, on the distribution side we could have said five years ago that we had an advantage from it as we had a very large distribution through the travel agents. But today LCCs here have adapted and hybridised... [in this country] LCCs tend to do most of their business through agents, so that advantage [in terms of effectively targeting their core market segment] has blurred and reduced.”

The growing move towards the hybridisation of business models, whereby they increasingly move closer to the strategic middle ground away from clearly defined generic strategic positions, primarily by LCCs but also to a degree by network airlines, also accounts for the change in the source of advantage. Indeed, Bowman and Abrosini (2000) found that any shift in strategic position will ultimately modify, eliminate, or add product, operational, and organisational attributes. This will therefore change offered prices, degree of perceived added value and benefit, the extent of differentiation, and the level of the cost of production. As such, the source of advantage will change, even if marginally.

The interviewees showed that their competitive advantages derive not from what enables their products or services to be delivered, for instance resources and capabilities, and not explicitly from the external environments within which they operate. Instead, they believe that it is the outcomes of their resources and capabilities that enable them to achieve advantage. This is interesting because it somewhat contradicts the two schools of thought regarding the sources of advantage – the RBV and the MBV – and it suggests that what is their sources of advantage is directly influenced by both the internal and external
perspectives. Thus, there is the realisation that their sources of advantage could not exist but for the resources, capabilities, and overall market competitiveness and attractiveness. The concentration on the outcomes somewhat contradicts Barney (1991) and Hill and Jones (2009), for they found that each firm is a bundle of unique resources and capabilities, while Penrose (1959) found that it is these resources and capabilities themselves which provide the advantage, assuming that they are properly leveraged by managers.

Overwhelmingly, the primary source of competitive advantage for the interviewed airlines is their networks, for instance their accumulated markets, which, for them, provides passenger interconnectedness. It was found that their networks provide advantage from the strength of their network, which is determined from one, or some combination, of the following factors: their network’s geographic, and especially international, reach; well established presence in major metropolitan areas; feed opportunities; and the existence of strong and defendable core markets on which an airline has considerable presence. An airline’s network as a source of competitive advantage is somewhat confirmed by Nero (1999). By definition, network airlines are concerned, to varying degrees, with passenger interconnectedness. The presence of a stronger overall network may yield a competitive advantage, for Holloway (2008) suggested that a benefit advantage may be achieved if an airline offers higher customer-perceived benefits, of whatever form based upon willingness to pay, depending upon the costs incurred from providing it and the price able to be charged for it. It was found from the interviewees that an airline’s network is a crucial component of its ‘hard product’, with its ‘soft product’ being the service elements that it may offer. Liew Chee Khuan, from Malaysia Airlines, argued that:

“The competitive advantage from the soft product is being eroded from the younger generation and because of profitability crashes. More hard product is coming in, so this will be of greater focus.”

There was agreement among interviewees that the emphasis on the hard product may increase competitiveness. Malaysia Airlines said:

“Competitive challenges come from being very hard product driven. At the end of the day, it’s a seat. You have the best seat, it reclines, it’s the most comfortable, it has everything else in. Six months later, my competition has the same thing. So
distinctiveness is not really in the hard things, e.g. the aircraft type, the type of seat, the food that you serve. With the hard product, everybody is about the same, and there’s no advantage in that. This is especially the case with the increase in LCCs.”

This view is reflected in literature, for there is much belief that, despite attempts to differentiate, the airline product is, overall, a commodity. Indeed, Clark (2012) showed that this manifests itself in the growing role of price as the key decision-making determinant in short-haul markets, and that customers nowadays have increasing power, both of which materialise from growing deregulation and new market entry. Thus, Vasigh et al. (2010) say that as LCC penetration increases, network airlines will likely become even more focused upon their hard product to try to at least attempt to achieve a price premium from increased differentiation, and this focus on the hard product may result in increased competitiveness.

Ianthe Aquino, from Philippine Airlines, suggested that “a combination of things enable competitive advantage,” which was echoed by most of the interviewees. Beyond network, other sources of advantage were indicated, specifically an airline’s branding; an airline’s soft product, for instance how the airline interacts with customers and the experience of consumers, because this may mean a premium can be charged; and offering some aspect of product or service that is notably and memorably different. This difference may come from the perspective of service, and Malaysia Airlines said:

“The inherent competitive advantage is when you come into the cabin and are treated as a person rather than a consumer giving me money. The personal touch becomes our advantage; that’s crucial and will separate us.”

Irrespective of whether an advantage is derived from a product or service, Michael Burke, of Hong Kong Airlines, stated that “if you have a USP, advantage comes from the maximisation of the USP. If you don’t have a USP, it’s a challenge.” The degree of challenge from not possessing a USP, or one that is sufficiently strong and able to withstand competitive challenge, depends upon the external environment within which the airline exists. Hong Kong Airlines further added:
“There are an awful lot of very successful companies, maybe not in aviation but in other industries, who are successful despite not having a USP purely because of the market environment or other conditions.”

While an airline may have overriding sources of advantage, it was found that advantage may also be market-specific: what provides an advantage in one market might not in another. Thus the need to ensure appropriate and sufficiently strong advantages in all served markets. This multifaceted approach goes together with an airline’s advantage and the strength of it being influenced by the intensity and nature of competition, with Philippine Airlines indicating that “we have to position ourselves against that”. Indeed, irrespective of the sources of advantage, it was accepted that achieving and sustaining advantage may be more difficult for some airlines than for others, although this depends upon the specific context. Raj Sivakumar, from Jet Airways, said:

“Smaller airlines may be at a disadvantage in achieving and sustaining competitive advantage, with this necessitating extra thinking. You either give up and close the business because your competitors are enormous, or you find your niche. It’s the case of slowly creating a niche in a market which you own and then expanding.”

Thus, the sources of advantage – whether network, branding, soft product, or simply offering something different – should be viewed in the context of a defendable niche, without which the advantage may diminish in significance, effectiveness, and sustainability.

6.2 Are you able to derive advantage from the external environments within which you exist?

There was considerable uncertainty as to whether Asian network airlines could achieve advantage directly from the external environments within which they operate, with most believing that it is difficult to do so. This confirms Rose (2012) who argued that airlines, in deregulated or at least more liberal environments, increasingly face considerable competition, with many direct consequences which undermines performance and market attractiveness. In particular, more liberal environments resulted in new market entry and heightened competition; increased importance of price as a decision-making determinant; a growing role of value-for-money; excess output; and often failing to meet the expectations of all served
market segments. These have resulted in lower yields but also the inability to reduce costs or to increase productivity to offset it.

Given that the interview questions concerned short-haul markets and economy class, this is primarily in terms of LCCs, and all the interviewed network airlines face considerable LCC competition within their short-haul markets. Despite the difficulty in attaining advantage, they strongly believed that the competitive environment may strongly influence them in achieving advantage. This is because the degree, nature, stage of existence, and strengths of their competitors encourage them in what they do and how they do it; it acts as a tool by which to contemplate what to do, what to become, and how to achieve it. Philippine Airlines said: “It makes us think: what is the best we can do with the resources that we have?” This is somewhat aided by network airlines not growing as quickly as LCCs, often deliberately from an inability to afford growth. The shallower growth of network airlines confirms Gillen (2006), and their general inability to afford growth, partly from high debt-to-equity or poor profitability, confirms Morrell (2013), although it does vary by individual airline. Where they do grow, interviewees found that it must be strategic and worthwhile and not for the mere sake of growing. This challenges the long-held belief that network airlines are, to a certain degree, based upon ‘bigger is better’.

Hong Kong Airlines said that:

“We were two companies as one stuck in the middle. The growing competitiveness in Hong Kong meant that we had to get out of the middle of the road or we’d get run over. We had the advantage of not having to go up or down market: we could do both. They are going their way with a clear low-cost strategy, but that’s only going to work overall for the group if Hong Kong Airlines moves up by a similar distance.”

The achievement of advantage is particularly in terms of ensuring that they concentrate only on what they are effective at while maximising the strength and benefits from what their key competitors cannot realistically do or simply do not do. Thus, the interviewed airlines especially leverage their frequent flyer programmes; premium classes; core markets; develop stronger relationships with third-party distributors; especially focus on international and long-haul reach beyond the approximately four-hour range of LCCs and the passenger feed that is provided therefrom; leverage the belly-hold capacity of their aircraft to supplement passenger
revenue; and seek to increase penetration into the higher-yielding business traveller market. That these are ultimately designed to increase revenue is interesting given the regularity with which airlines discuss the need to reduce costs and to improve efficiency and productivity in competing with LCCs. However, Wong (2003) found that longer-term responses by network airlines to LCCs are likely to involve both revenue and cost counterstrategies, although Pettus (2003) found that profitability may be achieved in any industry in crisis without cost-cutting depending upon the allocation and usage of resources and competencies. Nevertheless, Franke (2004) indicated that it is often cost reduction and productivity improvement that is mentioned.

Of all interviewees, only one mentioned the external environment influencing them to rationalise costs, and Air India said: “You have to rationalise your costs. That’s the only way for you to have an advantage versus the bigger carriers and to reduce your disadvantage versus LCCs.” This is primarily in terms of fleet uniformity; right-sizing aircraft to demand, so increasing load factors and strengthening yields; utilising aircraft on sector-lengths for which they were designed; reducing commissions paid to travel agencies; and ensuring an optimal balance of premium seats relative to demand.

How the external environment makes them respond and change may be complicated if there are objectives beyond a commercial nature. Malaysia Airlines said that, for them:

“LCCs have a large penetration but we are reacting too. We are reacting in the sense that we recognise that it’s not about load factor. It’s actually about your presence. You’re looking to command a certain percent of the market.”

Indeed, state-owned airlines, in particular, ordinarily have non-commercial objectives, and Doganis (2006) identified that these may undermine response strategy. Yet Birkinshaw et al. (2007) found that responding to LCCs should be based upon an airline’s commercial objectives and its resources and core competencies. Meanwhile, Markides (2006) acknowledged that many airlines, and firms in general, do not necessarily respond to increasing competition by strengthening their competitive advantage which undermines their ability to compete and their existence.
6.3 What do you think the role is of internal resources in achieving competitive advantage?

Barney (1991) and Prahalad and Hamel (1990) argue that resources play a vital role in the achievement of competitive advantage. This is based upon identifying, developing, protecting, and deploying resources in a manner to attain sustainable competitive advantage and a greater return on capital. The deployment of resources is crucial, for resources are not in themselves valuable or productive but rather enable a firm to perform particular activities within specific markets. Thus, resources significantly contribute to determining an airline’s competitive strategy, value-creation, the offered value proposition, and its costs, revenues, complexity, and ultimate performance.

The interviewees showed that the primary objective of most Asian network airlines is to achieve and to maintain profitability, for otherwise, as they acknowledged, they will lose money and their risk profile and interest rates will increase. This will clearly make their entire existence much more challenging. This challenge will be increased following developments in their external environments.

All interviewees agreed that the role played by internal resources in the achievement of competitive advantage is significant and is the case irrespective of the age of the airline or its annual growth rate. They agreed that advantage should, at least theoretically, lead to some form of higher performance, but admitted that it may be especially challenging for airlines. This is partly because they believe that the external environments are directly influencing the internal perspectives, with the external environments nowadays less conducive to protectionism from growing deregulation, so growing the role of internal resources to try to influence, or to further strengthen, any form of advantage. Hong Kong Airlines said:

“There is huge competition everywhere now and that’s a great thing. So of course it is all about the optimal allocation of scarce resources. That’s what life is about, that’s what the industry’s about, that is what airlines are about. There is never enough aircraft or destinations or time or people or money.”

It is also because it was felt that certain resources can be both advantageous and a hindrance depending upon the specific situation. This is especially the case for government ownership
in airlines and the stability of governments in terms of their requirements from and involvement in the aviation industry and imposed regulations. However, the consequences of such resources were felt by most interviewees to be negative for network airlines in terms of achieving advantage vis-a-vis potential new entrants. Borenstein (1992) identified that whether government ownership is counterproductive or not depends upon its type and the degree of intervention. However, literature typically concurs that government ownership is counterproductive in achieving advantage and in competing. This is because state-owned network airlines, whether wholly or majority owned, are ordinarily comparatively bureaucratic, have no clear strategy, have poor service, are overstaffed, and have high costs and relatively low efficiency (Lopez-Bonilla and Lopez-Bonilla, 2008). It is these factors, combined, that mean that they are typically inert and cannot respond in a timely and appropriate manner to competitive challenges.

Air India said:

“While the government ownership is certainly very stabilising and the government is there as a lender of last resort, in the service sector now it is recognised that it is not very easy for a government-owned entity to react as quickly to market conditions... to have the kind of operating structure, the kinds of efficiencies, the kinds of work practices that new players have, the kinds of benefits and pension obligations. It’s a disadvantage for us.”

Philippine Airlines said of internal resources: “It’s hugely important because these are the assets you have. It starts with the aircraft and the crew, and after that a lot of it is human resources.” This indicates the perceived foundation of resources based upon the core of an airline to facilitate its existence; if these did not exist then little else could exist. The emphasis placed on the resource of people, in particular, was significant, with all but one interviewee stating that it is people, as a whole, who are most instrumental in achieving advantage because airlines operate within the service industry. The emphasis placed by the interviewees on human resources is confirmed by literature: despite the various physical resource categories of physical, human, organisational, and general, Wright (1997) suggests that managers find human resources to be a firm’s most important asset. From the interviews, it was established that the importance of human resources is not such in itself but for what may be achieved from it. This may confirm the belief in literature that
organisational decision-making may not reflect the perceived importance placed by managers on human resources (Wright, 1997). Given the perceived significance of people, Jet Airways said:

“So what we offer on the ground and in the air is crucial. Ultimately, how do we make sure we keep our staff engaged? Because they’re our brand ambassadors. Whether it is the agent at the airport or the cabin crew, we need to give clear guidance to them. We need to tell them where the company is headed. We need to make sure we incentivise them and reward them.”

It was found that the need to keep staff engaged is undermined by key customer-facing staff being diverse, regularly travelling (cabin crew and pilots), or being outsourced. Further, Malaysia Airlines said:

“Whether you can garner internal resources ultimately relies on the fact that, in the end, we’re a people company. There’s a herd mentality. We need a local champion we believe in, we trust, and then they’ll rally. People that are credible will garner the support. It’s not the airline per se that matters, but the person who shines that appeals to these people.”

Engagement, credibility, and local champions should contribute to the attainment of effective culture which, in turn, should help to achieve staff retention. Staff retention was considered by all to be a fundamental consequence of human resources and a key form of advantage for Asian network airlines. The significance of employee engagement and retention is much discussed in literature, with Lockwood (2007) showing that it has clear benefits for firms particularly in terms of productivity, loyalty, customer satisfaction, firm reputation, and greater stakeholder value. From the interviews and in terms of culture, it was pointed out that while effective organisational culture is expected in the West, in other environments, such as parts of Asia that are rapidly growing, it is less commonplace. Hong Kong Airlines said:

“We operate in very much a Western city. I think Hong Kong people think in a very American way, yet the company culture is very much mainland Chinese – because all the senior management are Hainan Group people. When you have a very
hierarchical pyramid company culture imposed upon a virtual Western workforce, you can see why we’ve had some of the issues that we have had as a company.”

6.4 Do you think the internal or external environments are better sources of competitive advantage?

While it was found that certain external environments may be conducive even for poorly run firms to survive, there was unequivocal acceptance that it is both the external and internal perspectives that – together – help to explain the sources of competitive advantage and the variation in firm performance. However, there was no agreement as to which of them is more significant, merely that they are both highly influential to varying degrees. Nowadays, there is greater emphasis on it being the RBV and not the MBV which accounts for the achievement of competitive advantage. Nevertheless, Porter (2008) found that both the internal and external perspectives are essential, for a firm may not possess the required resources and capabilities to compete in its chosen strategic position and the changing external environment may determine what must be done, or changed, internally. Indeed, Air India said:

“It has to be both: it can’t be either internal or external. The internal will certainly impact your performance, for example how efficiently you are able to do your business is going to impact your profitability, your market share, and everything else. But the external environment will also impact it. Right now we’re in the midst of a fare war in the domestic market... market access is going up... market access policies have become more liberal... FDI [foreign direct investment] in aviation in India will have bigger, stronger players coming in. That will impact us.”

It also depends upon which airlines are being compared, for Cathay Pacific said: “All being equal, if you are comparing two airlines in precisely the same geographic position it is the internal resources.” It also depends significantly upon the business models of the airlines in question and the specific aspect of the external environment. For example, Philippine Airlines said:

“For us, I would say the external environment is very, very important. It has a very big impact. We were banned from Europe. We could not sell anything out of Europe
and could not code-share. We were banned from multinational companies, e.g. HP, so employees didn’t fly with us; that’s a lot of lost business traffic. Because of the ban, I have six brand-new B777s doing regional flying but that’s not good, we need to right-size supply with demand. In the US we could only operate aircraft with tail numbers specified in your operations specifications, which are the B747-400s and the A340-300s which aren’t fuel-efficient on a seat basis. And of course the fuel price is the biggest overall problem.”

The above confirms literature which determined that whether the internal or external environments provide a sustainable competitive advantage partly depends upon the type and nature of both. In terms of the RBV, it depends upon the specific resources and capabilities a firm has, how these have been amassed, and how they are used. The internal and external environments may therefore provide the potential for competitive advantage.

It was found that the interrelationship between the internal and external perspectives is crucial, and that they ought to be considered both in isolation and in partnership. Malaysia Airlines said:

“Internally, there’s experience. Externally, there’s the competitive challenge. If you cannot harness the internal wealth that you have to... then you say I need to break the walls so I break the walls. The external’s there, so you say: guys, let’s change the shop.”

Indeed, it is how the internal resources and capabilities enable firms to respond properly to the on-going and changing challenges in the external environment which may determine advantage and performance. Cathay Pacific said:

“It’s the ability of the internal resources and the mind-sets to quickly adapt to the external perspectives that is going to drive profitability. We have got to recognise that we cannot overcome reality. Reality is what it is, and our ability to see what could come, to innovate, to react as quickly as you can, is going to determine the advantage and profitability.”
6.5 What is the role of managers in achieving and sustaining competitive advantage?

The interviewees identified that the achievement of some form of competitive advantage is influenced by the implementation of a strategy that is likely to be successful given the specific, albeit changeable, external environment and competitive dynamics. Clearly, the presence of strong strategy influences the ability of management to achieve and to sustain competitive advantage. This is confirmed by literature, with Holloway (2008) finding that firms should have competitive strategies which are founded upon and which leverage competitive advantages. Philippine Airlines said:

“For the strategy. The big thing is the strategy: does it filter through? There has to be a unified strategy by members of management. This is crucial to help us achieve advantage, and underpins everything else.”

It was found that management changes often negatively affect the perusal, attainment, and sustainment of competitive advantage, and may be counterproductive. This is primarily because they have new and different ideas of what should be undertaken and how. Philippine Airlines added:

“We’ve been through a lot of management changes. Every time when new management comes in there is a new initiative. Even just within the commercial group there are so many changes following the change of the head of commercial. Changing strategies and tactics cripples your operations. Without stable leadership, it’s like going back two steps.”

This was echoed by Jet Airways who said:

“They’re trying to do a lot of experiments. That’s a problem. They’re looking at it from the outside. I wish they’d stick with all the strategies that we have and not keep changing it.”

Beyond this, managers should be able to lead a workforce and a leader should also be able to manage, albeit to differing degrees as required by their primary role. The interviewees showed that the role of managers is fundamental to the achievement of competitive advantage...
and then to the renewal, strengthening, and development of it. This is confirmed by literature which found, overall, that managers are central to the achievement of competitive advantage irrespective of whether it is believed that it is the RBV or the MBV that enables competitive advantage. Amit and Schoemaker (1993) found that managers play a crucial role in identifying, developing, protecting, deploying, and adapting resources and capabilities, while Wit and Meyer (1999) found that being able to effectively analyse the external environments within which they exist, and to thereby identify sources which create advantage, is crucial.

The interviewees found that the importance of managers for competitive advantage is the case regardless of their level within an organisational structure and their specific duties. They determine which resources are required and acquire them. They are the coordinators of activities and resources which will then be utilised and manipulated to achieve the offered product or service and value position and to achieve specific objectives. These should all give rise to specific advantages. Managers must therefore facilitate and not hinder the workforce. Given that it was previously identified that the interviewees found human resources to be of crucial significance, Malaysia Airlines said:

“Managers should be innovators, they should be motivators, they should be leaders. You enable them [employees] to do their job, you don’t do it for them. I believe in guiding them, I believe in shielding them from external sources within the company, and just letting them do their job.”

If strong leaders and managers buy into a strong vision, whether of an existing firm or a start-up, the above elements, when combined, may enable firms to overcome any inherent weaknesses. However, it is likely to have a limited period of effectiveness, and it is unlikely to persist ceaselessly. Speaking of his entire management experience, Michael Burke, of Hong Kong Airlines, said:

“You have a strong leader and managers who bought into the vision. You almost had a cult environment in the 1990s and 2000s where people were hugely committed to the cause and gave 110%. They were being paid less than usual. The “other elements” then can fill the pay gap. You could say we weren’t able to attract the higher calibre... but if you have people that are only 10% less good but are giving 20% more, on the whole you can catch up, you can succeed.”
Unlike in Western society, managers in parts of Asia, especially those connected with China, are less likely to inspire or to lead their workforce. Hong Kong Airlines said:

“In Hong Kong now, you have managers from the mainland who only know how to manage in one way. Leadership in a Western sense doesn’t exist. It’s not about inspiring but measuring punctuality and other performance. It’s all very much hierarchical and by the numbers. You see engagement levels and motivation levels are nowhere near as high as they could be, which is a real shame.”

The role of managers was found to be especially significant during periods of change, particularly following competitive developments within the external environment. This is because they control the entire processes. Philippine Airlines said:

“Managers are extremely important because they are the people that can bring about change. They are the people that can sell the idea to the owners, the government, and the outside world that you need to have a different way of doing business. They are the people that will be able to sell that and get buy-in, as far as the external environment is concerned. The management has to show the leadership and go forward with what changes are required.”

6.6 How important is an effective strategy and effective tactics in response to significant short-haul competition?

The problems posed by LCC competition to Asian network airlines is at times significant. This is confirmed throughout literature, including Gross and Schroder (2007). It has also contributed to changing the traditional mind-set of certain segments of the overall market on which network airlines once greatly relied: customer loyalty and, by implication, brand loyalty. This goes against the fundamental requirements of a differentiation strategy: offering additional benefits and greater value to attain some form of price premium from segments of the market which possess a higher willingness and ability to pay. Malaysia Airlines, said:

“In those days people would say ‘I’ll fly MAS no matter what’. Those days are gone. So today brand loyalty to me – especially in the ASEAN environment – and especially in the consumerisation of behaviour, and a lot of us are no longer brand loyal. I

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don’t believe in brand loyalty, and when there are significant shifts in the market you must respond to that. You cannot just allow it to happen because buying them back and getting them back will be a real uphill battle.”

It was unanimously agreed that it is vital for Asian network airlines to have both a clearly defined and implemented strategy and tactics that are flexible and which change according to specific competitive threats. Literature supports this, but irrespective of this Dutton and Jackson (1987) established that responses to competition must be based upon a firm’s core competencies or else response strategy will be undermined. The interviewees found that the need for effective plans was considered to be all-important, but they must also be realistic and they must always be based upon the scale of the challenges. This may represent a fundamental backdrop against which their existence may be measured. Jet Airways said:

“It is hugely important. We cannot shy away from the competition. India, especially, has become very prone to low-cost competition. We went through a period of denial that nothing is going to happen to us because these guys are still small, and then you wake up one day and say ‘oops, they are here to stay’.”

Effective strategies and tactics are based, in part, upon having the right people in place with the right abilities and resources. Hong Kong Airlines said: “You need managers with full control over the responses, otherwise your ability to change, to compete, to turnaround a poor-performing market [following competition] is so limited.” It also requires strong commercial orientation and exposure to market forces, for the existence of protectionism may impede effective responses to competition. Philippine Airlines, said: “I keep telling our head of external affairs that we’re now in a really competitive market. We have to get out of our stupid protective stance. We have to respond properly.” This is supported by Harbison (2014) who suggests that, at least in the longer term, protectionism has been particularly brutal for those protected.

While the realisation of the challenges faced was, for all interviewees, highly problematic, it also indicated, at least with hindsight, the imperativeness of using increasing competition as an opportunity to refocus and to strengthen themselves. Indeed, Andrew (1971) found that firms often do not respond to increasing competition by strengthening their competitive advantage from a preoccupation with competing or surviving. For airlines, this compounds
their uncertain and fluctuating financial situations. Given Porter (1985, p.xxi) established that “competitive advantage is at the heart of a firm’s performance in competitive markets”, it is clearly advantageous, albeit often very difficult, for them to maximise opportunities afforded to them by competing.

Malaysia Airlines said:

“From this, we’re now in the mode of how do we improvise? How do we innovate? How do we constantly get better? How do we do this while not losing our own identity? It is very easy to go and chase market share, it is very easy to go and offer low fares, but we have got to recognise that we will never have the cost base.”

The threat posed by growing competition typically results in Asian network airlines focusing more greatly on their core being, as a form of retreat-to-core, and often trying to further strengthen it. This typically concerns more thoroughly leveraging geographic position; core markets; feed opportunities; becoming more of a coordinated and effective hub-and-spoke operator; and more effectively managing their network through the use of adapted and updated systems. Air India indicated the degree to which they changed following growing LCC competition:

“If we have a clear edge in terms of the ability to get feeds and if we have strong presence in key overseas markets – let’s say the UK, USA, and the Far East – then we would like to leverage that. How have we done this? We moved to a proper banked hub structure for our network, and we moved from Mumbai to Delhi. It’s now a strong hub. We have also strengthened our core markets and have strategically decided that we must have presence. Take Delhi-Mumbai. We sit on slots and we now have flights on the hour every hour, which is a well-established positioning tool. We have a 20% share in the overall domestic market, but in core markets our share is higher.”

These strengths, and advantages derived therefrom, must then be effectively communicated to customers whenever possible.
6.7 How important is the ability to change strategy and tactics as necessary in response to a changing external environment?

The ability to change and adapt as dictated by the nature of the external environment was considered by all to be a vital requirement. This was confirmed by literature, for Hall (1993) found the ability to manage change and the ability to innovate were among the most fundamental of intangible resources. This is despite any change to a firm’s external environment and internal resources and capabilities modifying its strategic position and in turn and to a certain degree modifying its value proposition, costs, revenues, complexity, and performance.

From the interviewees, it was found that it often depends upon the type of strategy that is in question. It was established that ‘directional strategy’ should not change, for this concerns the core upon which an airline will focus. This may be the type of model they follow, their products, and the market segments that they target and on which they focus. This is therefore their core being and should be based upon a sufficiently attractive opportunity. Literature assumes, if not explicitly states, that core direction remains broadly intact but that the composition of it, for instance aspects of revenue generation and costs, may change. Indeed, Wong (2003) found that, in response to competition, next-generation strategies and a significantly reformed business model may materialise only in the long-term when low-cost competition has been unhindered by previously implemented countermeasures. The significance of the opportunity should ensure airlines remain focused on their core, and Malaysia Airlines said:

“If that’s where the opportunity is, you stick your place in the ground and you fight it out. There’s no point saying ‘I don’t think it’s going very well, let’s do something else. Then you just wind up nobody and you’re going to fail. So this is my place and I’ll battle.”

The need to retain the core focus was shared by all because without this nothing else could exist. Thus, Air India said:
“Once you have formulated a strategy, you stick with it for some many years. Of course, some elements of the strategy need some degree of stability. If your strategy is to have a hub-and-spoke network, you can’t keep changing that every year.”

However, the interviewees established that aspects of strategy must be looked at depending upon how the market is changing and how the airline is performing. It is also in response to changing technology and opportunities to reduce costs or to better access or serve customers. Indeed, Collis (1998) found that firms must be proactive and adapt their strategies to reflect changing external environments and imperatives. It is this high strategic reorientation that will contribute to the achievement of higher firm performance. These aspects of strategy have to change, about which Malaysia Airlines said: “Once you stay that ground, the question then is: how do I protect and grow my ground? That is the only real strategy you should talk about.” The flexibility of strategic elements and tactics is therefore crucial, for it enables airlines to recognise and to respond to events that materialise. This should help them to find pockets of opportunity and to maximise limited benefits. Nevertheless, how airlines respond to the need for change from the external environments may be very difficult. The importance of pressure-testing strategies, through scenario planning, to determine what strategies can withstand is therefore clear. As Jet Airways said:

“What if the market drops? What if there is a new entrant? What if there is a product change with a competitor? Does our strategy withhold this stress? This is something we do all the time. Whether we do it right, whether we are always successful – of course not. But it would be foolish on our part to devise a strategy based on the market conditions as they exist today.”

6.8 In the face of external developments, to what degree do you rely on your resources?

There was certainty among respondents that Asian network airlines must more greatly leverage their resources as their external environment changes. Indeed, Nicodemus Lampe of Garuda Indonesia said: “In our experience, internal resources should totally support the strategy and tactics taken to accommodate external developments.” Literature established that any changes to the external environment will require changes to the internal environment, so realigning and improving strategic fit. Hence, Teece et al. (1997) showed
that a firm’s ability to adapt, renew, reconfigure, and recreate its resources and competencies to achieve a better equilibrium with its external environment, during periods of much competition, is crucial, while Eisenhardt and Martin (2000) indicate that this should help to achieve competitive advantage during fast and unpredictable change and when the competitive landscape changes.

However, it was found during the interviews that whether resources do or do not support the strategy is partly based upon the specific development and whether or not that change is potentially beneficial to them or a hindrance. Air India said:

“...It’s difficult to say. If our external environment changes, some aspects of that could well be in our favour. For example, the policy regime now permits FDI by foreign carriers in Indian airlines. But that policy excludes Air India. So maybe if that restriction was removed, and if the world is moving towards a regime where big is better and where ‘mega carriers’ dominate, then we may not need to adapt much internally. But we will need to rethink everything, including our internal side, if the Jet-Etihad partnership goes through as it may change the game for us.”

Despite the differing situations of when greater reliance on resources may be applicable, it was agreed that it is natural for resources to be adapted, updated, strengthened, or changed. This is particularly the case from an external development that may be negative for a firm. Interviewees found that a competitive response, of whatever form, will inevitably require some change to resources. Garuda Indonesia said that if this isn’t done “you’d be killed. You have to play with them, update them, change them, reinforce them.” Hofer and Schendel (1978) found that sustainable competitive advantage depends upon the equilibrium between a firm’s resources and capabilities and the changing circumstances of its external environment. Indeed, without a change of some form to resources, Hamel and Prahalad (1994) identified that current strategy may become obsolete and unable to withstand competitive pressure, so a reduction in firm performance.

The interviewees agreed that changes to resources typically concern leveraging human resources, a workforce and managers, for it is these which make the difference and which undertake the work. Jet Airways said:
“We have to better rely on our resources. We have no one else to leverage. Our staff, our human resources, they’re the best resources we have. These folks... we have a very diverse expatriate population at management levels. A lot of them have worked in other carriers, some of them come from other industries.”

In terms of human resources, it was found that incentivising, training, and further developing intra-firm relationships were the most significant. While Higgs and Renton (2003) showed that effective communication, a spirit of healthy competition, belief in the product, its price, and reward level appeared to be the key drivers of success, they found that incentives may increase sales but at the expense of teamwork and motivation. The interviewees found that incentives, training, and intra-firm relationships may not necessarily be straightforward, for in Asia as elsewhere politics may impede it and stop it. Philippine Airlines said:

“In sales, for example, we’re trying to incentivise our staff more and reward them for greater performance. Otherwise they’ll keep saying ‘you know what, you don’t care’. You compensate them according to performance. They should actually then help to increase our overall revenues.”

Training was found to be crucial, for it is this which helps to refine and to further strengthen techniques to respond appropriately to the external developments. A better-trained and knowledgeable workforce may act as a point of advantage among firms. Jet Airways said:

“Training, training, training. Training’s one aspect we’ve often overlooked. In airlines, you normally want to save on cost and they first target training and also advertising. This isn’t good. They’re too important. You should invest more in them.”

Training of whatever form was found to better enable stronger responses to external developments, but this will clearly not be instantaneous. In particular, it would help to leverage sales; the ability and awareness of opportunities in served and potential new markets; to promote their brands in a more effective manner; and to better manage costs.
Most interviewees believed that the leveraging and development of relationships is crucial and underpins most other actions. It should be progressed irrespective of whether the external developments are positive or negative. Malaysia Airlines said:

“No matter how many management books you read, it’s all about relationships. Relationships... drive a lot of businesses and a lot of things that happen in this part of the world. It is all relationship-driven. So maintaining and improving external stakeholder management becomes crucial and requires integrity on our part. If we see a company that promises but never delivers... people will think, ‘this isn’t right’. That relationship is then burnt."

Of all intangible resources, customer relationships (Gouthier and Schmid, 2003), organisational culture, and human capital have all been found to have an impact on firm performance (Michalisin et al., 1999; Hitt et al., 2001).

6.9 **If your external environment altered and your resources didn’t adapt, what do you think would happen to your competitive advantage?**

There was unequivocal acceptance among all interviewees that the failure to change or to adapt internal resources as the external environments change in some way would not only affect the ability to attain and sustain advantage but also risk the entire existence of their airline. Given this, and that Amit and Schoemaker (1993) showed that the failure to adapt resources may indicate that firms do not deliver adequate customer value from their resources being insufficient to develop value-creating strategies for their targeted market segments, the need for resources to change is crucial. The interviewees established that all relevant resources must therefore be assessed and put in place or they will not be able to meet the developing challenges. Indeed, Jet Airways said:

“It will eventually kill the company. There are enough stories across industries... Kodak, for example, they did not recognise the advent of the digital camera, and they have never recovered from that. There are enough horror stories about companies not recognising changes in the external environment and not changing to address them."
The rise of LCCs and the many consequences to network airlines from them was used by many of the interviewed airlines to indicate what may happen if changes in the external environment are not properly analysed and changes not made to counteract this. While acknowledging that the emergence and rise of low-cost competition need not be bad news for traditional firms, Ryans (2009) found that the dismissal of the threat, the underestimation of it, or inappropriately anticipating how it may evolve may have long-term and wide-reaching consequences. As Garuda Indonesia said:

“In the airline industry, there are numerous cases of innovation, LCCs are one, that others have failed to recognise and adapt to and paid a very, very heavy price.”

The threat of changes – and actual changes – in the external environment not only requires all relevant resources to be adapted, strengthened, or brought in as appropriate but also restructuring to take place. For interviewed airlines, many loss-making, this primarily concerns financial restructuring. This restructuring is a precursor for many airlines, for without it changes to resources may be undermined and competitive responses weakened. The ability to compete and to attain and sustain advantage may therefore be more difficult to achieve. Reflecting the views of many interviewees, Air India said:

“If we did not undergo financial restructuring, there would be no way we could continue with the external challenges. We are very highly leveraged. We have major challenges which are, and still are, so huge there’s no way we can be competitive unless we’re restructured.”

Dierickx and Cool (1989) indicated that the identification, development, and protection of resources may be difficult, expensive, and time-consuming. The interviewees found that while restructuring, reassessing resources, and changing resources as appropriate is clearly logical, it is made difficult by how network airlines are structured. This is the consequence of not only their specific strategies but also their longevity and their specific operating and regulatory environments. Malaysia Airlines said:

“Without changes to resources, you can’t respond. The challenge today is agility. Because of the structure of full-service airlines and the industry, you are often very hierarchical. When the external environment is changing, I cannot respond to it – operations stays where it is, likewise many other functions. But your commercial
team, strategic team... they have to be very fluid. You need a very agile organisation.”

6.10 Summary

This chapter examined the sources of competitive advantage for Asian network airlines, the relationship between the internal and external environments within which network airlines exist, and the potential implications if internal environments do not adapt to changing external environments.

It was found that Asian network airlines must strengthen their existing and primary sources of competitive advantage because they do not persist ceaselessly. They must also pursue new sources of competitive advantage in order to ensure continuity and adaptability and that their advantages reflect the changing environments within which they operate. The strengthening of existing advantages and pursuing new advantages is particularly pertinent given the changing external environments within which they often exist. Indeed, it was shown that external environments directly influence internal perspectives, and it is how the internal resources and capabilities are used to respond to changes in external environments which determines competitive advantage and performance.

Given increased competitiveness, it was established that both a strong strategy and stable leadership are crucial, and that the core strategy of network airlines should not change. Instead, their strategies must be sufficiently flexible to respond appropriately to competitive threats as they materialise; it is this responsiveness which may contribute towards the attainment of competitive advantage. The failure to respond to threats and to adapt to changing external environments does not just impede the competitive advantage of Asian network airlines but puts the entire airline at risk.

The establishment of these broad requirements leads to the examination of one specific area of competitive advantage, intangible resources, which is undertaken in Chapter 7.
7.0 ANALYSIS AND DISCUSSION: SOURCES OF INTERNAL COMPETITIVE ADVANTAGE

The theoretical framework (see Chapter 4.0) indicated the significance of the attainment and sustainment of competitive advantage for any firm, but especially those within highly competitive markets. Indeed, without sufficiently strong competitive advantage a firm has limited economic reasons to exist, and will decline. Given this, it is not surprising that there has been much interest in understanding the sources of competitive advantage for firms.

Competitive advantage derived from the internal environment is based upon the assumption that firm resources are heterogeneous; it is this that is at the heart of strategic management. Because of the idiosyncrasy of firm resources, determining a firm’s core resources is complicated but nevertheless crucial. Carmeli (2001) recognised that a firm will have only a small bundle of core resources, often five to seven, irrespective of its overall performance. It is the resources which meet all four requirements of being valuable, rare, hard to copy, and hard to substitute framework (see Chapter 4.4) that are considered to be strategic assets or core competencies because they are sustainable internal sources of competitive advantage.

Chapter 7 examines 36 intangible resources which include resources applicable to any firm and those specific to airlines. It ranks the 36 resources so that the importance of them is known. This chapter also establishes the core resource profiles for all 22 Asian network airlines, 11 LCS, and 16 LCCs. It then shows how the 36 resources vary by value, rarity, hard to copy, and hard to substitute for Asian airlines generally and by airline business model, before discussing the results for the top-three intangible resources in particular.

7.1 Overall rankings of all 36 intangible resources

The overall rankings of each of the 36 intangible resources as sources of competitive advantage for network airlines, LCS, and LCCs combined can be seen in Table 7.1. This is based upon the accumulated scores for each element of VRIN across all three business models. Table 7.1 therefore represents the rankings of intangible resources for all 49 surveyed airlines across Asia, and the rankings of resources for Asian airlines generally. That the resources in Table 7.1 (see Total \(\bar{x}\) scores) are ranked by their importance as sources of advantage means that resources which had fewer or even zero points are simply less
important in this context. Despite this, it could be that they are still important for an airline in different respects.
Table 7.1: Overall rankings of the 36 intangible resources for 49 Asian airlines as sources of competitive advantage

<table>
<thead>
<tr>
<th>Resource / Airline model</th>
<th>NA</th>
<th>LCS</th>
<th>LCC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Slots</strong></td>
<td>16.1</td>
<td>21.6</td>
<td>30.6</td>
</tr>
<tr>
<td><strong>Brand</strong></td>
<td>21.5</td>
<td>14.3</td>
<td>21.7</td>
</tr>
<tr>
<td><strong>Product/service reputation</strong></td>
<td>26.4</td>
<td>10.2</td>
<td>7.4</td>
</tr>
<tr>
<td><strong>Managerial competence/experience</strong></td>
<td>12.0</td>
<td>14.5</td>
<td>17.5</td>
</tr>
<tr>
<td><strong>Strategy and strategic goals/planning</strong></td>
<td>15.5</td>
<td>17.0</td>
<td>13.4</td>
</tr>
<tr>
<td><strong>Marketing/promotional activities/strategies</strong></td>
<td>15.5</td>
<td>7.3</td>
<td>17.1</td>
</tr>
<tr>
<td><strong>Aircraft leases</strong></td>
<td>12.0</td>
<td>14.5</td>
<td>17.5</td>
</tr>
<tr>
<td><strong>Stable leadership</strong></td>
<td>15.5</td>
<td>17.0</td>
<td>13.4</td>
</tr>
<tr>
<td><strong>Research and development</strong></td>
<td>15.5</td>
<td>7.3</td>
<td>17.1</td>
</tr>
<tr>
<td><strong>Strategic partners</strong></td>
<td>10.0</td>
<td>11.8</td>
<td>14.8</td>
</tr>
<tr>
<td><strong>Customer focus</strong></td>
<td>12.7</td>
<td>7.3</td>
<td>8.0</td>
</tr>
<tr>
<td><strong>Relationships with local/national governments</strong></td>
<td>11.4</td>
<td>4.5</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Ability to learn</strong></td>
<td>9.5</td>
<td>7.3</td>
<td>7.6</td>
</tr>
<tr>
<td><strong>Trained and experienced workforce</strong></td>
<td>4.6</td>
<td>6.5</td>
<td>9.4</td>
</tr>
<tr>
<td><strong>Business environment</strong></td>
<td>5.2</td>
<td>5.3</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Teamwork</strong></td>
<td>3.0</td>
<td>8.5</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>Distribution system</strong></td>
<td>3.1</td>
<td>9.6</td>
<td>12.3</td>
</tr>
<tr>
<td><strong>Quality standards/professionalism</strong></td>
<td>12.3</td>
<td>3.6</td>
<td>6.2</td>
</tr>
<tr>
<td><strong>Financial stability</strong></td>
<td>1.0</td>
<td>11.4</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>Decision-making capabilities</strong></td>
<td>1.8</td>
<td>6.0</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>Relationships with employees/suppliers, etc.</strong></td>
<td>3.8</td>
<td>5.0</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Trustworthiness/dependability</strong></td>
<td>4.5</td>
<td>7.8</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Organisational culture</strong></td>
<td>1.2</td>
<td>5.6</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Knowhow</strong></td>
<td>2.8</td>
<td>4.9</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Entrepreneurial capabilities</strong></td>
<td>0.9</td>
<td>3.4</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Organisational communication</strong></td>
<td>0.5</td>
<td>4.9</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Customer focus</strong></td>
<td>0.9</td>
<td>0.0</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Strategic partners</strong></td>
<td>1.4</td>
<td>0.0</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Research and development</strong></td>
<td>0.5</td>
<td>0.0</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Legal knowledge</strong></td>
<td>0.8</td>
<td>3.1</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Stable leadership</strong></td>
<td>1.4</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Aircraft leases</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Databases/information systems</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Intellectual property</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Managing principles/corporate governance</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Organising</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Supply contracts</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Technical expertise</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Training programmes</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**Total scores**: 198.1

NA = network airlines; LCS = low-cost subsidiaries; LCC = low-cost carriers

23 The overall resource ranking is based on all 36 resources and is irrespective of the business model and level of performance. It therefore applies to Asian airlines as a whole.

24 The higher the average resource total, the more important it is and the more emphasis has been placed upon it as a source of competitive advantage. Note that it may be affected by rounding.
From Table 7.1, the top-seven most important, or most emphasised, sources of sustainable competitive advantage for the 49 Asian airlines generally are slots (a total mean score 94.5); brand (91.1); product and service reputation (64.6); managerial competence and experience (63.2); strategy and strategic goals and planning (56.3); marketing and promotional activities and strategies (52.7); and bilateral agreements and traffic rights (46.2). While these core resources are obvious and predictable, and are therefore consistent with a priori beliefs, both from a general business and an airline standpoint, they have not previously been proven within the context of airlines, let alone from a narrower geographic or model perspective. Interestingly, the 36 resources rank similarly in total across all four elements of the VRIN framework (mean total score 199.1; standard deviation 0.6925), although it is curious that they score lower in total for value (198.1) than for any other VRIN element, with hard to substitute receiving the highest total marks (199.7). The contribution of these 36 resources to competitive advantage is therefore marginally more attributable to being difficult to substitute, with the comparative lack of value of these resources for advantage somewhat surprising.

In contrast to the core seven resources, some resources which logically should be important for firms, or which literature has suggested are important, received a resource score of zero or a comparatively low score, which suggests their relative unimportance as a source of advantage for Asian airlines generally. For example, technical expertise and databases of information, the latter potentially used for better-targeted marketing or the greater personalisation of services, at least for network airlines to try to increase yield and loyalty, both had a resource total of zero. Furthermore, stable leadership had a total of just 1.2 points against 94.5 for first-ranked slots, and research and development into new products or adaptions to existing products had 1.8 points and was ranked 26 out of 36 resources vis-à-vis ninth out of 22 by the non-aviation firms across disparate industries surveyed by Carmeli (2001). Despite the obviousness of organisational culture as a source of advantage, which has been much discussed in literature, this research found that it ranked 20 out of 36 for Asian airlines generally with a score of 12.1, and that is was nearly seven times less emphasised than slots. This result was relatively similar to relationships with customers, suppliers, and otherwise, which was ranked 18 with a score of 15.6. The greatest difference between this research and Carmeli (2001) is that Carmeli’s research found that knowhow was

25 Standard deviation concerns the variance of data among a mean, and standard deviation will be stated in this research if it is low or high or otherwise unexpected. This is because it may affect the reliability of the results.
the number-one resource, while this research identified that, for Asian airlines, it ranked 21. That Carmeli surveyed firms across various differing industries, but not airlines, may explain this, likewise the different geographic areas. However, the considerable variation of the importance of knowhow is nonetheless notable.

Unlike Table 7.1, Table 7.2 shows the top-seven core resources for network airlines, LCS, and LCCs. This is based upon accumulating all four elements of VRIN and all of the airlines surveyed from each model. Table 7.2 shows that each business model has a reasonably distinct bundle of core resources as the relative superiority of resources varies and there are different resources contained within each core bundle.

**Table 7.2:** Airline business models and their top-seven resources as sources of competitive advantage

<table>
<thead>
<tr>
<th>NETWORK AIRLINES</th>
<th>Mean resource score</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core intangible resources of all 36 irrespective of performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Product/service reputation</td>
<td>107.5</td>
<td></td>
</tr>
<tr>
<td>2. Brand</td>
<td>97.9</td>
<td></td>
</tr>
<tr>
<td>3. Slots</td>
<td>76.4</td>
<td></td>
</tr>
<tr>
<td>4. Strategy and strategic goals/planning</td>
<td>58.0</td>
<td></td>
</tr>
<tr>
<td>5. Marketing/promotional activities/strategies</td>
<td>57.5</td>
<td></td>
</tr>
<tr>
<td>6. Managerial competence/experience</td>
<td>49.5</td>
<td></td>
</tr>
<tr>
<td>7. Relationships with local/national governments</td>
<td>49.0</td>
<td></td>
</tr>
</tbody>
</table>

| LCS | |
|------------------|---------------------|----|
| Core intangible resources of all 36 irrespective of performance | | |
| 1. Slots | 92.7 | |
| 2. Brand | 75.1 | |
| 3. Managerial competence/experience | 69.8 | |
| 4. Bilaterals/traffic rights | 58.5 | |
| 5. Strategy and strategic goals/planning | 58.5 | |
| 6. Financial stability | 45.0 | |
| 7. Teamwork | 42.5 | |

| LCCs | |
|------------------|---------------------|----|
| Core intangible resources of all 36 irrespective of performance | | |
| 1. Slots | 121.0 | |
| 2. Brand | 92.6 | |
| 3. Managerial competence/experience | 74.6 | |
| 4. Marketing/promotional activities/strategies | 65.1 | |
| 5. Strategy and strategic goals/planning | 53.4 | |
| 6. Bilaterals/traffic rights | 46.5 | |
| 7. Trained/experienced workforce | 36.8 | |
7.1.1 Slots as a source of competitive advantage

Slots are a fundamental way by which airlines of all models may gain competitive advantage and strength. Indeed, slots received the highest score for value of all 36 resources, including for all two of three airline models, although it received higher scores still for being rare, hard to copy, and hard to substitute. The overriding significance of slots confirms Doganis (2006, p.25), who found that “airlines that control slots through grandfather rights will enjoy major competitive advantage.”

It is not at all surprising that slots are important for advantage given that they are – like access to adequate terminal facilities, aircraft stands, airport gates, and aircraft maintenance facilities – ordinarily an inherent ‘infrastructural’ requirement. Slots are often also a traditional requirement for market access, albeit to varying degrees. The significance of slots for the surveyed Asian airlines is because, like elsewhere, they materialise principally from a shortage of them at major and congested airports given high slot possession by incumbent carriers, so resulting in a significant barrier to entry and potentially a monopolistic and anticompetitive situation (Fu et al., 2011; Narangajavana et al., 2014). While slots are typically still available for other airlines, they are often at suboptimal times and will likely present a competitive disadvantage, of some degree, to the acquirer. This further strengthens the advantage of an airline with a considerable slot portfolio.

The emphasis by Asian airlines on slots may also be because of the shortage of alternative airports serving metropolitan areas within the continent, which confirms Halpern and Graham (2013) and Duval (2014) who showed that a severe shortage of attractive slots often exists at major airports in Asia. The presence of alternative airports was how a number of European and North American LCCs initially circumvented slot possession by incumbent airlines, together with operational, cost, and at times other financial advantages. This thus fuelled their growth and contributed towards their low-cost strategic positioning. The lack of alternative airports within Asia places a disproportionate degree of importance on slots, which is likely to increase if airport infrastructure is not expanded adequately given IATA’s considerable forecast traffic growth. The disproportionate importance of slots confirms Clayton (2010) and Hutchinson (2013) who found that passenger demand in Asia has often not been met with sufficient investment, hence continuing slot constraints and flight delays.
The possession of slots as a source of advantage is somewhat ‘artificial’ because it is derived not from internal ability or development – for example, as with a strong brand or quality, reputation, and culture – but from market dominance and market power. As such, even very unsuccessfully performing airlines, financially speaking, might be dominant in terms of slots. However, the possession of slots should lead to other sources of advantage as large-scale presence by airlines at highly trafficked airports may also achieve greater efficiency and a stronger negotiating position from a concentration of services (Havel, 2009). This may therefore further strengthen the overall advantage derived from the mere possession of slots.

Table 7.3 shows those network airlines, LCS, and LCCs which ranked slots as their overall number-one resource in the achievement of competitive advantage, with their score for slots showing the relative superiority of this resource across the 17 airlines. These 17 airlines represented 33% of all sampled airlines, meaning that a third of Asian airlines consider slots more important than any other intangible resource in achieving advantage. In Table 7.3, the scores for slots are the sum of their value, rarity, hardness to copy, and hardness to substitute. The high scores for slots derive from the fact that each sampled airline had to allocate 203 points across all seven chosen resources for each element of VRIN; they therefore had to allocate a total of 812 points, which if equally distributed among all seven resources would be 116 points each. It is therefore not surprising that a more important resource may receive a disproportionately high number of points vis-à-vis each airline’s other six resources.

For all 17 airlines within Table 7.3, slots were an average 24.2% more emphasised than the second-ranked resource. (In this context, ‘second-ranked’ means the accumulated score across the VRIN for each airline’s second highest-scoring resource.) While a function of the sample size for each model, 54.5% of LCS found slots to be their top resource in comparison to 41.2% for LCCs and 18.2% for network airlines. However, it is clear that all 17 airlines are primarily based at busy and congested airports, with mean passenger traffic of 49.3 million in 2013.
Table 7.3: Airlines which ranked slots as their number-one resource for competitive advantage

<table>
<thead>
<tr>
<th>NETWORK AIRLINES</th>
<th>The primary airport by total seats(^{26})</th>
<th>Airport passenger traffic in 2013(^{27})</th>
<th>Airline score for slots</th>
<th>Percentage of slots from second-ranked resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garuda Indonesia</td>
<td>Jakarta</td>
<td>59.7m</td>
<td>212</td>
<td>26.3</td>
</tr>
<tr>
<td>Philippine Airlines</td>
<td>Manila</td>
<td>32.9m</td>
<td>178</td>
<td>40.2</td>
</tr>
<tr>
<td>Air India</td>
<td>Delhi</td>
<td>36.7m</td>
<td>164</td>
<td>11.6</td>
</tr>
<tr>
<td>Air China</td>
<td>Beijing</td>
<td>83.7m</td>
<td>154</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>LCCS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citilink</td>
<td>Jakarta</td>
<td>59.7m</td>
<td>193</td>
<td>66.4</td>
</tr>
<tr>
<td>Jetstar Asia</td>
<td>Singapore</td>
<td>53.7m</td>
<td>178</td>
<td>19.5</td>
</tr>
<tr>
<td>Tigerair</td>
<td>Singapore</td>
<td>53.7m</td>
<td>177</td>
<td>22.1</td>
</tr>
<tr>
<td>HK Express</td>
<td>Hong Kong</td>
<td>59.9m</td>
<td>170</td>
<td>3.0</td>
</tr>
<tr>
<td>Jetstar Pacific</td>
<td>Ho Chi Min City</td>
<td>19.0m</td>
<td>162</td>
<td>4.5</td>
</tr>
<tr>
<td>Jin Air</td>
<td>Jeju</td>
<td>20.1m</td>
<td>159</td>
<td>13.6</td>
</tr>
<tr>
<td></td>
<td>LCCS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indonesia AirAsia</td>
<td>Jakarta</td>
<td>59.7m</td>
<td>280</td>
<td>110.5</td>
</tr>
<tr>
<td>AirAsia Malaysia</td>
<td>Kuala Lumpur</td>
<td>47.5m</td>
<td>240</td>
<td>29.0</td>
</tr>
<tr>
<td>Lion Air</td>
<td>Jakarta</td>
<td>59.7m</td>
<td>193</td>
<td>21.4</td>
</tr>
<tr>
<td>Spring Airlines</td>
<td>Shanghai/Pudong(^{28})</td>
<td>47.2m</td>
<td>185</td>
<td>1.9</td>
</tr>
<tr>
<td>Tigerair Philippines</td>
<td>Manila</td>
<td>32.9m</td>
<td>177</td>
<td>22.1</td>
</tr>
<tr>
<td>VietJet</td>
<td>Ho Chi Minh City</td>
<td>20.0m</td>
<td>157</td>
<td>1.3</td>
</tr>
<tr>
<td>Cebu Pacific</td>
<td>Manila</td>
<td>32.9m</td>
<td>138</td>
<td>14.5</td>
</tr>
<tr>
<td>Mean results</td>
<td></td>
<td>49.3m</td>
<td>183</td>
<td>24.2</td>
</tr>
</tbody>
</table>

It is noteworthy that four airlines across each of the three business models whose primary airport is Jakarta found slots there to be their most important source of advantage. These four airlines emphasised slots 56.2% more than their second-ranked resource, against 24.2% for the 17 airlines. That Jakarta featured so heavily confirms Citrinot (2014), who showed that Jakarta/Soekarno-Hatta was designed for 22 million passengers per annum yet is now handling 60 million. To help remedy the highly congested situation, Jakarta’s old airport, Halim, was reopened in 2014 for scheduled jet operations to begin to reduce the pressure on Seokarno-Hatta while facilitating further growth (Hashim, 2014). Furthermore, three airlines whose primary airport is Manila/Ninoy Aquino found slots to be their most important. This finding is corresponds to Port Calls Asia (2014), who indicated that Manila’s considerable congestion has had many negative implications, including an extra $156 million in fuel costs.

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\(^{26}\) Its main airport by number of seats offered by each airline in the week commencing 22\(^{nd}\) September 2014, according to the airport profiles section of CAPA.

\(^{27}\) Based upon passenger numbers in 2013 within the airport profiles section of CAPA.

\(^{28}\) Shanghai/Pudong has just 6.4% fewer seats than another very busy airport serving the Shanghai metropolitan area, Shanghai/Hongqiao, and Spring Airlines has significant bases at both facilities. Including both airports, passenger traffic at Spring Airlines’ primary bases increases to 82.8m.
consumption. A third runway at Manila was announced in December 2014 by the Philippine President (Manila Bulletin, 2014).

Despite the predictability of the importance of slots, it is surprising that they are the most significant source of sustained advantage across Asian airlines. However, this importance varies by business model, with LCCs finding slots on average 28.4% more important\textsuperscript{29} (mean score 121.0) than both LCS (92.7) and network airlines (76.4). Given slot entrenchment is often considered to be the preserve of well-established airlines, which are normally network airlines, this result was not expected. Indeed, LCCs did not commence within Asia until 2001 (BBC, 2010) and LCS from 2003 (CNN, 2003), and already they deem slots to be a greater source of advantage than network airlines. This is perhaps because it is LCCs and economic growth which have over the past ten years led many Asian airports to become very congested. Thus, LCCs, and LCS to a lesser degree, have diluted the dominance held by network airlines as a percentage of an airport’s total, and they realise that newcomers will find it harder still to acquire them. Indeed, in the week starting 5\textsuperscript{th} January 2015 LCCs now have over 30% of seats at a host of major Asian airports, including Kuala Lumpur (51.3%); Jakarta (48.7%); Mumbai (45.7%); Delhi (44.5%); Manila (42.3%); Osaka/Kansai (35.5%); and Singapore (30%) (CAPA, 2015a). The simplified value propositions and perceived lower quality of LCCs, as reflected in their core seven resources, suggests that it perhaps should not be quite as surprising as it seems.

\textbf{7.1.2 Brands as a source of competitive advantage}

At just 3.7% less emphasised than slots, for Asian airlines brand as a source of competitive advantage is almost as important. This is despite the value of brands being lower in score than rare, hard to substitute and, in particular, being hard to copy. This research found that, of the 49 surveyed airlines, 40 airlines (82.0\%) ranked brand within their core top-seven resources. For these 40, brand featured in the core resource bundle of 18 of 22 network airlines (81.8\%), 7 of 11 LCS (64.0\%), and 13 of 16 LCCs (81.0\%). Given the surveyed airlines are overwhelmingly commercial enterprises, the significance of brands for them should come as no surprise. This is because Choe and Zhao (2013) found that brands are considered a vital way by which firms achieve differentiation and, in turn, achieve competitive advantage and profitability. There is also a clear relationship between brand

\textsuperscript{29} Based upon accumulating valuable, rare, hard to copy, and hard to substitute for each business model.
equity and brand preference and the purchase intention of customers (Chen and Chang, 2008). Together with conveying the extent of quality, credibility, and experience, brands add value to a product and thereby assist in achieving a price premium. This research confirms previous research and managerial practice, albeit in different industries, which typically contend that brand equity constitutes one of a firm’s most valuable resources (Vomberg et al., 2014).

Of the 40 airlines which ranked brand within their core resource bundle, six airlines ranked brand as their number-one resource. These can be seen in Table 7.4. That only six airlines ranked it such yet brand achieved almost the top overall score for a resource indicates that many airlines placed much emphasis on it, and typically within their top-three resources. For example, AirAsia Malaysia and Cathay Pacific, both with well-managed and internationally known brands, ranked their brands as their second most important source of advantage. In contrast, of all surveyed airlines ten didn’t rank brand within their core seven resources. These are: Thai Airways; China Eastern; EVA Air; Hainan Airlines; Jetstar Asia; Tigerair; Lion; Golden Myanmar; VietJet; and Tigerair Philippines. These airlines deem other resources to be more important than branding in the attainment of competitive advantage.

**Table 7.4:** Airlines which ranked brand as the number-one resource for competitive advantage

<table>
<thead>
<tr>
<th>NETWORK AIRLINES</th>
<th>Score for brand</th>
<th>Percentage of brand from second-ranked resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Nippon</td>
<td>190</td>
<td>37.7%</td>
</tr>
<tr>
<td>Korean Airlines</td>
<td>170</td>
<td>14.9%</td>
</tr>
<tr>
<td>Air China</td>
<td>154</td>
<td>2.7%</td>
</tr>
<tr>
<td>Hong Kong Airlines</td>
<td>185</td>
<td>1.1%</td>
</tr>
<tr>
<td>LCS</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>LCCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeju Airlines</td>
<td>163</td>
<td>5.8%</td>
</tr>
<tr>
<td>Spring Airlines</td>
<td>185</td>
<td>1.1%</td>
</tr>
<tr>
<td><strong>Mean results</strong></td>
<td><strong>175</strong></td>
<td><strong>11.0%</strong></td>
</tr>
</tbody>
</table>

Of the six airlines in Table 7.4, all are from Northeast Asia where there is far less LCC competition than South and Southeast Asia. The presence of Northeast Asian airlines corresponds with Brand Directory (2014) finding that, for the top-20 airline brands in 2013 by value, 88% of the listed Asian airlines were from Northeast Asia. Given the lack of
worldwide exposure by, and recognition of, the two LCCs in Table 7.4, the emphasis on brand is presumably based upon what is crucial: branding in their own served and core markets.

The very strong ranking of brands is somewhat surprising for airlines because of the stress placed upon the growth of commoditisation of the airline product in economy class and short-haul markets (see, for example, Elian and Cook, 2013 and Kay et al., 2012). However, the reverse may be more logical: the greater the sameness of the economy product across airlines, airline models, and geographies, the greater the need for stronger branding to distinguish between airlines. Indeed, despite the many possible consequences arising from growing commoditisation, Shaw (2007, p.263) insists that “airline brands can bring airlines very worthwhile advantages, and make a real contribution to the achievement of satisfactory profits.”

7.1.3 Product and service reputation as a source of competitive advantage

Given the airline industry is a service industry, it is logical and expected that reputation derived from service or product would be a crucial resource in the attainment and sustainment of competitive advantage. This research confirmed this widely held belief, for reputation achieved the third-highest resource total across all Asian airlines of 64.5. Surprisingly, the value of reputation is the second-lowest scoring for all of the four VRIN elements, and reputation is disproportionately influenced by the much lower scores from both LCCs and LCS.

Despite the significant score of reputation across Asian airlines, reputation was nearly half as important as slots and brand. However, the ranking of reputation, vis-à-vis all 36 analysed resources, confirms literature as to the role of reputation for competitive advantage across firms and industries, including in the context of the airline industry (Barrett, 2009). That branding was found to be so highly important partly further explains why reputation was also so important, for a brand builds reputation. It is thus expected that the two resources coexist. Through their lifecycle model, Board and Vehn (2014) established that reputation is also intricately linked with quality, for firms invest into their quality and thereby their reputation. However, this research found that quality standards and professionalism for Asian airlines,
while not necessarily entirely related to the quality of product and service, was ranked 15 out of 36 resources, with a mean resource total of 21.3, or two-thirds less important than reputation, with network airlines ranking it within their top-7 unlike LCS and LCCs. Competitive advantage from service or product reputation may also have incidental advantages, especially in terms of higher price-equity, lower cost of capital, and stronger market value (Eccles et al., 2007).

From Table 7.2, it is clear that network airlines across Asia placed a significantly greater emphasis on product and service reputation as a source of advantage than both LCCs and LCS. Indeed, network airlines ranked it as their number-one resource, with an average resource score of 107.5. This is 9.8% more important than their second-ranked brand, and more than double as important than their seventh-ranked relationships with national and local governments. Of all 22 network airlines, 14 (63.6%) ranked product and service reputation within their core bundle of seven resources, with five – Cathay Pacific, All Nippon, Royal Brunei, EVA Air, and SriLankan – ranking it as their number-one source of advantage. Eight network airlines did not rank reputation within their top-seven resources: Malaysia Airlines; Thai Airways; Hong Kong Airlines (but brand was number-one); China Airlines; China Eastern; SilkAir; Air Macau; and Hainan Airlines.

The significance of reputation for network airlines is predictable because of their strategic positions, based to varying degrees on differentiation, and because of their complex and expensive products and value propositions which they have developed over many years. The cost of maintaining relative service quality and reputation is therefore high, although Merkert and Pearson (2015) found that a limited relationship exists between airline service levels and profitability. While reputation scored considerably lower for being hard to copy than for all other elements of the VRIN framework, it would be worrying if network airlines did not place such importance on reputation as it would call into question their entire existence. It may be assumed that network airlines themselves perceive reputation to be of such significance for advantage given their investment in service attributes, which constitute sunk costs, and the emphasis, to varying degrees, on superior quality to lower-cost competition, but this was not really found to be the case. Indeed, it was found that a Spearman’s rank
A correlation of 0.67 (p-value 0.0041) exists between the individual scores given by airlines for product and service reputation and the award, out of five stars, given to each airline after comprehensive analysis by SkyTrax.

Just as the findings concerning network airlines are not surprising, it is also predictable that product and service reputation for both LCS and LCCs would be considerably less important as a source of advantage. This is because their core customers seek good enough products or services at low prices, hence simplified and straightforward products and value propositions. Thus, it is reasonable that they should place less emphasis upon reputation as a means of achieving and sustaining advantage. Table 7.2 shows that product and service reputation did not feature in the core bundle of resources for both Asian LCS and LCCs. In contrast to network airlines, such reputation was two-thirds lower for LCS (a score of 35 against 107.5) and three-quarters less important for LCCs (28.8). That LCS collectively emphasised product and service reputation to such a lower degree than network airlines provides a different view to a finding of Graf (2005), who identified that a main negative implication of LCS is that their product and branding are insufficiently differentiated from the parent network airlines.

Of all 11 sampled LCS, only three – Air Busan, Jin, and Nok – ranked reputation within their top-seven resources, with Air Busan ranking it number-one. Interestingly, Air Busan and Jin Air are from service-orientated South Korea. Of all 16 LCCs, only four ranked reputation within their core bundle, with T’way – also from South Korea – and Malindo ranking it number-one. Given that Malindo is more of a hybrid operator with more comprehensive key product features than AirAsia Malaysia and perceived superior value to Malaysia Airlines, it is not surprising that it ranked reputation so highly, with a 23.1% greater emphasis than AirAsia (a score of 160 against 130). Interestingly, while reputation did not appear within the top-seven resources for LCS and LCCs, branding and, for LCCs, marketing and promotional activities and strategies did. This indicates the areas on which LCS and LCCs deem worthy of attention and investment, although they are somewhat interconnected.

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30 This is based upon 16 of the 21 airlines which ranked product and service reputation within their top-seven resources, and then based upon the availability of a starred ranking for the airlines by SkyTrax.

31 SkyTrax’s star system is based upon analysis of more than 800 different items across an airline’s front-line product and staff service standards, and applied to the airport and cabin service environments.
7.2 Summary

This chapter examined intangible resources as sources of competitive advantage for airlines within Asia. In particular, it ranked the 36 different resources, showed how emphasis on each resource varied by each element of the VRIN framework and by airline business model, and it provided the core resource profiles of each business model.

Across all three airline business models, and thus for Asian airlines generally, the top three resources for competitive advantage are slots, brand, and product and service reputation. The significance of slot possession for Asian airlines indicates the importance placed by them on this ‘artificial’ source of advantage. While slots and brands are significant for all three business models, the ranking of product and service reputation in third position is largely attributable to the very strong emphasis placed on this resource by network airlines. Indeed, product and service reputation was not within the core bundle of resources for neither Asian LCS nor LCCs, which is not surprising given their strategic positions. Asian network airlines, LCS, and LCCs each had reasonably distinct core resources.

Against the discussion of competitive advantage for Asian network airlines generally (see Chapter 6) and then specifically in terms of intangible resources, it is now necessary to identify the consequences of LCCs on Asian network airlines which is undertaken in Chapter 8.
8.0 ANALYSIS AND DISCUSSION: THE CHANGING ENVIRONMENT WITHIN ASIA

Over the past decade traffic growth within Asia has partially been because of the rise of LCCs. This represented 25.7% of all seats within Asia in 2014 which was virtually identical to the worldwide total. That LCCs had just 3.4% of seats across Asia in 2003 signifies the considerable growth that LCCs have had within this continent (CAPA, 2015a), and it suggests the consequences of the emergence, growth, and evolution of LCCs on Asian network airlines. Against this, Chapter 8 discusses findings from the questionnaires with 22 Asian network airlines. It examines under what circumstances the 22 surveyed Asian network airlines may respond to LCCs, the impacts of LCCs on Asian network airlines on a range of different areas, and it examines decision-making criteria for passengers within short-haul markets and economy class to determine whether the airlines believe that customer motivations have changed. This chapter therefore provides an examination of the changing environment within Asia based upon increasing competitiveness from the rise of LCCs.

8.1 When Asian network airlines respond to low-cost carriers

The responses from the surveyed 22 network airlines as to when they respond to LCCs is not only testament to the insatiable growth of LCCs, but it is also an acknowledgement of the number of new airlines each year within Asia which strategically position themselves to avail of the opportunities of the budget segment. Despite nearly two-thirds of network airlines specifically agreeing about the opportunities of the budget segment and two-in-five strongly agreeing, only 77% concurred that they should explicitly target this segment of the overall travelling population. This supports the assertion by Ryans (2009) that it is incumbents that determine how far downmarket they will compete and the necessity of competing at various price points, while acknowledging that there is often no need to compete at all price points, especially at the very bottom. Indeed, it is supposed that LCS are at least partially created by their parent network airlines to serve the budget segment, or at least the most price-elastic part of this broad segment, in a more appropriate manner. However, it was found that only half of surveyed LCS agreed or strongly agreed that network airlines should target the budget segment, which clearly may impact LCS depending upon the degree to which they are used to serve budget segment. The level of agreement suggests that there may be a place for both models in targeting the budget segment, but this does not imply that they will serve differing
sub-segments. That only two in ten LCS disagreed about their parent airlines targeting the budget segment supports the increasing trend of dual- or multi-branding strategies by Asian network airlines despite the many potential negative implications of them.

Across all 49 airlines, 45% agreed or strongly agreed that network airlines cannot survive but for the passenger volume generated from targeting the budget segment. In contrast, 55% of network airlines themselves agreed that they cannot survive without this traffic volume. This therefore suggests that targeting the budget segment is of some significance for them. It becomes an issue of competitiveness because reliance upon this market segment necessarily means competing with LCCs, whether at present or, through increasingly liberalised economic regulations, sometime in the future. However, over half of all network airlines were uncertain as to whether they revert to their core competencies in determining their response strategies when competing with LCCs. This counteracts Markides (2006) who highlighted the need to respond to lower-cost competitors based upon a firm’s objectives, resources, and competencies, while Wong (2003) showed that network airlines often respond using branding and marketing rhetoric. Clearly, the uncertainty of the basis of their responses may be counterproductive in the preparation and execution of a coherent and appropriate response strategy, which may undermine their ability to compete with them. In contrast, it is LCCs, of all the three business models, which were more certain of the basis of their responses, with nearly three-quarters saying they revert to their core competencies.

The need to respond to LCCs was found to vary significantly by the stage a LCC is at in terms of size, market share, aggressiveness, direct competition, the degree to which they focus upon higher-yielding business travellers, and the extent of adherence to the ‘pure’ low-cost model. It was found that the potentially significant consequences of LCCs may be especially acute when they are growing, with 51% of all Asian airlines believing that it is the growth stage that represents the greatest threat and 49% a medium threat. Network airlines, in particular, considered the growth stage to be the most serious, with nearly six in ten concurring. The emphasis upon the growth stage is not particularly surprising as this stage suggests that LCCs are succeeding and developing by penetration, market share, brand awareness, and public acceptance. It also suggests that any attempts to counteract the rise of them have may failed, hence their growth and the need for stronger and sustainable countermeasures.
Furthermore, it was found that the stage at which LCCs represent the least threat is when they are emerging, with nearly seven in ten airlines accepting this along with 77% of network airlines. This supports the widely held contention that network airlines are slow to respond to the creation of LCCs, which OAG (2007) showed to be because they deem them to be unimportant, with Ryans (2009) suggesting that responding to low-cost competitors within three years is often considered to be moving quickly. However, that even 56% of LCCs thought that the emerging stage represented the lowest level of threat somewhat supports the delayed reaction by network airlines, and while it may be based upon the high failure rate of new entrants it does appear rather counterintuitive because it may enable them to become established.

Surprisingly, only one-third of sampled airlines considered the evolution of LCCs towards hybridisation to be the greatest threat, with this stage of medium threat overall. This is despite evolving LCCs increasingly offering differentiated products as they move up in a market, with the potential damage of their evolution materialising from enhanced products yet from cost-effective platforms often much below incumbents. Given they still offer attractive prices, the potential threat is clear. That network airlines considered the evolving stage to be marginally more threatening than the mean of all airlines corresponds to this, although the level of threat is still below the growing stage. Furthermore, the strong belief in the potential of the budget segment and that network airlines should target them may also be explained beyond simply significant traffic volume to help cover fixed costs. Instead, it may be because of a longer-term view of customers moving more upmarket over time, with nearly three-quarters of network airlines believing that customers within the budget segment will upgrade to a more sophisticated product.

Clearly, network airlines must be able to appropriately respond to and compete with LCCs, especially as they grow and evolve. This need is further strengthened by this research showing that all network airlines agreed that failing or inappropriately responding to the low-cost threat will likely have widespread and long-term negative consequences. This supports Ryans (2009) who showed that the vulnerability to low-cost competition increases over time and that the dismissal of the threat, the underestimation of it, or inappropriately anticipating how it may develop may have significant repercussions. This was supported by nine in ten airlines across all models agreeing with the potential significant negative implications from suboptimal responses, and it clearly indicates the imperativeness of network airlines ensuring
that they properly target the budget segment and strengthen their strategic capability (see Chapter 9) by fully implementing essential, progressively essential, and very essential competitive responses (Chapter 10.7).

The threat posed by LCCs and the nature and timing of responses by network airlines does not simply result from the stage of their existence. Instead, and perhaps more significantly, it is based upon their served airports, their route structures, the extent of their weekly frequencies, and the market segments on which they predominately focus. However, this is, to a certain degree, interwoven with their stage of existence. The degree of threat and whether the reaction from network airlines is expeditious and comprehensive is therefore partially based upon the degree of visibility of the LCCs to them. As Figure 8.1 shows, the instances in which network airlines respond vary quite significantly, although it is clearly influenced by the degree of dominance by network airlines, whether at one airport or on city-and airport-pairs, and other existing competition. Note that the numbers contained within the bars in Figure 8.1, and those forthcoming, represent the number of airlines.
With a mean result of 4.5 out of five, which across all 22 network airlines is borderline strongly agree, and with a low standard deviation of 0.5, network airlines will respond more to LCCs targeting their core markets and growing their market share than in any other situation. In this context, core markets refers to markets in which network airlines have a meaningful share of total passengers, although it could also concern their core market segment: higher-yielding passengers. As Dunn (2010) indicated, the emphasis upon the serving of core markets, together with heavily trafficked markets and markets with higher-yielding travellers, have not traditionally been the focus of LCCs, and the degree to which they are served varies by world region. While LCCs in Europe and North America have historically focused away from serving these, at least in terms of direct competition, those from Asia-Pacific and Latin America have tended to focus upon them from fewer alternatives. Network airlines in Asia may therefore be more predisposed to greater response to LCCs than those from other world regions.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network airlines respond to LCCs if LCCs have low frequencies on existing routes</td>
<td>4</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Network airlines respond to LCCs if LCCs begin brand-new routes with no existing direct competition</td>
<td>4</td>
<td>12</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Network airlines respond to LCCs if the network airline believes the LCC has much lower costs and is willing to sustain a prolonged price-based attack</td>
<td>3</td>
<td>2</td>
<td>16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Network airlines respond to LCCs if LCCs have a growing number of flights at the network airline's hub airport</td>
<td>1</td>
<td>15</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Network airlines respond to LCCs if LCCs target core markets and grow market share</td>
<td></td>
<td>12</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network airlines respond to LCCs if LCCs have high frequencies and target higher-yielding passengers</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

Figure 8.1: The likelihood of network airlines responding to particular scenarios

With a mean result of 4.5 out of five, which across all 22 network airlines is borderline strongly agree, and with a low standard deviation of 0.5, network airlines will respond more to LCCs targeting their core markets and growing their market share than in any other situation. In this context, core markets refers to markets in which network airlines have a meaningful share of total passengers, although it could also concern their core market segment: higher-yielding passengers. As Dunn (2010) indicated, the emphasis upon the serving of core markets, together with heavily trafficked markets and markets with higher-yielding travellers, have not traditionally been the focus of LCCs, and the degree to which they are served varies by world region. While LCCs in Europe and North America have historically focused away from serving these, at least in terms of direct competition, those from Asia-Pacific and Latin America have tended to focus upon them from fewer alternatives. Network airlines in Asia may therefore be more predisposed to greater response to LCCs than those from other world regions.
In addition, it was found that Asian network airlines were almost equally likely to respond to LCCs if they offer high frequencies and target higher-yielding passengers, with a mean of 4.3 albeit with a higher standard deviation of 1.1. Given the S-curve relationship between frequency and market share, it was not surprising that this scenario scored so highly but it is surprising that it was not the situation in which they would be most likely to respond. That LCCs increasingly target higher-yielding passengers as they grow and evolve may help to explain the significance of these two stages and the degree of threat that they represent. Crucially, the serving of heavily trafficked markets, whether core or not, may not necessarily involve higher-yielding traffic, for it could merely concern serving the most price-elastic segments of such markets. Indeed, the extent of weekly frequency, and thus the greater the appeal to higher-yielding travellers assuming conducive timings, is often a crucial determinant of whether network airlines respond. This is supported by this research for it was established that offering low frequencies on existing routes has the second-lowest mean result of 2.5 but with the greatest variance. The importance of low frequency within busy markets is perhaps best demonstrated within the USA, where self-proclaimed ultra-low-cost Spirit Airlines has low frequencies, often once- or twice-daily, even in very busy markets, such as New York-Chicago, Dallas-Atlanta, Houston-Chicago, and Los Angeles-Las Vegas. This is because it seeks a profitable market position and is not driven by market share, and it is indicative of their typical strategy of operating under-the-radar with their mean fares being 30-40% lower than incumbents. Notwithstanding their aggressive, controversial, and noticeable nature, at least in terms of promotions and media focus, this approach therefore reduces the likelihood of retaliation. In contrast, it is commonplace for LCCs within Asia to have multiple-daily services, particularly within domestic markets, as epitomised by Malaysia AirAsia, Lion Air, and VietJet, thereby increasing the likelihood of responses by network airlines.

More surprisingly, it was found that the mere possession of low costs by LCCs (mean of 3.7) together with an accumulation of cash as a ‘war chest’ for a prolonged fare war is not necessarily sufficient to warrant a response by network airlines. Instead, it is more about what is undertaken and offered by them, and it was identified that two strategies are less likely to result in responses by network airlines: offering low frequencies within existing markets and, in particular, commencing brand-new routes with no existing direct competition. With the lowest mean result of 2.2, the 22 Asian network airlines collectively disagreed that
they would respond should LCCs launch brand-new routes. While anticipated, this clearly indicates the importance of the visibility of LCCs to Asian network airlines.

8.2 The impacts of low-cost carriers on Asian network airlines

There are many ways in which to consider the impacts of LCCs on network airlines, not least because the potential consequences are wide-reaching. Based specifically upon short-haul markets and economy class, it was found that there were many implications for the 22 sampled network airlines, albeit perhaps not to the degree of magnitude for each specific consequence as had been expected based upon literature. However, this is an oversimplification because it is not just the individual outcomes but crucially the weight of them when combined which is more significant.

This survey looked into seven distinct areas that are typically impacted by network airlines in short-haul markets: profitability; seat load factors; unit costs; yields; market share; the ability to set prices; and the percentage of economy passengers as a proportion of all passengers. Overall, across these seven areas 36% of all 22 network airlines felt that there had been no impact while 57% believed there had been a reduction of at least 5%. The degree of no impact is surprising given the insatiable growth of LCCs across Asia generally and South and Southeast Asia specifically. However, it is not surprising that only 7% of network airlines believed that they had benefited to some extent across these seven areas. As Figure 8.2 shows, the greatest consequence for Asian network airlines was a loss of market share, for instance the proportion of total passengers carried within served markets. This is based upon possessing the lowest mean result of 2.8.
Of all 22 network airlines, 18 believed that their market share had reduced to some degree, of which half believed that it had reduced by up to 5%, 27.3% by up to 10%, and 4.5% by 15% or more. Not one suggested that it had increased despite any countermeasure imposed by them, such as reduced fares. The impact on market share was anticipated given the emphasis placed by many network airlines on the achievement and protection of market share (Graf, 2005), thereby the likelihood of it being reduced. A reasonable positive relationship was found between market share and the ability to set prices of $r = 0.66$, which suggests that as market share, and thus dominance, increases, the ability to set prices should increase. Indeed, it was shown that for those network airlines that operate with much LCC competition, such as Malaysia Airlines, Garuda Indonesia, Thai Airways, Philippine Airlines, Air India, and Jet Airways, fare wars are likely to be commonplace and premised upon competing for traffic and market share. Meanwhile, and in a European context, Fageda et al. (2015) showed that the market share of archetypical LCCs tends to be higher on longer and thinner routes. As such routes are less likely to be operated by LCCs within Asia given the shortage of secondary airports and the tendency for more direct competition, it is therefore surprising that the impact on market share is not even greater.

Interestingly, Belobaba (2009) argued that network airlines with high market share may resist widespread discounting and instead focus upon non-price mechanisms in competing with

<table>
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<tr>
<th>Figure 8.2: Impacts of LCCs on Asian network airlines</th>
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<tr>
<td>Market share</td>
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<tr>
<td>Yields</td>
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<td>Percentage of economy passengers</td>
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<tr>
<td>Profitability</td>
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<td>Operating costs</td>
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<td>Seat load factors</td>
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<th>Seat load factors</th>
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<tbody>
<tr>
<td>0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%</td>
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<td>1 1 1 1 1 1 1 1 1 1 1</td>
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LCCs. However, this research found that the second greatest impact was reduced yields with a mean result of 2.9 and less variation across respondents than market share given a standard deviation of 0.68. Across all airlines, nearly seven in ten stated that their yields had reduced by up to 5% while one in seven believed that it had reduced by up to 10%. This goes hand-in-hand with Walker (2005) finding that Asian airlines saw a 5% reduction in yield in 2014, although undoubtedly only partially because of LCCs as part of their revenue not keeping pace with volume growth. The impact on yield is partially because of the reduction in the ability of them to set prices, as 55% of network airlines found that their ability had reduced by between 5% and 10%. Given this reduction in average fares, it was expected that seat load factors would have little negative impact, and perhaps even a positive impact. Indeed, it was established that there was minimal impact on the seat load factors of network airlines, with a mean result of 3.5 albeit with the highest variation among responses of 1.1. This standard deviation clearly indicates that the consequence of LCCs on seat load factors varies more by individual network airline than any other analysed impact. While seat load factors had the joint-highest positive benefits with nearly one in five network airlines recording an increase, it is curious that nearly six in ten believed it had reduced. This demonstrates the importance of the interrelationship between impacts and how this can, when combined, increase the magnitude of competitive effects.

19 network airlines said that they were not the cost leader in short-haul markets and economy class while three said they were not sure. This situation is testament not only to the potential low-cost competition that they face, which would immediately mean that they were not the cost leader, but also and crucially because network airlines do not pursue cost leadership but typically the generic strategy of differentiation and sometimes hybrid and focus. Their lack of cost leadership is therefore not only expected but also justified. Differentiation is based upon offering greater benefits and perceived added value often in return for a higher price; it is this which accounts for their higher costs. However, in short-haul markets and economy class it was found that nearly seven in ten Asian network airlines believe that their product is broadly the same as their competitors, thereby meaning that they lack differentiation within this context. Indeed, a further 18% of network airlines said that their product was not differentiated. This lack of differentiation is supported by eight in ten network airlines agreeing or strongly agreeing that the growth in the economy class seat, in particular, as a commodity is nowadays important or very important for them. Given a commodity product is one in which there is little distinguishable in terms of product features between
alternatives, so it is the opposite of a differentiated product, it is much harder to achieve higher yields. This goes together with the finding in Chapter 8.3 of the changed role of price, and this may be very problematic considering the higher costs of network airlines.

The lack of product differentiation and the strong agreement over product commoditisation partially help to explain why it was found that three-quarters of network airlines agree or strongly agree that there is increasing substitution between airlines. This level of concurrence of substitution is broadly supported by both LCS (six in ten agreeing or strongly agreeing with it) and especially LCCs (nine in ten). It is all of this, when combined, that perhaps explains why increasing product differentiation is a very essential response in competing with LCCs (see Chapter 10.7) and, if achieved, potentially one of the more sustainable given its degree of difficulty of implementation and sustainment.

Higher costs, the typical lack of a differentiated product in short-haul markets and economy class, and the increased growth means that it is no surprise that network airlines the world over have increasingly needed to instigate programmes of cost-cutting, rationalisation, and productivity improvement. This is supported by the most important response in competing with LCCs shown to be the ability to reduce costs to within 30% of them (see Chapter 10.0). Doganis (2006) showed that cost reduction is especially pertinent following downward pressure on yields, which, as hitherto shown, has occurred for Asian network airlines. However, this research has found that the impact of LCCs on the operating costs of network airlines – in terms of improvement – has been less than expected, with the second lowest impact with a mean of 3.8, representing little change, together with greater acceptance across all airlines from the lowest variation of 0.59. Indeed, 64% of network airlines said LCCs have had no impact on their costs within short-haul markets, while only a little over one in four said it has resulted in a reduction of up to 5%. The extent of having no impact on costs supports the contention by many that network airlines are slow at responding, which may also help to explain why they have witnessed the aforementioned impacts. It may also demonstrate why of 16 competitive responses within the very essential and essential categories only five explicitly concern cost reduction and productivity improvement (Chapter 10.7).

The lack of reduction in operating costs is attributable in part to a lack of improvement in both aircraft utilisation and labour productivity. Indeed, following competition with LCCs it
was found that nearly seven in ten Asian network airlines had seen no change in the utilisation of aircraft by block hours over 24 hours, while the same amount had not reduced turnaround times. However, in terms of block hours per day, 27% had increased aircraft usage by up to 5%, while 5% increased it by 15% or more. In comparison, nearly one in five had reduced turnaround times by up to 5%. However, it is wondered whether more could have been done to increase the usage of expensive physical resources, thereby not contributing to spreading fixed costs across more output to lower unit cost, together with not benefiting from any potential revenue opportunities. The lack of improvement, particularly by block hours, is also counter to increasing aircraft utilisation being found to be the second most essential competitive response across all 37 analysed, with a very high level of importance and difficulty, the latter suggesting that it may be a more sustainable response if implemented.

In contrast to aircraft utilisation and turnaround times, more has been done in increasing the labour productivity of both pilots and cabin crew: while 40% of network airlines increased pilot hours closer to the maximum of 900 per year, thereby reducing their contribution per block hour and per seat-mile, one-third increased cabin crew hours. That an improvement in labour productivity was found to be the third most essential competitive response (see Chapter 10.7), and slightly less difficult to implement than aircraft utilisation, is supported here. However, there was still a considerable lack of action over the productivity of labour, with nearly six in ten acknowledging that they had not changed, although it does depend upon the specific airline. Malaysia Airlines, for example, is instigating a wholesale labour reduction plan for which 6,000 staff will be made redundant, thereby improving its employees-per-aircraft ratio, with this, together with an injection of up to $2 billion by the Government, believed to offer the opportunity to save the airline (Raghuvanshi and Ng, 2014). In addition, productivity and efficiency improvements, within wider cost-cutting programmes, are also being implemented at many other Asian network airlines, including Garuda Indonesia (OAG, 2014b), Thai Airways (Chaichalearmmongkol and Chomchuen, 2015), Jet Airways (Kotoky, 2014), and Air India (Zee News, 2015).

Across these four aircraft- and labour-based metrics, 65% of Asian network airlines admitted that they had made no improvement. This is despite Molnarova (2008) showing the importance of increasing aircraft utilisation, labour productivity, and reducing turnaround times because they can all meaningfully contribute to the reduction in unit cost and cost per
block hour. This is especially true of aircraft utilisation and labour productivity. That network airlines are characterised as being relatively less efficient and productive suggests that they should focus much more greatly upon these two areas in particular. Indeed, Graf (2005) argued that the implementation of a LCS by them maybe driven by saving the parent through indirectly lowering associated costs or increasing productivity. However, this may inadequately deal with their core problem especially given the importance of these competitive responses.

8.3 Changing customer motivations within short-haul markets

The motivations of customers to book tickets change based upon multiple considerations, including the market segment in question and, specifically, their needs and requirements; by business model, which itself is based upon targeted market segments; by the adequacy of a product meeting defined needs; and by the degree of price and non-price competition, which is somewhat based upon the level of economic regulation. Based upon the views of the 22 surveyed Asian network airlines, Figure 8.3 shows how six areas of motivation vary in importance for them within short-haul markets and economy class given LCC competition.

![Figure 8.3: Changing customer motivations within short-haul markets according to Asian network airlines](image-url)
With a mean of 4.4 out of five, all 22 Asian network airlines are in almost complete agreement that price and value-for-money are now more important motivations in booking decision-making, with 50% believing that they are nowadays much more important and 45.5% that they are more important. The extent of agreement is supported by both LCS (100% agreed or strongly agreed) and LCCs (90% agreed or strongly agreed). The motivation for price and value-for-money has therefore significantly changed across three distinct business models following the rise and development of LCCs. Given this, and that certain countries – especially India, Malaysia, Thailand, Indonesia, and the Philippines – now have the majority of their seats provided by LCCs, this change is not surprising. It also reflects the aforementioned lack of differentiation and the agreement over product commoditisation and airline substitution, all of which necessarily suggests that price has attained a more prominent role.

It may also reflect the finding in this research that over three-quarters of network airlines believe that there is excess output, which has clear implications on the degree of discounting and the role of price. Interestingly, this research showed that there was practically the same agreement over excess output between network airlines and both LCS (77%) and LCCs (80%). This supports Walker (2015) who spoke of the difficulty of Asian airlines to break even in 2014, with excess capacity believed to be a significant contributing reason. Regardless of the cause or any exacerbating factors, the changing motivation of price and value-for-money calls into question the entire strategy of network airlines in short-haul markets and the need for them to determine precisely at what levels of the overall market they wish and need to compete at.

The role of price and value-for-money may also somewhat challenge the findings of Wensveen (2011), who suggested that LCCs which focus purely or overwhelmingly upon the most price-elastic segments are considerably less likely to receive no tangible reaction from network airlines. If this were the case, it could be assumed that the change in price and value-for-money as a motivation would be of lower importance. The growth in the importance of price and value is further supported by this research establishing that eight in ten Asian network airlines believe that the willingness of customers to pay a premium for their product within short-haul markets and economy class is decreasing, with only 4.5% believing that it is increasing. Together with the perceived lack of product differentiation, this clearly undermines the entire short-haul strategy of all 22 surveyed network airlines.
All other questions which concern changing customer motivations relate to some degree to the changing importance of price and value-for-money. For example, it was found that customers within Asia may be somewhat more willing to trade convenience and usability for lower prices and better value from 50% of network airlines saying that their flight schedule, and thus their frequency and timings of service, is nowadays less important as a decision-making tool to economy passengers on short-haul flights. However, with a mean result of 2.8 there is effectively no difference for flight schedule as a motivating tool. Similarly, half of the surveyed network airlines believe that frequent flyer programmes are nowadays less important (36.4%) or much less important (13.6%), although the usage of frequent flyer programmes as a competitive mechanism was found to be essential in competing with LCCs (Chapter 10.7) particularly if they are more effectively utilised, probably because most network airlines already have them. However, frequent flyer programmes had a mean result of 2.5, which means that it has had very little change in importance overall despite the greatest standard deviation of 1.1.

Despite the above findings, it is interesting that almost one-third of network airlines believe that flight schedules and frequent flyer programmes are nowadays more important for short-haul customers. Furthermore, it was found that nearly half of surveyed network airlines believe that branding is nowadays more important. Given nearly three quarters of network airlines believe that branding has not changed in importance or has become more important, it is not surprising that branding was found to be their second most important intangible response for competitive advantage (see Chapter 7 and Chapter 7.1.2). The results for flight schedules, frequent flyer programmes, and branding may all somewhat support the need for network airlines to standout given their broadly similar products, especially given that increasing product differentiation is a very essential competitive response (see Chapter 10.7).

On short flights and in economy class, it was found that two-thirds of Asian network airlines believe that comfort is nowadays less important, with the implication that their customers are generally increasingly willing to trade a lower price for lower comfort. With a mean result of 2.5 and a standard deviation of 0.67, comfort is, overall, not of particular significance this context. However, the concept of product comfort is comprehensive because it may cover many different attributes. As such, it is not possible to identify from the survey in what precise ways they are willing to accept reduced comfort, with this necessitating further
research. If, for example, they were willing to have lower seat pitches, which would reduce seating comfort, Asian network airlines could investigate the viability of increasing seating density, thereby increasing output, lowering unit cost, lowering seat cost, and potentially offering a new way to grow total revenue and traffic volume from economy seats. Indeed, increasing seating density was found to be a very essential competitive response (see Chapter 10.7).

The lack of certainty regarding what customers are willing to forego in terms of comfort is supported by the absence of agreement among network airlines of whether product and service quality, as a whole, has changed in importance as a motivation. Indeed, while 41% of network airlines believe that product and service quality has not changed in importance, 36% believe that it is more important and 23% that it is less important. It is this variation which, overall, means that quality has effectively not changed in importance, with a mean of 3.1. That nearly eight in ten Asian network airlines believe that quality has not changed in importance or has become more important supports the finding that product and service reputation, which is clearly the consequence of quality, is their number-one intangible resource for competitive advantage. This is somewhat supported by a lack of agreement as to the dissatisfaction of consumers with the economy product of network airlines, with a mean level of agreement of 54% across network airlines, LCS, and LCCs. Interestingly, and showing the lack of unity, an almost equal number of network airlines both agreed and disagreed over dissatisfaction. Furthermore, and while not related to economy passengers, it was shown that enhancing product quality to premium passengers was a progressively very essential competitive response, which clearly indicates the priority of emphasis, focus, and resource allocation. This may be especially crucial on long-haul services because they are typically more strongly regulated and less competitive than short-haul markets.

Given the traditional contention by network airlines the world over, at least prior to meaningful low-cost competition, that the superiority of their products may be an effective tool to isolate them from price-based competition, the lack of uniformity in their answers for product quality (standard deviation of 0.78) suggests that it is not quite so certain. Indeed, it is this variation which suggests that any change in the importance of quality is better appreciated on an individual airline basis, which may be influenced by the degree of exposure to and competition from LCCs. The lack of change in the importance of quality may support Airline Leader (2012a) who showed that significant reductions in cost is virtually impossible
but for a meaningful loss of quality and brand damage. Crucially, the deviation among answers may also suggest that customers are less willing, overall, to sacrifice particular product attributes beyond comfort, which provides an interesting counterargument to the finding that so many Asian network airlines believe that their products are broadly the same as their competitors.

The lack of willingness to sacrifice particular product features is supported by a considerable lack of unity among network airlines of the degree to which the willingness of their customers to pay for an unbundled product is changing. This contrasts vividly to the experience of legacy airlines within the USA, for which Karp (2013) showed to be very important and, crucially, that passengers are becoming used to it. While a bundled fare structure is still what network airlines in Asia offer for service quality reasons, partial unbundling – revealing components of a fare and charging separately for them on an a la carte basis – has materialised. This is particularly noticeable in Europe and North America, where hot meals have been replaced by snacks or pay-for food and drinks and checked baggage fees are commonplace, principally in North America. However, this research has shown that there is much uncertainty within Asia for unbundled products, with 23% of network airlines believing that the willingness of customers to pay for an unbundled product has decreased, 41% that it has not changed, and 36% that it has increased.

With a mean result of 3.1 (standard deviation 0.77), senior management at Asian network airlines neither agree nor disagree as to the willingness of customers to pay for an unbundled product. This is partially explained by six in ten network airlines agreeing or strongly agreeing that there is an unwillingness to pay for particular product attributes, which is a fundamental requirement of an unbundled fare structure and the consequent a la carte pricing. It also coexists against the backdrop of growing competition with LCCs, the fundamental change in the role of price, and the growth in substitution between airlines. However, the pursuit of an unbundled product may simply aggravate the already challenging situation of commoditisation, for there would be even fewer distinguishing product features. Irrespective, what is more important is that network airlines meet the specific needs and requirements of their targeted market segments, with 80% of them agreeing or strongly agreeing that customers increasingly expect their requirements to be met.
8.4 Summary

This chapter determined the scenarios in which the 22 Asian network airlines respond to LCCs, the impacts of LCCs on important areas for Asian network airlines, and the changes to customers’ motivations for different decision-making criteria within short-haul markets and economy class from the perspective of airline managements.

It was found that Asian network airlines know that they need to respond to LCCs in a timely and effective manner, and that there are three situations in which they are most likely to respond to them. These are if LCCs are fast-growing at the hubs of network airlines; if LCCs focus upon the core markets of the network airlines and grow their market share; and if LCCs offer high frequencies and target higher-yielding passengers. This also suggests the strategies that LCCs should pursue for their entrance, growth, and evolution to minimise competitive responses from incumbent carriers.

Despite the growth of seats within Asia by LCCs, there was a surprisingly high degree of ‘no impact’ by them in the view of network airlines. However, the greatest impacts of LCCs on them is a loss of market share and reduced yields (average fares). The loss of market share is supported by network airlines not being cost leaders and because network airlines lack differentiation, both of which contribute to increased substitution. It is therefore not surprising that the key customer motivations are nowadays price and value-for-money.

To increase their competitiveness and advantage, Asian network airlines need strong brands and they should also meet the specific needs of their targeted market segments. This should reduce the reliance upon price and reduce substitution between airlines, while increasing the likelihood of more loyal customers from greater satisfaction and strengthening yield.

Against the impacts of LCCs and changing customer motivations discussed within this chapter, Chapter 9 identifies the precise strategic capability of the sampled Asian network airlines to compete with LCCs.
9.0 ANALYSIS AND DISCUSSION: THE STRATEGIC CAPABILITY OF ASIAN NETWORK AIRLINES TO COMPETE WITH LOW-COST CARRIERS

Johnson et al. (2005) stated that strategic capability concerns the adequacy and suitability of the resources and competencies of a firm for it to survive and to prosper, while Teece et al. (1997) showed that strategic capability is a primary driver of competitive advantage (see Chapter 5.2.2). Given the penetration and spread of LCCs across Asia, the reduction in the yield and market share of Asian network airlines, and the importance nowadays of price and value-for-money in customer decision-making (see Chapter 8), this chapter determines the strategic capability of all sampled 22 Asian network airlines in competing with LCCs. Strategic capability analysis identifies the areas on which Asian network airlines should focus to strengthen their capability to compete. After presenting the strategic capabilities for all airlines, this chapter focuses, in particular, on the capabilities, and what explains them, of eight airlines. These eight were chosen because of possessing strong or weak capabilities, including the benchmark strongest airline; because they have actively stated the need to improve; or because the airlines are of great significance within Asia. This chapter then establishes how strategic capability varies by sub-region within Asia in relation to both actual and perceived performance to establish any relationships.

9.1 Strategic capability by airline

Figure 9.1 pinpoints the determined strategic capabilities of the sampled 22 network airlines. Their individual positions are determined by the relationship between the level of difficulty and the level of importance of competitive responses for each airline. It is this which explains the widely varying capabilities. The horizontal axis represents the level of importance in implementing the competitive responses, while the vertical axis represents the level of difficulty. The closer an airline is to the origin, the responses are collectively more important to implement and easier to implement. The size of the circles reflect the relative strategic capability of each airline in comparison to the airline with the greatest overall strategic capability, which is Vietnam Airlines given its positioning on the origin. Because of its positioning, Silk Air is the airline with the weakest strategic capability as it is the furthest from the origin. Malaysia Airlines and Garuda Indonesia have relatively strong capabilities, while a host of other airlines, including SriLankan, Philippines, Air China, All Nippon, and Thai Airways, do not.
Figure 9.1: The strategic capabilities of Asian network airlines

*A second entry for All Nippon has been included because this airline included various answers which were the opposite of virtually every other sampled airline. As such, it is believed that these may have been erroneously inputted by the person completing the questionnaire. The two entries take account of this possibility.
O’Connell and IATA (2007) analysed a small selection of network airlines across Asia-Pacific, but only seven are the same as used within this research. While this research contained a larger number of competitive responses than O’Connell and IATA (2007), it appears that, in general, strategic capabilities have strengthened. It must be remembered that strategic capability in this context only concerns LCCs, and thus the airlines may still be unprofitable for other reasons. Malaysia Airlines and Philippine Airlines have stronger capabilities mainly due to them placing a much greater level of importance on the competitive responses than previously following greater competitive pressure. Following seven years of potential learning, many airlines, such as All Nippon, Thai Airways, Air China, and Garuda Indonesia, now find the competitive responses to be less difficult to implement. However, the mere possession of strong capabilities, or high or low levels of importance or difficulty of competitive responses (see Chapter 10), does not necessarily mean that they will be acted upon.

The strategic capabilities of each sub-region in Asia is determined by the mean of all analysed airlines within them. Given the use of ordinal data for strategic capability, it is assumed for this purpose that there was commonality as to the interpretation by each respondent of each of the five levels of importance (very unimportant to very important) and difficulty (very difficult to very easy). As expected, network airlines from Southeast Asia have the strongest capability of -0.98, meaning that they are better placed, overall, to compete with LCCs than those from South Asia (-1.14) and Northeast Asia (-1.17). The relative strength of network airlines from Southeast Asia is advantageous given this LCC penetration within this sub-region of nearly 60%. However, the strength of Southeast Asia is despite SilkAir, the regional and narrowbody partner of Singapore Airlines, having the weakest capability of all 22 airlines, with -1.62 and just 24.1% of the capability of the strongest overall airline, Vietnam Airlines. The very weak position of SilkAir is primarily because it finds all of the analysed responses to be 55.7% more difficult to implement than the average level of difficulty across all the other sampled airlines. In particular, SilkAir finds these competitive responses to be very difficult to implement: reducing labour; reducing costs to within 30% of LCCs; changing to one fleet; increasing the role of cargo; increasing product differentiation; and effectively meeting the needs and requirements of its customers. Overall, SilkAir finds these response categories\textsuperscript{32} to be the most difficult to implement, indicating the

\textsuperscript{32} Productivity, cost and rationalisation, revenue and fare, product, marketing and other.
widespread nature of its challenges: other strategically integrated responses (4.57 out of five), productivity (4.20), and marketing (4.17).

9.1.1 Vietnam Airlines

Vietnam Airlines is positioned as the benchmark airline because it has the strongest strategic capability to compete with LCCs. This suggests that it found all 37 competitive responses to be relatively easy and relatively important to implement when compared against the other sampled Asian network airlines. Its strength in competing with LCCs is fortunate because Vietnam is at the forefront of LCC growth and development within the Asia-Pacific region (Anna.aero, 2011), so price-based competition is likely to only increase. VietJet is Vietnam’s largest LCC and OAG data for 2014 indicates that it has a market share by seat capacity of 13% overall and 25% domestically, while CAPA (2013a) anticipates a 50% share of domestic services in the near future as it is aggressively pushing “to exploit the huge potential of Vietnam’s international low-cost airline market”. The proliferation of LCCs within Vietnam is set to increase as the country seeks to create a liberal operating environment, for example by removing fare caps and regulations (Airline Leader, 2012b), which is a precursor for LCCs to thrive.

The strategic strength of Vietnam Airlines is aided by the following attributes: it is the only network airline of any real size within Southeast Asia that is primarily government-owned; it is heavily protected; it is dominant within Vietnam as it commands a 50% market share overall and 62% share domestically in mid-2014 (CAPA, 2015c); and because it has a 70% equity stake in Jetstar Pacific, its LCS. Jetstar Pacific thereby enables indirect participation by Vietnam Airlines in the budget travel segment and when these two airlines are scaled together the combined market share swells to 57.3% overall and 75% domestically (CAPA, 2015c).

In competing with LCCs and in terms of the six competitive response categories, Vietnam Airlines found product, revenue and fare, and marketing to be the most important to implement. Indeed, it was one of the very few Asian network airlines that found marketing responses to be very important, and it stressed the importance of being customer-driven which may have a positive impact on passenger revenue per available seat kilometre (PRASK) together with achieving greater customer loyalty. It placed slightly less emphasis
on the categories of cost and rationalisation and productivity, which was noticeable when compared to the responses for the airlines generally. In particular, Vietnam Airlines found that the following responses were all very important for them in competing with LCCs: increasing product differentiation; more effectively targeting their chosen segments; meeting the needs and requirements of their targeted market customers; negotiating with airports and other suppliers to reduce costs; driving commission-based components; and offering convenience in booking travel-related products and services. These strategies have the capability to grow revenues for Vietnam Airlines while providing additional and value-added choices for passengers.

Despite the significance of increasing product differentiation for Vietnam Airlines, it was one of the few carriers that found this to be very difficult to achieve. This may hinder its attempts to leverage its geographic position by becoming more of a hub-and-spoke operator, with an increasing number of long-haul services, especially as it is already a latecomer in this respect. Furthermore, its product is not rated very highly when compared to international standards as it has a 3-star rating while many of its network airline competitors have higher – for example, Thai Airways 4*; Japan Airlines 4*; Cathay Pacific 4*; Asiana 5*; Malaysia 5*; Singapore Airlines 5* (SkyTrax, 2015)33 – which undermines its attempt to become a more significant airline in the global marketplace. This partly explains why it finds differentiation very difficult while at the same time it finds meeting the needs and requirements of its targeted customers difficult. As Vietnam continues to prosper economically more carriers will be attracted by its affluence and the market dominance of Vietnam Airlines will be challenged into the future. As such, it is important that Vietnam Airlines is able to respond appropriately.

Vietnam Airlines found the 37 competitive responses to be easier to implement than the majority of sampled airlines. In particular, it was the only airline of all 22 to consider a LCS to be easy to implement and this strategy of offering a dual-brand increases its differentiation and passenger appeal as it now better meets the needs and requirements of a wider range of targeted customers. This may enable both airlines to concentrate on their relative strengths while potentially increasing barriers to entry which may dissuade new entrants.

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33 The official SkyTrax ranking has existed since 1999 and is based on looking at the standards of 800 different items/areas across an airline’s frontline product and staff service areas and also the airport and cabin service environments.
Furthermore, Vietnam Airlines found revenue and fare competitive responses to be easy to implement, especially in terms of growing revenues from cargo; driving more sales through its own website; simplifying fares; and driving commission-based components. Even though Vietnam Airlines had the strongest strategic capability among the sampled incumbents, it would have been even stronger if it could reduce costs to within 30% of LCCs and increase its product differentiation, which were two key responses that it found very difficult to implement.

9.1.2 **Malaysia Airlines**

Malaysia Airlines has the second strongest strategic capability, and at 92.9% of that of Vietnam Airlines it is near the maximum identified. This therefore means that it is better placed to compete with LCCs in comparison to 20 other sampled Asian network airlines. As a country, Malaysia has one of the greatest LCC penetration rates, and AirAsia Malaysia is very dominant with 46.0% market share domestically and 23.7% internationally in mid-2014, as compared to Malaysia Airlines’ 38.5% domestically and 26.3% internationally (CAPA, 2015c). AirAsia is very profitable, fast-growing, entrepreneurial, and challenging (Ong and Tan, 2010), while Malindo is increasingly growing. This is a joint-venture between Lion Air, which is one of Asia’s largest LCCs that currently operates a fleet of over 100 aircraft with another 550 on order, and Malaysia’s National Aerospace and Defence Industries (NADI). Malindo is a hybrid operator that offers low average fares with a product that rivals that of Malaysia Airlines, so delivering a value-added hybrid proposition to passengers. While it presently has a 5.8% market share as it only commenced operations in May 2013 (CAPA, 2015c), it is fast-growing and very threatening for the Malaysian flag carrier. Malaysia Airlines is therefore increasingly squeezed from both perspectives: from very price-sensitive and lower-yielding customers that provide volume; and from those who have a greater willingness and ability to pay. It is Malaysia Airlines, more than most other network airlines, which needs to be able to compete effectively with LCCs.

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34 The data for Malaysia Airlines was obtained prior to the loss of flights MH370 and MH17.
35 The inclusion of AirAsia X, AirAsia’s medium- and long-haul subsidiary that is based in Malaysia, means that the Malaysia-based elements of the AirAsia Group has an international market share of 31.7%. The inclusion of Indonesia AirAsia increases this to 37.9% (CAPA, 2015c).
The position of Malaysia Airlines in Figure 9.1 indicates that it is the benchmarked airline for level of difficulty, which means that it finds the 37 competitive responses to be easier to implement than any of the other sampled airlines. Its ease may be partly because of respondent bias. At the same time it also finds them to be less important than 30% of the surveyed airlines. Its strong strategic capability is therefore primarily attributable to the ease with which it finds the competitive responses to implement, which is partly due by having to adapt through necessity as AirAsia Malaysia is now over 12 years’ old.

In comparison to the overall benchmarked Vietnam Airlines, Malaysia Airlines finds these competitive responses to be especially difficult: the ability to quickly exit from unprofitable markets; creating a LCS; using and leveraging a FFPs simplifying fares; and increasing the role of cargo. Malaysia Airlines finds productivity, cost and rationalisation, and marketing responses easier to implement than benchmarked Vietnam Airlines. This ease is especially in terms of unbundling its product; the ability to reduce costs within 30% of LCCs; travel policy agreements; increasing product differentiation; effectively targeting chosen segments; and meeting the needs and requirements of targeted customers.

Despite Malaysia Airlines’ strong strategic capability, the airline is unprofitable and has lost $1.3 billion over the past three years. It lost $354 million in its 2013 financial year, which was more significant than in 2012 (Malaysia Airlines, 2014). Malaysia Airlines (2014) attributed these losses various reasons particularly: the depreciation of the Ringgit against the US dollar generated large foreign exchange losses which is highly problematic as almost 60% of its costs are in US Dollars, which increases its total costs; mounting operating costs such as fuel which increased by almost 11% over the twelve-month period between 2012-2013; and lower yields from intensifying competition from both the MEB3 and European airlines explicitly on its long-haul services and LCCs continuing to dominate its short-haul markets. It is clear that LCCs have significantly impacted Malaysia Airlines, and it urgently needs a solid platform from which to launch effective strategies and tactics.

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36 For instance, where there is at least a two-point difference, for example Malaysia Airlines deeming a response to be neither easy nor difficult (score of three of five) and Vietnam Airlines considering it very difficult (score of five). All responses are at least difficult for Vietnam Airlines.
9.1.3 Thai Airways

With its lower strategic capability and high exposure to LCCs, Thai Airways is especially vulnerable as Thai AirAsia possesses greater market share domestically than Thailand’s flag carrier with 26.9% against 21.8% respectively (CAPA, 2015c). Thai Airways is also beginning to struggle in the international sector as its market share is now only 10% more than Thai AirAsia and it is very concerned as it continues to lose ground. Thai Airways will be increasingly pressured following the introduction in December 2013 of another Asian LCC, Thai Lion, which focuses solely on low fares under a strict cost leadership strategy. Combined, Thai Lion and Thai AirAsia introduced 16 new aircraft in 2014 and have the option to scale this much higher in subsequent years. Thus it is important that Thai Airways responds expeditiously and appropriately to this entry. This questionnaire revealed that, unlike most Asian network airlines, Thai Airways considers the following specific responses to be very important in competing with LCCs: negotiating with airports and other providers to reduce charges and costs; outsourcing particular areas; generating revenue from alliance and codeshare partners; more effectively using and leveraging their FFP; and creating a LCS.

Aspire Aviation (2013) identified that Thai Airways “must gain efficiencies wherever it can and make some bold moves.” This has recently included the offering for sale of 18 older and fuel-inefficient aircraft. Thai Airways has established two subsidiary airlines with lower cost structures than itself through the creation of Thai Smile, a light-premium hybrid operator, and through its domestic LCS, Nok Air. These separate brands each have unique products and value propositions that are focused on particular segments (Pearson and Merkert, 2014). Nok Air has become Thailand’s most profitable operator, with an 11% net margin in 2013 (ACI, 2013), and Taylor (2013) shows it anticipates adding 12 new aircraft by 2015 for a total of 33. The three carriers in the Thai Airways group have an overall market share (domestic and international) of 36.6% in mid-2014 (CAPA, 2015c), about double Thai AirAsia’s. Nevertheless, Thai Airways’ own strategic capability is 6.7% below the mean capability of all 22 airlines, and this clearly must be strengthened if it is to survive and perform effectively as Thailand’s domestic and international markets inevitably become more competitive.
9.1.4 Philippine Airlines

The Philippines has a considerable LCC penetration and Philippine Airlines is thus very exposed to it. The income distribution in the Philippines is distorted as the upper 50% of households have 80% of the income and the highest 10% accounted for 34% of consumption (Africa, 2011). Therefore, the majority of the Filipino population or travellers to the Philippines are budget conscious which helps to explain the expansion of LCCs. Indeed, as CAPA (2015a) determined LCCs hold around 92% of the domestic seat capacity, which is the world’s highest penetration, and the LCCs control around one-third of the international market in 2013. Despite this dominance, Philippines Airlines has weak strategic capability, with just 27.7% of the capability of the benchmarked airline, Vietnam Airlines. With the fourth lowest capability of all 22 airlines, Philippines Airlines significantly underperforms compared to its peers and it struggles in competing with LCCs. Manuela (2011) found that the Philippine carriers must discount heavily in order to stimulate passenger activity as in O’Connell and Vanoverbeke (2014) found that the fare was the most important purchasing criteria for economy passengers flying to the Philippines.

Philippine Airlines found the 37 competitive responses significantly more difficult to implement and equally less important than the benchmark airline, Vietnam Airlines. The Philippine incumbent found the following responses to be especially difficult: the ability and speed to exit unprofitable markets; increasing seating density; increasing the role of cargo; more effectively segmenting each market; and building value through CRM. Philippine Airlines also found it very difficult to generate more connecting passengers, which is a proposition strongly supported by O’Connell and Vanoverbeke (2014) who found that just 13.4% of Philippine Airlines passengers from its North American routes transferred in Manila to other Filipino destinations in 2012. The situation is further worsened as Philippine Airlines is not currently a member of any of the three global alliances, which carries over six in ten passengers, which would allow Philippine Airlines to connect and transfer passengers to their vast networks.

It was found that there were a number of responses which Philippine Airlines considered unimportant when competing with LCCs, including: changing to one fleet; negotiating with airports and other providers to reduce costs; commission-based components; reducing labour; the ability to quickly introduce changes; leveraging brand strength; outsourcing; and
leveraging their FFP. However, these are normal and key tactics that should be prioritised when competing against LCCs as otherwise Philippine Airlines will continue to struggle in its pursuit of combating its low fare aggressors. Nevertheless, Philippine Airlines placed greater emphasis on certain responses than the airline with the strongest overall capability, notably: revenue from alliance or codeshare partners\textsuperscript{37}; more emphasis on longer-haul flights; greater reliance on connecting passengers; reducing the use of distribution intermediaries; and increasing seating density. These demonstrate its intent to strategically position itself more into long-haul markets where it can avail of feed traffic from partners. However, it appears that Philippine Airlines must strengthen its strategy and tactics in competing with LCCs.

\subsection*{9.1.5 Jet Airways and Air India}

Jet Airways and Air India placed higher levels of importance on particular competitive responses than Vietnam Airlines had emphasised, but they also found responses to be much more difficult to implement. They particularly found these responses to be important: reducing the use of distribution intermediaries; simplifying fares; maintaining premium cabins; and leveraging brand strength. Jet Airways and Air India found simplifying fares to be very important with almost all other airlines considering it less important. O’Connell et al. (2013) demonstrated that fares on Indian domestic markets have fallen by 57\% from 2005 to 2009, while IATA (2012) reported that the average Indian ticket price of $95 is about $11 below that of the cost to breakeven, which highlights the significance of fare structures and their associated issues. Both airlines have been slow at implementing changes, which largely accounts for their poor financial performance. For example, Air India lost an accumulated $3.2 billion in the three financial years ending March 2014, and Jet Airways lost $919 million in the same period (CAPA, 2015c). Their slowness in implementing changes is especially disadvantageous given the excessive competition from LCCs that they have experienced, thus the need to strengthen their capabilities, beginning with cost-cutting, if they are to regain market share and to strengthen their competitive advantages. Indeed, Air India, in its committee report on its cost cutting programme, and Jet Airways, in its turbine restructuring programme, both emphasised the significance of eliminating commissions for bookings and growing direct sales. The responses on which they place particular emphasis partly indicates their similar approaches to restructuring: adopting certain fundamental LCC practices while

\textsuperscript{37} Philippine Airlines has ten code-share partners: Air Macau; All Nippon; Cathay Pacific; Etihad; Garuda; Gulf Air; Malaysia Airlines; PAL Express; Vietnam; and WestJet. However, it isn’t a member of an alliance.
retaining the core elements of network airlines, thereby somewhat hybridising. This approach has been successfully implemented by Aer Lingus, at least within their short-haul markets (O’Connell and IATA, 2007)

Overall, network airlines from South Asia have nearly the weakest strategic capability of all three sub-regions at -1.14. That this sub-region has almost the highest LCC penetration within Asia clearly indicates the challenges faced by airlines from this area. This is especially the case for Air India and SriLankan, the latter the second least capable of competing with LCCs. Indeed, network airlines from South Asia desperately need to be able to effectively respond to LCCs but they are unable to do so.

9.1.6 Cathay Pacific and Hong Kong Airlines

Network airlines in Hong Kong are very vulnerable to new LCC entry from the growth of LCCs and because LCCs in Hong Kong in 2014 had just 7% market share (CAPA, 2015), with Hong Kong “one of the bigger pieces of the puzzle that’s been missing from the LCC map” (Wang and Lee, 2014). Their vulnerability is not just because of increased price competition but also, and perhaps more importantly, because of the declining number of slots and gates, thereby reducing expansion potential. It is for this reason that Will Horton, a senior analyst based in Hong Kong for the Centre for Aviation, said that “Cathay is extremely worried” (Wang and Lee, 2014). However, both Cathay Pacific and Hong Kong Airlines have above-mean strategic capabilities, at -1.03 and -0.73 respectively, so they are better placed than many to compete with LCCs. Hong Kong Airlines’ overall position is strengthened further because HK Express has been modified into a LCC so it is now effectively its LCS. Thus, Hong Kong Airlines focuses upon the premium segment while HK Express targets leisure and labour traffic. In contrast, Cathay Pacific has no plan for its own LCS, and will instead make necessary changes itself to increase its competitiveness, particularly regarding adjusting to customer requirements (IATA, 2013b). Indeed, this research established that Cathay Pacific finds increasing product differentiation and enhancing quality to premium passengers to be both easy and very important.

Despite the relative strength of Cathay Pacific and Hong Kong Airlines, network airlines within Northeast Asia have the lowest strategic capability of all sub-regions. This suggests that they are not ready or able to effectively compete with LCCs, which partly explains why
so many of them have created or have announced or planned LCS thereby believing they need not instigate so many changes themselves. However, they would benefit more from strengthening their own existence, thus increasing their capability to compete by reducing costs, increasing efficiency and productivity, or adapting their product and marketing responses to better reflect the changing reality. This may also assist in increasing barriers to entry, thereby potentially reducing the likelihood of new entry.

9.2 Strategic capability and performance

Strategic capability was initially measured against the perceived performance of Asian network airlines, which was based upon how important each airline considers each of the eight areas of performance\(^{38}\) to be and their current level of satisfaction with them. This can be seen in Figure 9.2. Vietnam Airlines was measured as the benchmark airline as it had the strongest overall strategic capability, and all the other data points for the other airlines were rescaled accordingly. Vietnam Airlines is set to 100% because otherwise all results would be clustered in the centre of the diagram and be difficult to identify and interpret.

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\(^{38}\) Revenue level, revenue growth rate, cash flow, return on equity, profit margin, net profit from operations, return on investment, and the ability to fund business growth from profits.
Figure 9.2: Strategic capability and perceived network airline performance

As Figure 9.2 shows, there is a direct positive correlation \((r = 0.886)\) between the perceived performance and the strategic capability of the Asian network airlines. The strong correlation suggests that airlines with strong strategic capabilities, and thus strong abilities to compete with LCCs, may expect high overall perceived performance by this measure, and those with low strength may expect low performance. Vietnam Airlines and Malaysia Airlines, for example, had performance rankings of 15.95 and 14.84 respectively out of a maximum 16.00, and they had the highest strategic capabilities. However, it is crucial to note that Malaysia Airlines placed 24.6% more emphasis on the importance of the eight performance metrics than its current levels of satisfaction with them, and that the inclusion of eight performance areas goes beyond mere profitability-based measures. It is also its importance and not its satisfaction with the performance areas which more greatly helps to explain why it has a strong perceived performance ranking but is presently loss-making. Indeed, every sampled airline (except Hong Kong Airlines) placed greater emphasis upon the importance of the performance metrics than their current satisfaction with them with a mean difference of 23.8%. Of all airlines, these placed the greatest emphasis upon importance against current
satisfaction: Air India (67.7% more important); Myanmar Airways International (64.9%); Thai Airways (41.4%); and Philippine Airlines (37.2%). But for Myanmar International, for which there is no profitability data, the mean profit margin of the remaining three is -15.5%.

The second form of performance is actual performance which is based upon the profit margins of the surveyed airlines for the year 2013 and can be seen in Figure 9.3. Seven airlines have been excluded from this figure because of data unavailability or from possessing very high or very low strategic capabilities.

**Figure 9.3: Strategic capability and actual network airline performance**

Those airlines contained within Figure 9.3 had a mean profit margin of -2.44%, which means that they collectively lost $0.0244 for every $1 generated in revenue. While the strongest is Air Macau with 8.2%, the weakest is Air India with -28.0%. As with perceived performance, a positive correlation exists between actual performance and strategic capacity \((r = 0.756)\). This suggests that Asian network airlines which have greater capabilities in competing with LCCs may achieve stronger profit margins. For example, SriLankan Airlines has the second-lowest strategic capability (24.5%) and the second-lowest profit margin (-20.9%), while Hainan Airlines has the third-highest capability (37.1%) and the second-highest margin
(6.9%). While the strong relationship between actual performance and strategic capability is predictable and makes sense, it cannot be taken for granted – especially for airlines.

It is interesting to compare the results of perceived performance and actual performance, which, overall, are comparatively similar as the correlations between both forms of performance and capability are strong. But it is important to note the difference in scale within both Figure 9.2 and Figure 9.3, which may make the airlines somewhat incomparable in terms of perceived and actual performance. The difference in scale relates to strategic capability: for perceived performance on the horizontal axis, the range of capability is from 10% to 100%; for actual performance, the airlines used are from a much narrower range of capabilities from 24% to 39%. This may make comparisons between both figures appear unusual. This may be further complicated because Figure 9.3, for actual performance, contains airlines with negative profit margins. However, there are a number of interesting areas of comparison between airlines for both perceived and actual performance.

Cathay Pacific and Thai Airways, for example, perform very strongly for perceived performance yet far less effectively for actual performance. While it could be argued that they are unduly optimistic over the areas which comprise perceived performance, it is really because of the degree of importance they place on them rather than their satisfaction with them. Air China could be similarly deemed overoptimistic. In contrast, the actual performance of Air Macau and Hainan, for example, is notably stronger than their perceived performance. This could reflect their high expectations of performance which they do not believe have yet been reached. Air India and SriLankan are positioned likewise for both perceived and actual performance, which suggests that they are aware of the troubles that they face.

9.3 Summary

This chapter determined the strategic capabilities of 22 Asian network airlines to compete with LCCs but it focused upon eight specific airlines given strong or weak capabilities or because they are at the forefront of LCC development. It also identified how strategic capability varies by sub-region within Asia and by performance.
It was found that strategic capabilities have strengthened since 2007 and competitive responses are now less difficult to implement. There has been an increase in the capability of airlines within Southeast Asia, with this sub-region now possessing the greatest strategic capability. This is advantageous given the LCC penetration within this sub-region is now the greatest (see Figure 2.9). Vietnam Airlines was found to have the strongest capability, aided by having its own LCS and from the circumstances of its ownership, with Vietnam at the forefront of LCC growth within Asia. Malaysia Airlines was found to have the second greatest capability yet it is unprofitable because of many reasons, including the impacts of LCCs, which indicates the imperativeness of acting upon determined capability.

Of all the different competitive responses, those within the product, revenue and fare, and marketing categories were the most important to implement by Asian network airlines in trying to strengthen their strategic capabilities. These may be particularly important for those network airlines within South Asia as this is a fast-growing sub-region with considerable LCC penetration yet network airlines there have low strategic capabilities and must strengthen them to compete more effectively.

Given the determination of strategic capability is based upon data from the individual competitive responses, and that it is these competitive responses which may be implemented in competing with LCCs, it is necessary to analyse these responses by the importance and difficulty of their implementation. This is undertaken in Chapter 10.
10.0 ANALYSIS AND DISCUSSION: COMPETITIVE RESPONSES IN COMPETING WITH LOW-COST CARRIERS

The importance and difficulty of competitive responses will influence those which are implemented by the sampled 22 Asian network airlines in competing with LCCs. Indeed, it is the determination of importance and difficulty, and the relationship between them, which may determine their likely effectiveness, sustainability, and the degree to which they are pursued given management time and expenditure. Based upon questionnaire data with 22 network airlines, this chapter examines 37 competitive responses across six response categories (see Chapter 5.2.1) to rank both individual responses but also response categories.

With the greatest mean scores and among the lowest standard deviations, the most important response categories to implement are product and marketing. In contrast, the most difficult categories are other and productivity. Appendix 4 provides the results of the importance of competitive responses by both individual airline and response category, while Appendix 5 provides the results for difficulty.

This chapter analyses and discusses each response category, and the responses with them, in more depth given by their importance given it is this, in particular, which will influence those that are implemented. It concludes by examining the relationship between the importance and difficulty of all 37 responses to suggest those which should and should not be pursued for implementation by Asian network airlines in competing with LCCs.
<table>
<thead>
<tr>
<th>COMPETITIVE RESPONSES</th>
<th>IMPORTANCE OF IMPLEMENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productivity responses</strong></td>
<td></td>
</tr>
<tr>
<td>Increasing aircraft utilisation</td>
<td>4.45</td>
</tr>
<tr>
<td>Increasing labour productivity</td>
<td>4.05</td>
</tr>
<tr>
<td>Increasing seating density</td>
<td>3.59</td>
</tr>
<tr>
<td>Reducing turnaround times</td>
<td>3.32</td>
</tr>
<tr>
<td>Reducing labour</td>
<td>3.23</td>
</tr>
<tr>
<td><strong>Mean results</strong></td>
<td>3.73</td>
</tr>
<tr>
<td><strong>Cost and rationalisation responses</strong></td>
<td></td>
</tr>
<tr>
<td>Ability to reduce costs to within 30% of LCCs</td>
<td>4.23</td>
</tr>
<tr>
<td>Ability/speed to exit unprofitable markets</td>
<td>4.05</td>
</tr>
<tr>
<td>Negotiating with airports/other to reduce costs</td>
<td>3.64</td>
</tr>
<tr>
<td>Unbundling the product</td>
<td>3.45</td>
</tr>
<tr>
<td>Reducing the use of distribution intermediaries</td>
<td>3.18</td>
</tr>
<tr>
<td>Outsourcing particular areas</td>
<td>3.05</td>
</tr>
<tr>
<td>Changing to one fleet</td>
<td>2.14</td>
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<tr>
<td><strong>Mean results</strong></td>
<td>3.39</td>
</tr>
<tr>
<td><strong>Revenue and fare responses</strong></td>
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</tr>
<tr>
<td>Driving more sales through your website</td>
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</tr>
<tr>
<td>Revenue from alliance/codeshare partners</td>
<td>3.86</td>
</tr>
<tr>
<td>Travel policy agreements</td>
<td>3.82</td>
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<tr>
<td>Simplifying fares</td>
<td>3.82</td>
</tr>
<tr>
<td>Increasing the role of cargo</td>
<td>3.41</td>
</tr>
<tr>
<td>Commission-based components</td>
<td>3.36</td>
</tr>
<tr>
<td><strong>Mean results</strong></td>
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</tr>
<tr>
<td><strong>Product responses</strong></td>
<td></td>
</tr>
<tr>
<td>FFPs</td>
<td>4.23</td>
</tr>
<tr>
<td>Enhancing quality to premium passengers</td>
<td>4.14</td>
</tr>
<tr>
<td>Increasing product differentiation</td>
<td>4.00</td>
</tr>
<tr>
<td>Greater reliance on connecting passengers</td>
<td>4.00</td>
</tr>
<tr>
<td>Maintaining premium cabins</td>
<td>3.95</td>
</tr>
<tr>
<td>More emphasis on longer-haul flights</td>
<td>3.41</td>
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<tr>
<td><strong>Mean results</strong></td>
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<td><strong>Marketing responses</strong></td>
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<td>Leveraging brand strength</td>
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<tr>
<td>More effectively segmenting each market</td>
<td>4.32</td>
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<tr>
<td>More effectively targeting each market</td>
<td>4.23</td>
</tr>
<tr>
<td>Effectively meeting the needs/requirements of customers</td>
<td>4.23</td>
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<td>Increasing advertising</td>
<td>4.09</td>
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<tr>
<td>Building value through CRM</td>
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<tr>
<td><strong>Mean results</strong></td>
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<td><strong>Other responses</strong></td>
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<td>Ability of management to quickly introduce changes</td>
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<td>High market share in markets with LCC competition</td>
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<td>Creating a low-cost subsidiary</td>
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<tr>
<td>Diversifying</td>
<td>2.50</td>
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<tr>
<td>Joint-purchasing agreements with alliance members</td>
<td>2.41</td>
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<tr>
<td>Equity investments in other airlines</td>
<td>2.32</td>
</tr>
<tr>
<td>Pursuing mergers and acquisitions (M&amp;A)</td>
<td>2.27</td>
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<tr>
<td><strong>Mean results</strong></td>
<td>3.04</td>
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</table>
Table 10.2: The difficulty of competitive responses for Asian network airlines

<table>
<thead>
<tr>
<th>COMPETITIVE RESPONSES</th>
<th>DIFFICULTY OF IMPLEMENTATION</th>
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</thead>
<tbody>
<tr>
<td><strong>Productivity responses</strong></td>
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</tr>
<tr>
<td>Reducing labour</td>
<td>Mean 4.18, SD 0.59</td>
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<tr>
<td>Increasing aircraft utilisation</td>
<td>Mean 4.09, SD 0.75</td>
</tr>
<tr>
<td>Increasing labour productivity</td>
<td>Mean 3.86, SD 0.56</td>
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<tr>
<td>Reducing turnaround times</td>
<td>Mean 3.82, SD 0.50</td>
</tr>
<tr>
<td>Increasing seating density</td>
<td>Mean 3.64, SD 1.05</td>
</tr>
<tr>
<td><strong>Mean results</strong></td>
<td>Mean 3.92, SD 0.69</td>
</tr>
<tr>
<td><strong>Cost and rationalisation responses</strong></td>
<td></td>
</tr>
<tr>
<td>Changing to one fleet</td>
<td>Mean 4.86, SD 0.35</td>
</tr>
<tr>
<td>Ability to reduce costs to within 30% of LCCs</td>
<td>Mean 4.55, SD 0.51</td>
</tr>
<tr>
<td>Reducing the use of distribution intermediaries</td>
<td>Mean 4.27, SD 0.88</td>
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<tr>
<td>Negotiating with airports/other intermediaries</td>
<td>Mean 3.82, SD 0.59</td>
</tr>
<tr>
<td>Unbundling the product</td>
<td>Mean 3.59, SD 0.85</td>
</tr>
<tr>
<td>Ability/speed to exit unprofitable markets</td>
<td>Mean 3.05, SD 1.09</td>
</tr>
<tr>
<td>Outsourcing particular areas</td>
<td>Mean 2.91, SD 0.61</td>
</tr>
<tr>
<td><strong>Mean results</strong></td>
<td>Mean 3.86, SD 0.70</td>
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<tr>
<td><strong>Revenue and fare responses</strong></td>
<td></td>
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<tr>
<td>Increasing the role of cargo</td>
<td>Mean 4.05, SD 1.05</td>
</tr>
<tr>
<td>Revenue from alliance/codeshare partners</td>
<td>Mean 3.41, SD 0.73</td>
</tr>
<tr>
<td>Travel policy agreements</td>
<td>Mean 3.32, SD 0.72</td>
</tr>
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<td>Commission-based components</td>
<td>Mean 2.64, SD 0.73</td>
</tr>
<tr>
<td>Driving more sales through your website</td>
<td>Mean 2.50, SD 0.86</td>
</tr>
<tr>
<td>Simplifying fares</td>
<td>Mean 2.36, SD 1.05</td>
</tr>
<tr>
<td><strong>Mean results</strong></td>
<td>Mean 3.05, SD 0.86</td>
</tr>
<tr>
<td><strong>Product responses</strong></td>
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</tr>
<tr>
<td>Increasing product differentiation</td>
<td>Mean 3.59, SD 0.96</td>
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<tr>
<td>Enhancing quality to premium passengers</td>
<td>Mean 3.18, SD 0.96</td>
</tr>
<tr>
<td>More emphasis on longer-haul flights</td>
<td>Mean 2.64, SD 0.73</td>
</tr>
<tr>
<td>Greater reliance on connecting passengers</td>
<td>Mean 2.55, SD 0.74</td>
</tr>
<tr>
<td>Maintaining premium cabins</td>
<td>Mean 2.00, SD 0.69</td>
</tr>
<tr>
<td>FFPs</td>
<td>Mean 1.73, SD 0.55</td>
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<td><strong>Mean results</strong></td>
<td>Mean 2.61, SD 0.77</td>
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<tr>
<td><strong>Marketing responses</strong></td>
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<tr>
<td>More effectively targeting each market</td>
<td>Mean 3.68, SD 0.78</td>
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<tr>
<td>Building value through CRM</td>
<td>Mean 3.64, SD 0.95</td>
</tr>
<tr>
<td>More effectively segmenting each market</td>
<td>Mean 3.59, SD 0.43</td>
</tr>
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<td>Leveraging brand strength</td>
<td>Mean 3.27, SD 0.98</td>
</tr>
<tr>
<td>Effectively meeting the needs/requirements of customers</td>
<td>Mean 3.23, SD 0.87</td>
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<tr>
<td>Increasing advertising</td>
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<tr>
<td><strong>Mean results</strong></td>
<td>Mean 3.36, SD 0.88</td>
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<tr>
<td><strong>Other responses</strong></td>
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<tr>
<td>Pursuing M&amp;A</td>
<td>Mean 4.45, SD 0.67</td>
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<td>Equity investments in other airlines</td>
<td>Mean 4.14, SD 1.03</td>
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<tr>
<td>Joint-purchasing agreements with alliance members</td>
<td>Mean 4.14, SD 1.04</td>
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<tr>
<td>High market share in markets with LCC competition</td>
<td>Mean 3.82, SD 0.59</td>
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<tr>
<td>Diversifying</td>
<td>Mean 3.82, SD 0.91</td>
</tr>
<tr>
<td>Creating a low-cost subsidiary</td>
<td>Mean 3.68, SD 0.65</td>
</tr>
<tr>
<td>Ability of management to quickly introduce changes</td>
<td>Mean 3.32, SD 1.13</td>
</tr>
<tr>
<td><strong>Mean results</strong></td>
<td>Mean 3.91, SD 0.86</td>
</tr>
</tbody>
</table>
10.1 Productivity competitive responses by importance

As Table 10.1 shows, productivity responses as a group are important to implement, with a mean of 3.73 out of five. Given the relationship between increased productivity and reduced costs, it is surprising that productivity responses collectively are not more important. However, with a standard deviation of 0.91, the individual productivity responses vary quite widely by importance, from 4.45 (increasing aircraft utilisation) to 3.23 (reducing labour). This difference suggests that more thought is needed before deciding upon which productivity responses to implement.

Field (2008) and Molnrova (2009) found that asset and labour productivity are the only two attributes of LCCs that are of such importance that they override all other attributes. However, this does not explicitly concern network airlines, which, in any case, revolve around passenger interconnectedness and passenger flow and not high asset, particularly aircraft utilisation, or labour productivity. Network airlines will, by definition, almost always have lower productivity, even when their long-haul sectors are considered.

Nevertheless, this research found that increasing aircraft utilisation and labour productivity were important for Asian network airlines to implement. This confirms Franke (2004) who said that productivity improvements underpin the responses of network airlines to LCCs and their consequent financial and other restructuring given that it should reduce costs. The greater use of aircraft and labour, whether by block hours per 24 hours or sectors per day or shift, should reduce the cost differential between network airlines and key LCC competitors more than any other response within the productivity category.

At 4.45, aircraft utilisation is the most important productivity response. Indeed, of the 22 network airlines surveyed nearly six in ten ranked it as very important to implement while 36% ranked it important. Given these results, it is unsurprising that all three sub-regions within Asia, in terms of the airlines within each being summed, considered increasing aircraft utilisation to be very important or important, particularly South Asia (score of five out of five). While those from Northeast Asia found this response to be important, this is only because of the inclusion of All Nippon, which was the only sampled airline that considered it less than important (one) perhaps because of an error in inputting their choice. Excluding All Nippon, those from Northeast Asia also consider it to be very important (4.60).
In contrast to aircraft utilisation, labour productivity is the second most important response at 4.05. This somewhat confirms Janic (2007) who said that labour productivity is especially useful because any increase to flight and cabin crew productivity will spread their salaries, primarily a fixed cost, over more output and will thereby reduce their contribution per unit and seat cost. Like for aircraft utilisation, there is minimal variation in importance for labour productivity between Asian sub-regions, which suggests that most network airlines throughout Asia deem increasing labour productivity to be of effectively the same importance. This finding is curious given the varying salaries of labour throughout the continent, with those from Northeast Asia especially disadvantaged, and that airlines from South Asia, in particular, are often overstaffed (Jarach, 2005). Increasing labour productivity was found to be notably more important than simply reducing labour, with this having the lowest level of importance for productivity at 3.23. Its low level of importance is supported by this response having the lowest standard deviation (0.80), which suggests there is less variance among the mean from all sampled airlines in comparison to other productivity responses. That network airlines from Northeast Asia found reducing labour more important than any other sub-region (3.45) may suggest that they realise that they must reduce the proportion of their costs attributed to labour as a means of becoming more cost-competitive as LCCs there grow.

It is not surprising that increasing aircraft utilisation is more important than increasing labour productivity given the capital intensiveness of airlines, with aircraft ownership the primary reason. The greater importance of aircraft utilisation must be based on the assumption that their increased use will make a meaningful contribution to profitability or to the reduction of ownership costs on a unit basis, or it will simply increase their operating costs and worsen financial performance.

Increasing seating density is ordinarily a fundamental means of reducing costs for airlines, with Doganis (2006) showing that it could account for 16% of the cost advantage of LCCs versus network airlines. Despite the unit cost benefits, the negative impacts on service quality, seating comfort, and yields mean that it is not often practicable for network airlines to any meaningful degree. This was challenged by this research which found that this response had a mean level of importance of 3.59, which suggests that it is important to implement. Increasing seating density was particularly important for those within Northeast
Asia (3.73), but especially China and Taiwan, with Hong Kong Airlines considering it to be of the greatest importance (5.00).

With the highest sub-regional LCC penetration rate in Asia, network airlines from South Asia found increasing seating density to be important (3.67). It may be inferred that these airlines believe that the cost perspective is more important than the revenue perspective. Southeast Asia is different, with network airlines from countries with the greatest LCC penetration rates – Malaysia Airlines, Garuda Indonesia, Vietnam Airlines, Thai Airways, and Philippine Airlines – giving increasing seating density a neutral score of three, while Malaysia Airlines, which competes heavily with AirAsia and Malindo, found it to be unimportant (2.00). Given the clear ability of increasing seating density to reduce cost, these findings are interesting. However, it is probably because they realise the importance of retaining their greater seating comfort and higher service quality in trying to retain their marginally differentiated products to hopefully achieve greater yields. This is especially important given the increasing penetration of Malindo.

### 10.2 Cost and rationalisation competitive responses by importance

Given the frequency with which airlines of all forms communicate the importance of cost control and cost reduction, it was anticipated that cost and rationalisation responses would be of great significance. However, as a category this was not the case, with Table 10.1 showing a mean of 3.39, which is the second-lowest of all six response categories. This suggests that, overall, the cost and rationalisation category is neither unimportant nor important to implement. However, this neutral score hides that this category has the greatest standard deviation (1.01) of all categories, which suggests that the importance of it varies more than any other by individual airline.

The low mean score may somewhat challenge convention that cost reduction must be a priority for all airlines. That cost and rationalisation responses are less important overall than productivity responses is indicative of the individual responses, particularly changing to one fleet and outsourcing, and not necessarily of the category itself. Indeed, cost and rationalisation responses had considerable variation among themselves, which suggests
markedly differing levels of importance for each response, from 4.23 for the ability to reduce costs to within 30% of LCCs to 2.14 for changing to one fleet.

Cost and rationalisation responses were of very similar importance irrespective of sub-region, with South Asian airlines considering this category marginally more important. This degree of similarity is surprising given how cost levels, the degree of competition, and the need for cost reduction varies widely across Asia and by specific airline. Network airlines from Northeast Asia have for a long time been protected from much price-based competition from onerous regulations, so it is not necessarily surprising that they do not consider cost and rationalisation responses to be of greater significance. This is despite Zhang et al. (2008) establishing that it is those from Northeast Asia which often have the highest costs. However, this emphasis on cost reduction is likely to change as competition in short-haul markets intensifies in forthcoming years, although the history of network airlines changing in response to heightened competition suggests that cost-based responses may be slow to be implemented (Barrett, 2004).

It was found that “structural” responses – changing to one fleet, reducing costs to within 30% of LCCs, and unbundling – were, as a group, neutral in importance to implement, with a mean of 3.27. This was contrary to expectation given their fundamental nature and their potential to reduce costs (Holloway, 2008), and it was primarily because of the inclusion of changing to one fleet which was the only cost and rationalisation response to be deemed unimportant. However, its unimportance was not surprising given the differing markets, sector lengths, products, and classes of network airlines, and their consequent sunk costs\footnote{Assuming the aircraft were owed by the airline. The sunk costs would be lower if the aircraft were leased.}. Indeed, nearly six in ten network airlines ranked changing to one fleet as unimportant or very unimportant, suggesting that any benefit derived from this stereotypical LCC attribute may not offset the incurred negative consequences for network airlines.

CAPA (2013b) illustrated that the cost differential between network airlines and LCCs in Asia is around 45%. This is notably lower than the 60-70% found by IATA (2005), suggesting the cost reduction that has already been undertaken, while Franke (2004) found that 80% of the service quality of network airlines could be achieved at 50% of the cost. Given this, it is logical that the ability to reduce costs to within 30% of LCCs is the most
important cost and rationalisation response with a mean of 4.23. However, it is surprising that this response was not more important, although this is partially because of the very difficult nature of implementing this response (4.55 out of 5; see Table 10.2). This may mean that this response is probably not achievable by most airlines.

While half of all 22 network airlines found reducing costs to within 30% of LCCs to be important, only 41% considered it to be very important. Two network airlines – Royal Brunei and Hainan – that presently minimally compete with LCCs found this response to be unimportant. Given the relative isolation of these airlines, this is not surprising, but it will probably change should competition grow with LCCs or with more cost-competitive network airlines. In keeping with the higher operating costs within Northeast Asia, airlines from this sub-region found reducing costs to within 30% of LCCs to be very important and the most important, with a mean of 4.54. The imperativeness to reduce costs in Northeast Asia will increase given it is this sub-region that is anticipated to become the primary driver of future LCC growth within Asia.

Over the past few years, the unbundling of fare structures, giving rise to unbundled products, has increasingly occurred with European and North American network airlines in economy class and short-haul markets (O’Connell and Warnock-Smith, 2013). Predominately concerning easily removable product attributes that LCCs have traditionally unbundled, Wong (2003) identified that unbundling is a key element of product simplification, itself an important, longer-term countermeasure for network airlines. The possession of an unbundled fare structure may also generate very significant revenues, particularly from checked baggage fees, change fees, and food and drink sales. This research broadly confirms these findings because it was found that unbundling was almost an important response to implement, at 3.45. More interestingly, the network airlines from South Asia and Southeast Asia found unbundling to be more important to implement than those from Northeast Asia. This suggests the growing role of price- and value-for-money in purchase decision-making in South and Southeast Asia, with a more elaborate, expensive value proposition, focused on differentiated products, maybe increasingly less likely to be effective. This trend is likely to gradually move to countries with fast-growing LCCs. Indeed, it was also found that network airlines from South Korea, smaller network airlines that presently compete more greatly with LCCs, and network airlines that have announced LCS typically find unbundling to be an
important response. It is expected that this trend is likely to continue, albeit only concerning product attributes of questionable value for which customers possess minimal willingness to pay.

Unlike “structural” responses, more “natural” responses in times of greater competition and general hardship – renegotiating with suppliers, pursuing more cost-effective distribution, outsourcing specific areas to lower-cost third parties, and the ability and speed to exit unprofitable markets – were more important, with an average 3.45. Yet, as a group, these were still not quite important.

Across Asia, the second most important cost and rationalisation response was the ability and speed to exit unprofitable markets with a mean score of 4.05. In contrast to reducing costs to within 30% of LCCs, it was found that more airlines deemed the ability and speed to exit unprofitable markets to be very important. This was particularly the case for airlines from South Asia and Southeast Asia, which ranked this response as their most important for this category, but particularly those from South Asia with a score of 4.67.

The importance of the ability and speed to exit unprofitable markets confirms Taneja (2005) who found that some markets and customers of network airlines will invariably be unprofitable given their target-everyone approach. That this response is important is vital, for Woo and Fock (2004) determined that unprofitable markets and customers that are retained may endanger a firm’s profitability and survival. The elimination of unprofitable markets and customers may enable Asian network airlines to refocus and to better target and serve the needs of more narrowly-focused segments, thereby enabling them to more effectively deliver greater value and to distinguish themselves from their key competitors. Despite their dissimilar nature, three airlines – Cathay Pacific, Thai Airways, and Air Macau – considered the ability and speed to exit unprofitable markets to be unimportant to implement. This is a particularly surprising result for Thai Airways which lost $392 million in 2013 and is implementing a rationalisation programme which forecasts cost savings of $120 million from reducing fuel consumption, a 25% reduction in its workforce, and from the elimination of loss-making routes, with some of these routes to be moved to Thai Smile (Corben, 2014).

Renegotiating contracts with airports and other suppliers is a key aspect of the cost model of network airlines, and this research confirmed that it is an important response to implement,
with a mean result of 3.64. Yet it is surprising that only 59% of network airlines deemed this response to be important or very important, indicating the difficulties incurred in trying to renegotiate, especially given that so many fundamental areas, particularly fuel and enroute navigation charges, are effectively non-negotiable. This suggests that this area of cost reduction is not one that is necessarily pursued. Despite the high operating costs in India, especially from infrastructure and fuel (Doganis, 2009), Air India ranked renegotiating contacts as very unimportant, which is not unexpected as it is a state-owned and perennially financially poor-performing airline that is often recapitalised by the Indian government (Wall Street Journal, 2013).

Buhalis (2004) showed that reducing the use of distribution intermediaries played an important role in reducing input costs, yet it was found that it was neither unimportant nor important to implement for Asian network airlines. This response was virtually consistent among all sub-regions and indicates the degree to which network airlines rely on multiple channels to access all targeted market segments for their very survival. Network airlines from Northeast Asia found this cost and rationalisation response to be the least important, primarily because of the characteristics of those that fly within these regions, their booking behaviour, and technological reasons (Lawton and Solomko, 2005). Airlines within Japan and China, in particular, found reducing intermediaries to be unimportant, with Air China and All Nippon considering it very unimportant. It is likely that the importance of reducing distribution intermediaries is likely to change in the future for all sub-regions, but slowly and marginally.

10.3 Revenue and fare competitive responses by importance

Despite the disparate nature of competitive responses within the revenue and fare category, it is surprising that there was not less variation among them, which was less than for both the productivity and cost and rationalisation categories. More importantly, Table 10.1 shows that revenue and fare competitive responses are, as a group, marginally more important to implement, with 3.76. The importance of this category should not be surprising given the need for firms to generate revenues despite the less frequent public discussion of this requirement for airlines against the need for cost control and cost reduction.
It was found that responses that explicitly concern increasing revenue – increasing cargo, revenue from alliance and codeshare partners, travel policy agreements, and using commission-based components – were important to implement (mean: 3.61). This confirms Smith (2009) who found likewise. Interestingly, they were less important to implement than those responses that do not explicitly concern increasing revenue, specifically driving more sales through your website and simplifying fares (mean: 4.07). This may be the consequence of both the specific revenue-generating responses but, in particular, because of the overriding and commonplace nature of those that don’t explicitly increase revenue.

Network airlines throughout the world were slow at using their own websites as a distribution channel (Klein, et al., 2005). Despite this, this research identified that the surveyed network airlines consider driving more sales through their own websites to be the most important revenue and fare response, with a mean of 4.32. The significance of this response is such that all 22 airlines considered it to be important or very important to implement. Thus, network airlines – whether from countries with considerable or minimal internet penetration, credit card usage, and irrespective of buying habits and LCC competition – believe that it is an important opportunity to increase their competitiveness. This is because if it is implemented to a meaningful degree it should not only help to reduce their distribution costs but also help to improve their service levels, the development of stronger relationships with customers, and to react more quickly to price changes by LCCs. However, it will also give customers more power and it will increase the role of price (IATA, 2011). Nevertheless, it should increase their responsiveness but also increase their revenue-generating opportunities from commission-based components.

Biffle (2007) established that air travel is often the smallest part of a travel itinerary and airlines that actively pursue customers’ total travel spend through the retailing of commission-based components may significantly increase their revenues. Indeed, O’Connell and Bouquet (2014) found that dynamic packaging is a growing phenomenon for airlines. Given its low-risk nature and the ability of airlines to become one-stop retail shops, it is surprising that commission-based components were neither unimportant nor important (3.36). In fact, unbundling, which may have a number of downsides in terms of the degree of differentiation and the increasing the role of price, was found to be a more important response.
Mason (2002) identified that travel policy agreements between companies and airlines are fundamental because of the frequency with which executives travel and the lower price-elasticity of business travellers. Given this, and that individual business travellers have little or no discretion in choosing between airlines, it is not surprising that leveraging and expanding travel policy agreements was found to be an important competitive response, with 3.82. Three-quarters of network airlines deemed it to be important or very important. This confirms Carlson Wagonlit Travel (2011) who identified that travel policy agreements are an important differentiator for network airlines against LCCs as LCCs do not have these agreements. Thus, those network airlines that engage in it to a greater degree may develop closer relationships with their core market segment while benefiting from their loyalty and from greater revenues. This may therefore afford them additional protection against competitive forces. Irrespective of location within Asia, travel policy agreements appear to be perceived as being a significant competitive response.

The importance of implementing revenue and fare responses varies widely by individual airline, with Air India considering this response category to be the most important of all surveyed airlines. Interestingly, Air India was ranked nine of all 22 network airlines in terms of the degree of importance it places on cost and rationalisation responses, which indicates its differing approach to competition. This is part of a wider general relationship between revenue and fare responses and cost and renationalisation response; with a correlation of $r = 0.68$, if an airline finds one of these categories to be more important the other may be less important. This is despite these categories not being mutually exclusive. For example, Air Macau, Cathay Pacific, MAI, and Hong Kong Airlines all had above-mean importance for revenue and fare responses, yet were below-mean for cost and rationalisation. EVA Air, Air China, China Airlines, and Korean Air were below-mean for revenue and fare, but above-mean for cost and rationalisation.

Nine airlines were below-mean by importance for revenue and fare while ten were above-mean, which is primarily explainable because those above-mean find increasing the role of cargo to be significantly more important (4.30) than those with below-mean (2.44). It is also because those with above-mean importance find revenue from alliance and codeshare partners to be much more important (4.50) than those below-mean (3.00). It is notable that airlines from Northeast Asia do not find the revenue and fare responses that were included in the questionnaire to be particularly important to implement, with nearly eight in ten of those
airlines below-mean coming from this sub-region. This includes those with the lowest five mean scores. Those with the lowest-five mean scores are positioned such primarily because they found three responses to be unimportant: commission-based components (2.40); revenue from alliance and codeshare partners (2.40); and increasing the role of cargo (2.20). For these five airlines, the benefits of these revenue and fare responses would not offset the disadvantages.

10.4 Product competitive responses by importance

Five of the six product responses within the product response category were found to be important to implement, with a mean result of 4.11. This degree of importance helps to indicate the relationship between product, revenue generation, and, in particular, attributes that are of value to the core market segment of network airlines – business travellers – in trying to achieve greater yields. It is because of this relationship that there is relatively little variation among the responses and airlines in terms of importance with a standard deviation of just 0.76.

As a group, product responses were found to be more important to implement than revenue and fare. Those product responses that primarily concern maintaining specific attributes, for instance FFPs and premium cabins, are important to implement (mean of 4.09), those that require the generation of revenues are marginally less important to implement (3.89). While not a big difference, this at least suggests that responses, both by importance and difficulty, should be thoroughly analysed prior to being pursued.

Klophaus (2005) indicated that FFPs are a customary means of attracting higher-yielding passengers and a way for network airlines to differentiate their products against LCCs. This is no different in Asia, where virtually every network airline has a FFP or is in a partnership with another, larger airline and shares their programme. Beyond loyalty, FFPs may also enable airlines to generate very significant revenues, potentially several billion dollars, and to thereby significantly improve profitability (Airline Leader, 2012c). It is therefore not surprising that the surveyed airlines perceived FFPs to be an important response, with 4.23. This finding is in contrast to Lederman (2007), who determined that loyalty programmes are not necessarily worth pursuing because of the commonness of them and the inability to derive meaningful advantage from them.
If Asian network airlines already possess a FFP, maintaining its use, irrespective of the incurred cost and complexity, suggests they may be more inclined to deem this response important. Nevertheless, nearly nine in ten of surveyed airlines considered FFPs to be important or very important, with only Philippine Airlines, which is particularly focused upon VFR and leisure traffic, finding it neither unimportant nor important. Network airlines from South Asia and Southeast Asia found FFPs to be less important (4.00 and 3.88 respectively) than those from Northeast Asia (4.45). While this suggests that FFPs are still an important tool in competing with LCCs given the LCC penetration rates in South Asia and Southeast Asia, it may suggest that they are less effective and meaningful.

But for the finding that Asian network airlines lack differentiation, the strategic position of such airlines is ordinarily differentiation whereby they seek to offer greater benefits and perceived added value in return for higher yields. It is these higher yields which offset the higher costs of production inherently associated with their positioning. Given this, Gursoy et al. (2005) determined that network airlines should increase their product differentiation and thereby make a concerted effort to stand out and to be clearly different and better. Indeed, ‘retreat to core’, whereby firms return to, or at least more greatly emphasise, their core reason for being, is a common response by firms in any industry subject to significant competition, given their history, knowledge, and expertise with it (Ryans, 2009). This research confirms these contentions because it was found that increasing product differentiation was an important response for Asian network airlines to implement (mean: 4.00). Indeed, over three-quarters of surveyed airlines considered it important or very important. Interestingly, SilkAir, the regional partner of Singapore Airlines which was found to possess the lowest strategic capability in competing with LCCs, found increasing differentiation to be an unimportant response despite carrying both local and connecting business travellers and the heightening LCC competition within Singapore.

Airline Leader (2012a) found that network airlines engage in cost reduction so long as they do not change business models or reduce service to their premium customers. Furthermore, Ostrowski et al. (1993) determined that network airlines enhancing service quality, so probably increasing differentiation, is a typical change in the revenue model of network airlines to increase yields. This research supported these views because it found that enhancing quality to premium customers was an important response to implement (mean:
It was also of very similar importance across Asian sub-regions. Theoretically, this should be advantageous to Asian network airlines for Park et al. (2004) and Liou and Tzeng (2007) established that high quality service, albeit primarily in terms of tangible attributes, is essential and should result in more retained customers, increased market share, and increased profitability. However, as the survey specifically concerned economy class and short-haul markets, it is curious that enhancing quality to premium customers was so important. This is explainable because it is such passengers who ordinarily represent the core of network airlines, and not the most price-elastic customers. It follows that those network airlines that thought increasing product differentiation was important would also think that enhancing quality would be important, given differentiation is often achieved by increasing quality of attributes. This relationship was broadly found to be the case given $r = 0.71$ based upon the mean scores for all 22 network airlines.

Network airlines generally rely on intralining passengers. As such, Airline Leader (2013) suggested that another retreat to core response is to increase the proportion of connecting passengers to local passengers as it would enable them to concentrate on what they have been configured to do. Notwithstanding the typically lower yields from connecting passengers, this approach would increasingly move them beyond the reach of LCCs, especially if it concerned longer-haul services, thereby affording them a degree of protection. This research confirmed this approach, for it identified that greater reliance on connecting passengers was an important response to implement (4.00). However, the growing use of medium- and long-haul, low-cost airlines may reduce the viability of this approach (Wensveen and Leick, 2009). Nearly nine in ten surveyed airlines found increasing connecting passengers to be important or very important. Of these, four airlines – Philippine Airlines, MAI, SilkAir, and Dragonair – all considered this response to be of the greatest importance (5.00). For Philippine Airlines and MAI, this is because they have explicitly stated their desire to use their respective airports to increase the proportion of connecting passengers (Philippine Flight Network, 2013; CAPA, 2013c). Philippine Airlines, for example, restarted Manila-London Heathrow in 2013 as a means of helping to achieve this, with the intention of using its Manila hub, in part, to participate in the “kangaroo route” despite the plethora of alternative options for customers (CAPA, 2013d). SilkAir and Dragonair, the latter the regional partner of Cathay Pacific, seek to leverage their roles in feeding their partners’ flights and thereby to become increasingly less reliant on local traffic that will be progressively targeted by LCCs. Network airlines from Southeast Asia, in particular, found a greater reliance on connecting passengers
to be more important (4.38) than other sub-regions, but this is not necessarily surprising given these airlines are typically suffering from both the growing dominance of the MEB3 on long-haul services to and from Europe and Africa, and LCCs within short-haul markets.

Of all 22 airlines, it was Cathay Pacific that considered the product responses overall to be more important to implement, which clearly goes with its product-driven nature and its willingness to invest in attributes to try to increase yields. It is also not surprising because of Cathay Pacific’s unrelenting focus on its core premium customers, including higher-end leisure passengers (Ghee, 2014). Cathay Pacific is an intriguing exception among network airlines from Northeast Asia, but especially China and Taiwan, as they were found to place less importance upon product responses. Those from Northeast Asia found product responses to be of below-mean importance, with the bottom-three airlines being China Eastern, EVA Air, and China Airlines. While these three rank a mean of 3.3* out of five according to SkyTrax, Cathay Pacific is a 5* airline (SkyTrax, 2015).

10.5 Marketing competitive responses by importance

All six of the responses within the marketing category were found to be important to implement, with this category possessing both the highest mean of all categories (4.20) and the lowest standard deviation (0.71). This can be seen in Table 10.1. Thus, all the marketing responses were comparatively consistent in importance.

Clark (2012) stated that branding is a key product feature affecting travel decisions and the choice of airline, while Gellert and Matsson (2014) established that a firm’s brand is its primary source of competitive advantage. This research confirmed the importance of brands because leveraging brand strength was a very important response to implement (mean: 4.50). This supports the finding that brand was the core intangible resource across all 49 Asian airlines in terms of the VRIN framework (see Chapter 7.0). However, brand varied more widely by sub-region than any other marketing response because Royal Brunei and Philippine Airlines considered this response to be of neutral importance mainly as their brands are not particularly well-known or strong, at least beyond their core markets. That leveraging brand strength is so important in competing with LCCs also indicates the degree to which Asian network airlines must further strengthen their brands and to more effectively communicate their brand values to their customers. This is the case irrespective of geographic location and
the idiosyncratic configuration of individual airlines. This should also assist them in differentiating their products away from LCCs and other network airlines, and thereby hopefully increasing the likelihood of achieving greater yields.

IATA (2011) identified that network airlines attempt to target everyone and only segment their markets in crude ways, typically by class, trip purpose, and motivation to travel. Taneja (2013) determined that their ineffective segmentation has resulted in insufficiently crafted products and value propositions which therefore inadequately meet the needs and requirements of their targeted segments. Thus, Shaw (2012) argued that it is imperative that network airlines more effectively segment their markets. This importance of better segmentation was confirmed by this research which found that it is an important response to implement (4.32), and network airlines from Southeast Asia found this response to be very important (4.60). This importance indicates that the creation of clearer heterogeneous groups should more effectively identify groups with enough in common to warrant specific product offerings using the marketing mix.

Successful market segmentation is accomplished when firms create products or services to each targeted market segment. Indeed, Feldman (2006) identified that airlines need to more effectively target each segment with appropriate products and value propositions in order to meet, let alone exceed, their needs, wants, and requirements. More effectively targeting chosen market segments and effectively meeting the needs and requirements of customers were equally important for Asian network airlines to implement (mean: 4.23), with a reasonably strong relationship ($r = 0.72$) relationship between these two responses based upon the mean results for all 22 network airlines. This suggests that meeting the needs and requirements of the segments targeted may result in them being more effectively targeted, with potentially significant implications in terms of loyalty and yield. That more effectively targeting segments and effectively meeting the needs and requirements are less important than more effectively segmenting each market is expected given that better targeting and meeting the needs of customers cannot be successfully achieved but for better segmentation and the identification of clearer groups with specific needs.

That more effectively segmenting each market, more effectively targeting chosen market segments, and effectively meeting the needs and requirements of customers were all
important suggests that the surveyed network airlines do not adequately do these at present. If they are effectively implemented, the expectations gap – the difference between what customers expect and what is actually delivered – should reduce, if not close entirely. Zeithaml et al. (2001) identified that this should increase customer satisfaction, increase yield, increase market share, and increase profitability. This should increase their sustainability, reduce their costs through the elimination of unprofitable customers, and enhance their manoeuvrability and responsiveness by competing in a clearer manner. All three sub-regions ranked these three responses, both in themselves and by mean, to be important, with little variation among them indicating their consistent importance.

There was minimal difference between network airlines from all three sub-regions of the importance of marketing responses and the possibilities afforded by them to redefine their entire offerings, to adopt more distinct market positions and awareness, and to develop closer, more meaningful relationships with customers. This may suggest that, if they harnessed the opportunities, all network airlines may benefit from the ability to attain greater exposure, to more clearly redefine their targeted market segments, and to create more targeted and appropriate products. This should increase their differentiation and enable a sufficiently distinct market presence from LCCs, especially if they are undertaken proactively and not reactively, for Barney (1991) found that firms are less likely to seek competitive advantage as competition increases from their preoccupation with more urgent matters, particularly survival.

Surprisingly, network airlines from Southeast Asia that compete very heavily with LCCs found marketing responses to be of mean or below-mean importance. This suggests that these airlines do not see the significance of greater awareness in the marketplace or altering their products in competing with LCCs. However, as a group these four airlines thought that more effectively segmenting each market was very important (4.50), as equally as important as leveraging brand strength, indicating that they realise the need to more clearly define segments and to thereby better serve those segments that they decide to target. In contrast, Air India and Jet Airways have above-mean importance for marketing. These airlines deemed all responses to be important to implement, which is suggestive of their inherent problems and not merely their degree of competition.
10.6 Other competitive responses by importance

As a whole, competitive responses within the miscellany other category are neither unimportant nor important to implement, with a mean of 3.04. Of all seven responses, two sub-categories are evident: more “natural” responses\(^{40}\) (mean score of 3.92), and more “involved” responses\(^{41}\) (2.38). Smaller airlines by output\(^{42}\) found six of the seven other responses to be of less importance than bigger airlines, which was especially notable for more involved responses. Nevertheless, the category mean of 3.04 is predominately because of the inclusion of diversifying, joint-purchasing agreements with alliance members, equity investments in other airlines, and pursuing mergers and acquisitions (M&A) which are not natural or quick responses in response to competitive pressure from LCCs or otherwise.

Viellechner and Wulf (2010) determined that network airlines are characterised by inertia and the inability or unwillingness to change. Ryans (2009) suggested that this is principally because of their size, accumulated history, and their unwillingness to accept the changing reality and the need for change. In contrast to these, this research found that the ability of management to quickly introduce changes to be by far the most important other response to implement in competing with LCCs with 4.64 out of five. It was also the most important competitive response of all 37 analysed. While those airlines from South Asia ranked it marginally more important, it was very important within all sub-regions, hence the universal significance of the ability to quickly introduce changes. This degree of importance is crucial, for Carpenter and Nakamoto (1990) determined that delayed responses will likely result in missed opportunities, lower profitability, and lower market share. Of course, it is important to appreciate that stating that it is important to quickly change does not necessarily mean they do or can quickly change. Thus, it is possible that, despite the perceived importance of this response, a quick ability does not necessarily mean that opportunities, of whatever nature, are acted upon.

It was found that creating a LCS was neither unimportant nor important to implement within Asia, with 3.45. This neutral importance somewhat confirms that the establishment of a LCS

\(^{40}\) Ability of management to quickly introduce changes; high market shares in markets with LCC competition; and creating a low-cost subsidiary.

\(^{41}\) Diversifying; joint-purchasing agreements with alliance members; equity investments in other airlines; and pursuing M&A.

\(^{42}\) Dragonair, SilkAir, Air Macau, MAI, SriLankan, and Royal Brunei
is often premised upon the inherent difficulties that network airlines themselves find in changing or responding to competitors despite realising the importance of doing so. Of those surveyed, six in ten stated that a LCS is important or very important to implement. Some small airlines, such as MAI and Air Macau, also ranked this response to be important or very important despite the apparent lack of need for them to have one. This may suggest that they consider this response important for any network airline, and not necessarily for themselves. At the time the surveys were undertaken, All Nippon and Garuda Indonesia both had LCS yet they found this competitive response to be unimportant. This may be because at the time neither performed particularly well and had insignificant market penetration, with AirAsia Japan, All Nippon’s joint-venture subsidiary, later closing down despite its short life (Maslen, 2013). Citilink, Garuda Indonesia’s subsidiary, had a very small market share vis-à-vis the significant share of Lion Air, the dominant LCC in Indonesia. Since then, Citilink has rejuvenated itself; it now anticipates a market share of 25% and 70 aircraft by 2017 (Siahaan, 2014), and it carried nearly 8 million passengers in 2014 and forecasts profitability in 2015 (CAPA, 2015i).

Curiously, only network airlines from South Asia found a LCS to be important to implement (4.00), with three airlines – Air India, Jet Airways, and SriLankan43 – having one at the time the survey was conducted. Since then, Jet Airways merged JetLite and JetKonnect so that Jet Airways could concentrate on its full-service positioning (Business Today, 2014), and Sri Lanka and Mihin Lanka are now reported to be merging (CH-Aviation, 2015b). Surprisingly, network airlines from Southeast Asia found a LCS to be of the lowest importance of all sub-regions despite so many airlines from this sub-region having one. This is explainable because Royal Brunei, Garuda Indonesia, and SilkAir all ranked it as unimportant. Their beliefs are logical given that Royal Brunei and SilkAir have no need of a LCS given their nature, small size, and, for Royal Brunei, a lack of significant LCC competition. In total, those airlines with above-mean importance for the other category find all seven responses to be more important to implement, but it is mainly because they find creating a LCS to be nearly two times as important, which is not surprising given 80% of airlines above-mean have a LCS or have announced one.

Kim and Singal (1993) showed that consolidation through M&A activity resulted in higher average fares from greater market concentration and market power, while Singal (1996)

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43 SriLankan Airlines is owned by the Sri Lankan government as is Mihin Lanka, so Mihin Lanka is not a real low-cost subsidiary. However, the two airlines cooperate closely together, so act as though they are.
identified that synergistic benefits may also materialise, thereby affording airlines benefits from both the revenue and cost perspectives. It is for these reasons that Merkert and Morrell (2012) found that M&A activity is a potential ‘game changer’ for airline management. However, this research established that, for Asian network airlines, pursuing M&A was an unimportant response in competing with LCCs, with just 2.27 of five. It was also the least important response within the other category and it was the second least importance of all 37 analysed responses. That it had almost entirely the same level of unimportance across all three sub-regions attests to its universal unimportance in competing with LCCs. This is almost mirrored by the response of diversifying. The unimportance of pursuing M&A does not necessarily mean that M&A in itself is not worthwhile, albeit undermined by significant ownership and control restrictions, but that, in competing with LCCs, alternatives are much more important. This is despite the potential of M&A activity as evidenced in recent years by North American network airlines, which are now the world’s most profitable after a long period of considerable underperformance, partially from a reduction in output and the consequent increase in yield (IATA, 2013a).

10.7 The categorisation of competitive responses in competing with low-cost carriers

A framework has been devised on which the precise location of each of the 37 competitive responses is shown based upon the previously identified figures for their importance and difficulty of implementation and the relationship between them for the 22 Asian network airlines. This can be seen in Figure 10.1, with the specific numbers representing the individual competitive responses. Table 10.3 provides a breakdown of all 37 responses, their importance and difficulty, and the categories from which they come. Clearly, Figure 10.1 represents many unique combinations of importance and difficulty, and it is this relationship and the specific location on the framework that influences the degree to which each response should be considered for implementing by Asian network airlines in competing with LCCs in terms of the perceived required time, expenditure, and exertion for implementation. It also suggests the degree to which competitive responses are likely to achieve sustainable competitive advantage relative to those network airlines that do not implement them. This framework therefore exists as a means of contributing to the identification, analysis, and evaluation of which competitive responses Asian network airlines should consider pursuing and which they should avoid based upon their perceived importance, difficulty, likely
success, and probable sustainability. It is noteworthy that the positioning of the responses is logical and conforms to what literature typically says of them.
Figure 10.1: The categorisation of competitive responses

- Competitive responses that are perceived to be ineffective, nonessential, and unworthy of being pursued
- Competitive responses perceived to be effective, essential, and worthy of being pursued

**Level of perceived difficulty in implementing competitive responses**: reflective of the perceived required time, expenditure, and exertion for implementation

**Level of perceived importance in implementing competitive responses**: reflective of the perceived need for time, expenditure, and exertion for implementation

- A = Very essential competitive responses in competing with LCCs
- B = Progressively very essential responses in competing with LCCs
- C = Essential responses in competing with LCCs
- D = Uncertain responses in competing with LCCs
- E = Nonessential responses in competing with LCCs
- F = Progressively very nonessential responses in competing with LCCs
- G = Very nonessential responses in competing with LCCs

Legend:
- = Productivity competitive responses
- = Cost and rationalisation competitive responses
- = Revenue and fare competitive responses
- = Product competitive responses
- = Marketing competitive responses
- = Other competitive responses

Figure 10.1: The categorisation of competitive responses
Table 10.3: Categorisation of competitive responses

<table>
<thead>
<tr>
<th>Key</th>
<th>Competitive response</th>
<th>Category</th>
<th>Importance&lt;sup&gt;44&lt;/sup&gt;</th>
<th>Difficulty&lt;sup&gt;45&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Very essential competitive responses in competing with LCCs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Ability to reduce costs within 30%</td>
<td>Cost/ration’</td>
<td>4.23</td>
<td>4.55</td>
</tr>
<tr>
<td>2</td>
<td>Increasing aircraft utilisation</td>
<td>Productivity</td>
<td>4.45</td>
<td>4.09</td>
</tr>
<tr>
<td>3</td>
<td>Increasing labour productivity</td>
<td>Productivity</td>
<td>4.05</td>
<td>3.86</td>
</tr>
<tr>
<td>4</td>
<td>More effectively targeting chosen market segments</td>
<td>Marketing</td>
<td>4.23</td>
<td>3.68</td>
</tr>
<tr>
<td>5</td>
<td>More effectively segmenting each market</td>
<td>Marketing</td>
<td>4.32</td>
<td>3.59</td>
</tr>
<tr>
<td>6</td>
<td>Increasing product differentiation</td>
<td>Product</td>
<td>4.00</td>
<td>3.59</td>
</tr>
<tr>
<td>7</td>
<td>Negotiating with airports/other suppliers</td>
<td>Cost/ration’</td>
<td>3.64</td>
<td>3.82</td>
</tr>
<tr>
<td>8</td>
<td>Building value through CRM</td>
<td>Marketing</td>
<td>3.86</td>
<td>3.64</td>
</tr>
<tr>
<td>9</td>
<td>High market share in markets with LCC competition</td>
<td>Other</td>
<td>3.68</td>
<td>3.82</td>
</tr>
<tr>
<td>10</td>
<td>Increasing seating density</td>
<td>Productivity</td>
<td>3.59</td>
<td>3.64</td>
</tr>
<tr>
<td>11</td>
<td>Creating a low-cost subsidiary</td>
<td>Other</td>
<td>3.50</td>
<td>3.68</td>
</tr>
<tr>
<td></td>
<td><strong>Progressively very essential competitive responses in competing with LCCs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Ability of management to quickly introduce changes</td>
<td>Other</td>
<td>4.64</td>
<td>3.32</td>
</tr>
<tr>
<td>13</td>
<td>Leveraging brand strength</td>
<td>Marketing</td>
<td>4.50</td>
<td>3.27</td>
</tr>
<tr>
<td>14</td>
<td>Effectively meeting the needs/requirements of customers</td>
<td>Marketing</td>
<td>4.23</td>
<td>3.23</td>
</tr>
<tr>
<td>15</td>
<td>Enhancing quality to premium passengers</td>
<td>Product</td>
<td>4.14</td>
<td>3.18</td>
</tr>
<tr>
<td>16</td>
<td>Revenue from alliance/codeshare partners</td>
<td>Revenue/fare</td>
<td>3.86</td>
<td>3.41</td>
</tr>
<tr>
<td>17</td>
<td>Travel policy agreements</td>
<td>Revenue/fare</td>
<td>3.82</td>
<td>3.32</td>
</tr>
<tr>
<td>18</td>
<td>Ability/speed to exit unprofitable markets</td>
<td>Cost/ration’</td>
<td>4.05</td>
<td>3.05</td>
</tr>
<tr>
<td>19</td>
<td>Increasing advertising</td>
<td>Marketing</td>
<td>4.09</td>
<td>2.77</td>
</tr>
<tr>
<td></td>
<td><strong>Essential competitive responses in competing with LCCs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Driving more sales through your website</td>
<td>Revenue/fare</td>
<td>4.32</td>
<td>2.50</td>
</tr>
<tr>
<td>21</td>
<td>Greater reliance on connecting passengers</td>
<td>Product</td>
<td>4.00</td>
<td>2.55</td>
</tr>
<tr>
<td>22</td>
<td>Simplifying fares</td>
<td>Revenue/fare</td>
<td>3.82</td>
<td>2.36</td>
</tr>
<tr>
<td>23</td>
<td>Maintaining premium cabins</td>
<td>Product</td>
<td>3.95</td>
<td>2.00</td>
</tr>
<tr>
<td>24</td>
<td>FFPs</td>
<td>Product</td>
<td>4.23</td>
<td>1.73</td>
</tr>
<tr>
<td></td>
<td><strong>Uncertain competitive responses in competing with LCCs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Reducing distribution intermediaries</td>
<td>Cost/ration’</td>
<td>3.18</td>
<td>4.27</td>
</tr>
<tr>
<td>26</td>
<td>Reducing labour</td>
<td>Productivity</td>
<td>3.23</td>
<td>4.18</td>
</tr>
<tr>
<td>27</td>
<td>Increasing the role of cargo</td>
<td>Revenue/fare</td>
<td>3.41</td>
<td>4.05</td>
</tr>
<tr>
<td>28</td>
<td>Unbundling fare structures</td>
<td>Cost/ration’</td>
<td>3.45</td>
<td>3.59</td>
</tr>
<tr>
<td>29</td>
<td>Reducing turnaround times</td>
<td>Productivity</td>
<td>3.32</td>
<td>3.82</td>
</tr>
<tr>
<td>30</td>
<td>Outsourcing particular areas</td>
<td>Cost/ration’</td>
<td>3.05</td>
<td>2.91</td>
</tr>
<tr>
<td>31</td>
<td>More emphasis on long-haul flights</td>
<td>Product</td>
<td>3.41</td>
<td>2.64</td>
</tr>
<tr>
<td>32</td>
<td>Commission-based components</td>
<td>Revenue/fare</td>
<td>3.36</td>
<td>2.64</td>
</tr>
<tr>
<td></td>
<td><strong>Very nonessential competitive responses in competing with LCCs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Diversifying</td>
<td>Other</td>
<td>2.50</td>
<td>3.82</td>
</tr>
<tr>
<td>34</td>
<td>Joint-purchasing agreements with alliance members</td>
<td>Other</td>
<td>2.41</td>
<td>4.14</td>
</tr>
<tr>
<td>35</td>
<td>Equity investments in other airlines</td>
<td>Other</td>
<td>2.32</td>
<td>4.14</td>
</tr>
<tr>
<td>36</td>
<td>Pursuing M&amp;A</td>
<td>Other</td>
<td>2.27</td>
<td>4.45</td>
</tr>
<tr>
<td>37</td>
<td>Changing to one fleet</td>
<td>Cost/ration’</td>
<td>2.10</td>
<td>4.86</td>
</tr>
</tbody>
</table>

<sup>44</sup> Out of five: 1 = very unimportant; 2 = unimportant; 3 = neither unimportant nor important; 4 = important; 5 = very important

<sup>45</sup> Out of five: 1 = very easy; 2 = easy; 3 = neither easy nor difficult; 4 = difficult; 5 = very difficult
As Figure 10.1 and Table 10.3 show, there are 11 competitive advantages that fall within the ‘very essential’ category. These responses are such because they have high levels of importance of implementation (3.5 or more of five) but also high levels of difficulty. Such responses should be a significant means of competing with LCCs and if they are achieved they should provide a competitive advantage against Asian network airlines that do not have them or achieve them because of their difficulty. They may therefore be worthy of the time, expenditure, and exertion required to pursue them and to implement them. Of all 11 very essential responses, the most crucial is the ability to reduce costs to within 30% of LCCs, with its high difficulty suggesting that it would be very difficult for competitors to quickly or easily copy, thereby significantly contributing to its likelihood of being a sustainable competitive advantage. In reality, reducing costs to within 30% of LCCs may be too difficult for any network airline to achieve, which may mean that it is merely a benchmark response.

More realistic responses based upon their importance include increasing aircraft utilisation, increasing labour productivity, more effectively segmenting each market, and more effectively targeting chosen market segments. Increasing aircraft utilisation, in particular, had both importance and difficulty of over four, and it is the second most worthy of being pursued for implementation. If achieved to a meaningful degree, it is also very likely to be an effective sustainable advantage. Interestingly, creating a low-cost subsidiary is near the minimum for inclusion into the ‘very essential’ category, which indicates that it is a borderline response. This is partly because of the risk incurred in implementing it, especially given the poor success rate of them worldwide in comparison to other competitive responses within this category. However, creating a low-cost subsidiary is a commonplace reaction to the presence of LCCs within Asia, and it was found to be worthy of being pursued given its position within Figure 10.1.

‘Essential’ competitive responses are those that have high levels of importance (3.5 or more) but which are easy or very easy to implement (2.5 or less). In competing with LCCs, they are responses of such importance as to be very worthy of being pursued given the minimal required resources for implementation. However, their importance will inevitably mean that competing Asian airlines will also seek to implement them which is increased further given their ease of implementation. As such, essential competitive responses will likely not, in themselves, achieve any competitive advantage beyond a short period of time, and competitive disadvantage may result if they are not implemented. There are only five essential responses, and all are from the product and revenue and fare categories. Thus, all
other categories, including cost and rationalisation and productivity, do not have responses that are important or very important to implement yet which are easy or very easy to achieve. Driving more sales through an airline’s own website is, in particular, an essential response that all Asian network airlines should pursue with minimal hesitation. This should mean that they begin to close the distribution cost gap between themselves and their key LCC competitors, although this gap will never fully close. It may also mean that they can benefit more from ancillary revenues should they, on an individual airline basis, place sufficiently high importance on unbundling or commission-based components, with their own website vital for both, thereby reducing the reliance on primary revenue from tickets and cargo. Furthermore, and given the passenger interconnectedness on which network airlines rely, it is not surprising that a greater emphasis on connecting passengers was found to be an essential response for those from Asia in competing with LCCs. This is because most of the surveyed airlines already have the required knowledge and experience to achieve it, and their hubs typically have sufficient infrastructure. They should therefore pursue this opportunity and focus more upon it, for it is, for many, the primary reason for their existence. By definition, a greater emphasis on connecting passengers supposes that Asian network airlines should concentrate less on point-to-point markets in which they perform ineffectively and in which they do not possess sufficient market penetration or awareness vis-à-vis LCCs.

Unlike the very essential and essential categories, responses within the very nonessential category are unimportant or very unimportant to implement (2.5 or less) yet difficult or very difficult to implement (3.5 or more). Competitive responses within this category are therefore unworthy of being pursued in competing with LCCs and should be avoided. This is because there would be few benefits, many challenges, and much risk, and their low levels of importance suggest that they are perceived by the sampled airlines as being ineffective in competing with LCCs. Of the five very ineffective responses, all but one is from the other category which is not surprising given that this is a miscellany category containing broad responses. Virtually all of the responses within this category concern interconnectedness of some form with other airlines, specifically joint-purchasing agreements with alliance members, equity investments in other airlines, and pursuing M&A. Such responses would not, in themselves, confront the problems that have materialised from LCCs, and they do not concern any internal changes to try to become more competitive. Instead, they are outward-looking that may almost suppose that the problems faced do not exist. Indeed, that these ‘external’ responses were perceived to be so ineffective in competing with LCCs and not
worthy of being pursued by Asian network airlines implies that they should instead focus on what they can do and change internally. While internal responses are much more worthy of pursuing, changing to one fleet, itself internal, was the least worthwhile of all 37 responses, with the least importance (2.17) and the greatest difficulty (4.90). The futility of pursuing one fleet is because it would considerably change what most of the network airlines could do in terms of their products and operations, thereby undermining their entire existence.

10.8 Summary

This chapter determined the relative importance and difficulty of 37 competitive responses and six response categories for Asian network airlines in competing with LCCs. Of all responses, it was found that the ability of management to quickly introduce changes, leveraging brand strength, and increasing aircraft utilisation are the more important, while changing to one fleet, pursuing M&A, and equity investments in other airlines are the least important. Changing to one fleet, the ability to reduce costs to within 30% of LCCs, and pursing M&A are the hardest to implement, while maintaining FFPs, maintaining premium cabins, and simplifying fares are the easiest. This chapter particularly focused on importance given it is this which will be more vital in determining which responses are implemented.

For Asian network airlines, it was found that both cost and rationalisation responses and revenue responses are not of great importance despite airlines frequently communicating the importance of them, particularly of cost control and reduction. Instead, importance varies by airline which indicates that other factors are involved. Findings suggest that if an airline finds cost-based responses to be more important revenue ones are of lower significance and vice-versa.

The high degree of importance of product responses indicates the relationship between product, revenue generation, and attributes of value to network airlines’ core markets in achieving greater yields, for example the maintaining of FFPs and premium cabins while enhancing quality. For all 22 network airlines, it is the marketing category which is the most important, with a particularly strong emphasis upon brands and the leveraging of brand strength. Marketing responses which are ‘change-based’, such as more effectively targeting each market, are harder to implement than those which are ‘promotion-enhancing’, for
example increasing advertising. However, Asian network airlines that compete the most with LCCs do not place so much emphasis upon marketing responses.

The most crucial responses for the competitive advantage of Asian network airlines are reducing costs to within 30% of LCCs and increasing aircraft utilisation. Seven in ten network airlines considered the creation of LCS to be difficult to implement and it was shown that LCS are not an overly important response to implement. Because of this, Asian network airlines should consider retreating to their core competencies, and they should more effectively create and target heterogeneous groups and introduce changes more quickly. However, LCS were found to be easier to implement than network airlines themselves changing certain aspects of their own existence, such as changing to one fleet, significantly reducing costs, and reducing the use of direct distribution. It is this which helps to explain why the creation of LCS was found to be a borderline very essential response to implement in competing with LCCs based upon their likely effectiveness and sustainability, and it may explain why so many of them exist in Asia. This therefore requires an examination of the reasons for the creation of LCS, which is undertaken within Chapter 11.
11.0 ANALYSIS AND DISCUSSION: REASONS FOR CREATING LOW-COST SUBSIDIARIES

Chapter 10 identified that the creation of LCS is a borderline very essential competitive response for Asian network airlines, which is partly evidenced by there being so many of them across the continent. There are many potential reasons for the creation of LCS beyond simply utilising them as a tool to compete with LCCs, and it is this which has caused confusion and uncertainty over their use which may therefore undermine their existence and performance. This confirms Graf (2005) who showed that the simple presence of LCCs does not necessarily lead to the creation of LCS. Thus, this chapter clarifies the situation by establishing the reasons for creating LCS and the roles played by them as part of the total strategy and strategic weaponry of Asian network airlines. Figure 11.1 illustrates the results of ten potential reasons for creation based upon responses from combining all 49 network airlines, LCS, and LCCs.
A low-cost subsidiary is a sign of network airline desperation

A low-cost subsidiary is created because other network airlines have one

A low-cost subsidiary ordinarily achieves first-mover advantage

A low-cost subsidiary is an important way of reducing labour costs

A low-cost subsidiary eventually will be spun off as a profitable business

A low-cost subsidiary is the best way for network airlines to participate in the growth of the budget segment

A low-cost subsidiary is able to operate routes that are unsuitable/unrealistic for network airlines

A low-cost subsidiary is the best way of responding to the existence of LCCs

A low-cost subsidiary is the best way for network airlines to preempt LCC entry

A low-cost subsidiary means network airlines may compete more effectively with LCCs

A low-cost subsidiary is an effective way of network airlines preempting LCC entry

A low-cost subsidiary is a sign of network airline desperation

Figure 11.1: Reasons for creating LCS

<table>
<thead>
<tr>
<th>Reason</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A low-cost subsidiary is a sign of network airline desperation</td>
<td>6</td>
<td>2</td>
<td>24</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>A low-cost subsidiary means network airlines may compete more effectively with LCCs</td>
<td>10</td>
<td>9</td>
<td>23</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>A low-cost subsidiary eventually will be spun off as a profitable business</td>
<td>12</td>
<td>5</td>
<td>15</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>A low-cost subsidiary is the best way of responding to the existence of LCCs</td>
<td>7</td>
<td>2</td>
<td>19</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>A low-cost subsidiary is the best way for network airlines to participate in the growth of the budget segment</td>
<td>11</td>
<td>10</td>
<td>20</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>A low-cost subsidiary is able to operate routes that are unsuitable/unrealistic for network airlines</td>
<td>23</td>
<td>7</td>
<td>10</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>A low-cost subsidiary ordinarily achieves first-mover advantage</td>
<td>8</td>
<td>23</td>
<td>7</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>A low-cost subsidiary is a sign of network airline desperation</td>
<td>4</td>
<td>23</td>
<td>7</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>
It was previously shown that network airlines should ideally anticipate potential threats from low-cost competitors so that they can design effective pre-emptive strategies for them rather than reacting to them after they have gained traction and, particularly, after they have gained market acceptance and grown. Without pre-emptive and timely responses, IATA (2005) showed that network airlines may face heightened financial ill-performance and potentially even cessation. As Figure 11.1 indicates, there is much disagreement among all 49 airlines about whether LCS ordinarily achieve first-mover advantage, with 55% of surveyed airlines disagreeing or strongly disagreeing and 22% uncertain. But with a mean result of 2.6 and standard deviation of 1.1, it is broadly believed that Asian LCS do not achieve first-mover advantage. This suggests that LCS are generally a reactive and not a proactive competitive mechanism, and it is somewhat contrary to the finding that LCS are a borderline very essential competitive response. It also supports Pearson and Merkert (2014) who identified that many LCS materialised after the establishment of the LCCs with which they sought to compete, and that not being first-movers may mean losing the opportunity for being the ‘consumer champion’, as attained by AirAsia, Southwest, and Ryanair. The lack of first-mover advantage may partially account for the low historic success rate of LCS, albeit on a worldwide basis, from the existence of one less barrier to entry to dissuade other new airlines.

That LCS lack first-mover advantage means that they are a reactive mechanism to competition, which is counterproductive to their existence, likely effectiveness, and their success. However, Figure 11.1 shows that if LCS are implemented both early and expeditiously they may effectively be used to pre-empt low-cost entry, with 31 of all 49 airlines agreeing or strongly agreeing with this (mean 3.5, standard deviation 1.1). It is pre-empting low-cost entry which may dissuade new entry, thereby increasing the likelihood of LCS being worthwhile tools. This is supported by a very strong positive relationship between utilising LCS as a pre-emptive tool and competing more effectively ($r = 0.88$). It is therefore clear that to compete more effectively LCS should be created much sooner and before LCCs gain traction, or the likelihood of their effectiveness is diminished.

Graf (2005) found that a significant reason for creating LCS was the imitation of a competitor’s move, which is supported by the views of many that LCS are a reaction to the establishment and growth of LCCs. The creation of LCS is therefore often deemed to be a hasty and simple reaction. However, Figure 11.1 contradicts this, for it was widely believed that LCS are not created simply because other network airlines have one, with this potential
reason for creation having the lowest mean result (2.40) and the second-lowest standard deviation (1.05). There was therefore general disagreement of this reason across all 49 airlines. Indeed, nearly two-thirds of the surveyed airlines disagreed or strongly disagreed with it, and nearly 60% of LCCs also disagreed, with a further 22% neither agreeing nor disagreeing. In contrast, network airlines more strongly agreed than the other airline models, specifically smaller network airlines which typically do not have LCS, including Jet Airways, MAI, Air Macau, and Hainan.

This research also showed that, at least within Asia, LCS are not generally believed to have been created as a desperate measure, with a mean result of 2.7 (standard deviation 1.08). Indeed, 55% of all surveyed airlines disagreed or strongly disagreed about them being a desperate reaction. In contrast, Graham and Vowles (2008, p.122) found that LCS are “a desperate device through which the weakest network airlines have sought to compete with LCCs.” However, nearly one-third of airlines did agree that they are a desperate measure, although unexpectedly more LCS agreed than both network airlines and LCCs, which may reflect the relationship between the parent and the subsidiary. As Airline Leader (2012) identified, this may also reflect the specific position of the LCS along the continuum from incremental changes (such as a branded fare or product label) to significant transformations (such as a full low-cost product and operation).

Based upon studying 32 LCS from across the world, Graham and Vowles (2006) found that reducing labour costs and network expansion of the parent airline were among the key reasons for the creation of LCS. Availing of growth opportunities was also found to be the most significant umbrella reason for creation by Graf (2005), with a maximum of five cases out of five, with three sub-reasons within this category being the stimulation and enlargement of markets, the development of new market segments, and enabling corporate growth. The findings from this research support the above as there was broad agreement across all 49 airlines that a LCS is able to operate routes that are unsuitable or not realistic for network airlines (mean of 3.7, standard deviation 1.1); a LCS is the best way for network airlines to participate in the growth of the budget segment (3.7, 1.1); a LCS is an important way of reducing labour costs (3.5, 1.1); and a LCS means network airlines may compete more effectively with LCCs (3.5, 1.0).
Of all ten reasons for creation, it is utilising LCS to participate in the growing budget segment that had the highest agreement, with 37 of all 49 airlines agreeing or strongly agreeing with it. Interestingly, four network airlines did not agree with this, namely China Eastern, Cathay Pacific, Royal Brunei, and Air Macau, of which only China Eastern is proceeding with a LCS by attempting to adapt China United into one (Mitchell, 2014). China Eastern also intends to have a second, Jetstar Hong Kong, in partnership with Qantas, although there are significant regulatory hurdles that may be insurmountable given continued delays from strong opposition (Govindasamy, 2014). Unlike China Eastern, Cathay Pacific has been most vocal of its opposition to LCS and it has no intention of introducing one (Aspire Aviation, 2014). Despite this, the strong agreement of utilising LCS to participant in the budget segment supports Hanlon (2007) who argued that LCS are a means for network airlines to benefit from the growth of budget and value-for-money-orientated travel. It also supports Qantas (2004) which suggested that their investment in Jetstar, their LCS, was a small price to pay to be present in a fast-growth market segment and in economically growing countries given Qantas’ inappropriate cost structure, branding, and ownership restrictions. As expected, a strong positive relationship was found to exist between network airlines utilising LCS to participate in the budget segment and to compete more effectively with LCCs ($r = 0.78$). In other words, the more LCS are used to participate in the budget segment, the more Asian network airlines may be able to compete with LCCs. Of course, this likelihood assumes that LCS are done properly, are pre-emptive, and have a real commercial expectation.

The strong levels of agreement across all three airline models that the use of LCS is the best way for network airlines to participate in the growth of the budget segment, respond to LCCs, and compete more effectively with LCCs is further supported and explained by other crucial findings. Most particularly, two-thirds of all 49 sampled airlines agreed or strongly agreed that LCS have both more appropriate products and more appropriate value propositions than network airlines to target the budget segment. It is this that helps to explain the strength of feeling of their use regarding responding to and competing with LCCs and availing of growth opportunities from the most price-sensitive market segment. This is further supported by the previous finding that 80% of network airlines believe that customers increasingly expect their requirements to be met, which is especially important as competition, product commoditisation, and substitution between airlines increases. However, the appropriateness of the products and value propositions of LCS is undermined by the model’s
underperformance relative to their low-cost competitors (see Chapter 12), including in terms of profitability, higher unit cost, and higher mean fares.

11.1 Low-cost subsidiaries benefitting network airlines

In creating LCS, it should not be just the subsidiaries themselves nor the broad airline group as a whole that benefits, for network airlines themselves should also gain meaningful advantage as well. This is not just in terms of indirectly and more suitably participating from the growth of a fast-growing segment, or from the overall ability to compete more greatly within short-haul markets. Instead, it is important that network airlines benefit more intrinsically, not least because of the time, capital, and management attention needed to create LCS, which potentially may be detrimental to the parent airlines, and because of the contention by many of the ineffective use of LCS to compete with LCCs. Furthermore, that they should benefit is also because of the aforementioned impacts from LCCs and the changing motivations of customers, particularly the significant role nowadays of price and value (see Chapter 8). However, it was found that the potential areas of benefit are limited.

This sub-chapter is based on 33 airlines: 22 network airlines and 11 LCS. Of these 33, 76% agreed or strongly agreed that LCS may enable network airlines to remove less profitable or unprofitable passengers, which is theoretically advantageous. However, 45% said that lower seat load factors may materialise on the short-haul sectors of network airlines, with Asian airlines experiencing a drop in load factors in 2014 as demand was 1-2% below capacity growth (Walker, 2015). This is despite the likelihood of demand stimulation from responding to the changing motivation of price and from competing more thoroughly on price. The removal of less profitable or unprofitable customers may enable network airlines to reshape their product and focus upon their real reason for being, for instance higher-yielding business travellers and premium leisure passengers. Indeed, it was found that there was strong agreement across all 49 surveyed network airlines, LCS, and LCCs that LCS have the potential to enable network airlines to focus more upon their core competencies and strengths, with 68% agreeing or strongly agreeing with this. This supports Kane and Webb (2003) who showed that the use of LCS as a market segmentation tool may enable their parents to use their resources and competencies to concentrate on and to more thoroughly protect their core markets given that such is fundamental for them to cover their higher costs.
At the same time, 71% of surveyed airlines believed that LCS may help network airlines to overcome stuck-in-the-middle strategic positions, whereby they are present in all market segments and try, often unsuccessfully, to be everything to everyone without focusing upon their real strengths. Indeed, Kuhlmann (2013) showed how one brand cannot be expected to adequately serve all market segments, while Holloway (2008) insisted that this segment-focused approach may only work within markets that are sufficiently heterogeneous that distinct products may be offered to different segments, although if this does exist it may result in better satisfying their needs. Indeed, it was found that, across all 49 surveyed airlines, LCS give or strengthen the competitive advantage of network airlines within short-haul markets, but this is clearly undermined by their collective poor financial performance. LCS may therefore potentially strengthen their parents’ advantage assuming a greater ability to compete; being more cost-effective and well-known; being deployed in an appropriate manner; and based upon the degree of entrenchment, achieved mean fares, and brand awareness of their core competitors.

Lower load factors are normally counteracted by higher yields; it is this which helps to explain business-focused markets with regional aircraft which have higher unit costs. While 45% of sampled airlines said that lower seat load factors may materialise on the short-haul sectors of network airlines, the impact of this is further strengthened because only 37% agreed or strongly agreed that LCS contribute to improving the yield of network airlines in such markets. This is despite the aforementioned belief in their greater ability to focus more comprehensively upon their core competencies, their ability to move beyond stuck-in-the-middle strategic positions, and their consequential ability to focus more greatly upon higher-yielding market segments. Instead, it appears that the potential benefit to network airlines of LCS comes from the targeting and serving of particular markets.

In addition to the previous finding that nearly seven in ten airlines agreed or strongly agreed that LCS are able to operate routes that are unsuitable or unrealistic for network airlines, 84% of them agreed that they are best utilised on leisure, lower-yielding, and hub-bypass routes. Two-thirds of them also believed that they could replace network airlines on non-core routes. This supports Ionides and O’Connell (2004) who illustrated the importance of non-core and non-hub routes for LCS. It also supports Graf (2005) who established that the identification of the most suitable business model for each market, the extension of an offer to an upper or lower end of the market, and the development of new market segments were key explanations
for the creation of LCS. The logicality of leisure, lower-yielding, non-core, and non-hub scenarios is shown by a large number of existing LCS across the world doing this, such as Air Canada’s rouge on competitive sun flights and off-peak domestic services especially to less trafficked destinations from its Toronto hub (Lu, 2015); Eurowings replacing Lufthansa on its point-to-point, non-core, and non-hub routes beyond its Frankfurt and Munich hubs (World Airline News, 2015); Air France-KLM’s Transavia mainly operating new routes or those given up by its parents (CAPA, 2014d); Nok Air serving a different airport within Bangkok and Citilink partially within Jakarta; and many subsidiaries, such as Air Busan, Tigerair, Jin Air, Mihin Lanka, and Air India Express, operating routes that their parents do not operate. It is this isolated and separated approach in terms of independence which may ultimately explain why so many believe that LCS may enable their parents to focus on their core competencies, to move away from their stuck-in-the-middle strategic positions, and why they may contribute to strengthening their parents’ competitive advantage. This therefore suggests that there is a limit to the potential use of LCS and that their parents must still focus upon the budget segment to and from their hubs.

Despite this, it was found that over two-thirds of surveyed airlines believed that LCS could be utilised to feed their network airlines’ longer-haul services but from more cost-effective platforms, thereby potentially revolutionising the performance of network airlines within short-haul markets, albeit in an indirect manner. This supports Morrell (2005) who found that past LCS were most successful on routes feeding their parents’ hubs. This therefore raises the question of the degree to which network airlines could utilise and cooperate with LCS based entirely upon their hub and their core being. While this strategy is not typically used at present, it is being used to a limited degree by Thai Airways’ subsidiary, Thai Smile, which operates most of its routes from Bangkok’s main Suvarnabhumi Airport with only minimal overlap in routes with its parent. However, CAPA (2015j) has argued that “Thai Smile should be focusing more on feeding Thai Airways.”

11.2 Reasons for the creation of low-cost subsidiaries: what the parent network airlines could not do

In a broad sense, it was shown that LCS are particularly created because they are able to both operate routes that are unsuitable or not realistic for network airlines and because they are the best way for network airlines to participate in the growth of the budget segment. Beyond
such broad reasons, it is necessary to consider what economic reasons, principally cost and productivity, underpin the creation of LCS by their parent network airlines. In other words, it concerns the extent to which the LCS agree with what their parent airlines could or could not do – given their specific composition, regulatory environments, bureaucracy, and historic millstones – which at least partially explains the reasons for their creation. Figure 11.2 shows the results of the analysed 13 possible reasons for 11 airlines, the surveyed LCS. It is clear that there are very few neutral answers and widely differing levels of agreement.
Figure 11.2: What network airlines could not do in explaining the creation of LCS

<table>
<thead>
<tr>
<th>Issue</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to negotiate with airports/other suppliers</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unable to modernise fleet</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Unable to change to one fleet</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Unable to reduce costs to within 30% of low-cost carriers</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unable to exit unprofitable markets</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Unable to unbundle its product</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unable to reduce distribution intermediaries</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Unable to increase seating density</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Unable to outsource particular areas</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unable to reduce labour</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Unable to reduce turnaround times</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Unable to increase labour productivity</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Unable to increase aircraft utilisation</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
The level of disagreement concerning the economic reasons for creation could be considered not only in terms of the mean result but also in the amalgamation of those who disagreed and strongly disagreed as a proportion of the total sample. On this basis, and as Figure 11.2 shows, there was considerable disagreement over the role of two potential explanations in particular. It was found that 82% disagreed that LCS were created because the parent network airlines could not modernise their fleets (mean result of 1.9; standard deviation 0.94), while 73% disagreed that network airlines could not negotiate with airports and their many other service providers to reduce costs and improve contract terms (mean result 2.4; standard deviation 1.2). Given the considerable forecast growth within Asia, with IATA (2014) expecting that Asia-Pacific will carry 42% of world passenger traffic by 2034 with 90 million extra passengers a year (IATA, 2014b), it is not surprising that Boeing anticipates a need for 13,460 new aircraft by 2034 (Boeing, 2015). Indeed, many Asian network airlines have aircraft on order or planned both for expansion and replacement, even those presently loss-making such as Malaysia Airlines which is considering an order for 100 new aircraft (Chew, 2014). Malaysia Airlines is considering brand-new aircraft despite announcing in May 2015 that it is ‘technically bankrupt’ and undergoing a programme of considerable rationalisation (Govindasamy and Hamzah, 2015). Thus, it is not surprising that LCS did not believe that they were created because their parents could not modernise their fleet, notwithstanding the potentially great impacts upon their debt and equity levels.

Furthermore, the majority (55%) of the surveyed 11 LCS also disagreed that they were created because their parents could neither increase aircraft utilisation nor increase labour productivity. Yet it is interesting that it was previously established that network airlines had not made much impact into improving these areas despite the contention within literature of their significance. It is this, and the findings of the difficulty of such competitive responses to compete with LCCs of nearly four out of a maximum five (see Chapter 10), that indicates the possible disconnection between the difficulty of responses for competing with LCCs and reasons for creating LCS, which are not necessarily the same.

More importantly, it was found that there are five reasons in particular for the creation of LCS, for instance things that their parents could not adequately do but from the perspective of the subsidiaries. In order of overall agreement, these reasons can be seen
in Table 11.1. Note that the reason ‘network airlines could not reduce their costs to within 30% of LCCs’ received zero disagreement from the surveyed airlines.

<table>
<thead>
<tr>
<th>Reasons for creation</th>
<th>Percentage of agreement</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network airlines could not reduce their costs to within 30% of LCCs</td>
<td>82</td>
<td>4.0</td>
<td>0.63</td>
</tr>
<tr>
<td>Network airlines could not unbundle their products</td>
<td>82</td>
<td>3.7</td>
<td>0.90</td>
</tr>
<tr>
<td>Network airlines could not reduce labour</td>
<td>82</td>
<td>3.7</td>
<td>1.19</td>
</tr>
<tr>
<td>Network airlines could not reduce distribution intermediaries</td>
<td>73</td>
<td>3.8</td>
<td>1.08</td>
</tr>
<tr>
<td>Network airlines could not change to one fleet</td>
<td>73</td>
<td>3.8</td>
<td>1.17</td>
</tr>
</tbody>
</table>

**Mean results** 78 3.8 0.99

As Chapter 10.7 showed, these five reasons were found to cover the spectrum of the worthwhileness of competitive responses that network airlines could implement in competing with LCCs based upon the importance, difficulty, and the potential sustainability of them as sources of advantage, with one very essential response, three uncertain, and one very ineffective. It also included the most essential response to implement (reducing costs to within 30%) based upon the likelihood of this, if achieved, resulting in sustaining a strong competitive advantage, and also the least (changing to one fleet). Indeed, as a group these five reasons scored a mean of 4.3 out of 5 for the level of difficulty of implementation, so nearly very difficult, by the 22 surveyed network airlines. However, the spread of them over the spectrum also suggests considerably different levels of importance for the network airlines, with a mean result of 3.2 out of 5 (so not quite important). This therefore illustrates that just because the network airlines themselves do not consider these areas, overall, to necessarily be worthwhile to implement in competing with LCCs, it does not mean that they do not explain the reasons for creating LCS.

Indeed, these five areas – low costs, an unbundled fare structure, reduced labour so fewer staff per aircraft, more direct distribution, and one type of aircraft – are attributes of the ‘pure’ low-cost model, and such high levels of agreement over them perhaps help to explain that LCS are trying to operate more like independent LCCs. This is needed given the considerable scepticism by many authors, industry experts, and airline management of the ability of LCS to survive, with the general consensus that they do not represent an effective market response to low-cost competition. This is partially
based upon the contention that they must reduce costs to a level commensurate with higher yields (Graham and Vowles, 2006).

11.3 Summary

This chapter examined the reasons why Asian network airlines create LCS and the roles played by LCS in the overall strategy of network airlines.

It was found that LCS are reactive and not proactive to LCC entry, and that for greatest effectiveness network airlines should utilise LCS to pre-empt LCC entry. This would provide a first-mover advantage which may act as a barrier to entry. Beyond this, it was shown that the primary reasons for the creation of LCS are that they can operate routes that are unsuitable for network airlines; they are the best way for network airlines to participate in the growth of the fast-growing budget segment from a specified platform; they are the best way of reducing labour costs; and, ultimately, LCS are a more effective way of network airlines competing with LCCs. These reasons are mainly due to LCS possessing more appropriate products and value propositions than their parent network airlines.

It was also identified that more price-conscious customers will then switch to LCS so that Asian network airlines are able to focus more fully upon their core market segments and their core competencies. However, LCS may be more likely to be successful on routes that feed their parents’ hubs, thereby enabling this ‘reallocation’ of customers while retaining dominance at their parents’ hubs.

Having established the reasons for creating LCS, it is necessary to identify the effectiveness of LCS in general and in comparison to LCCs, which is undertaken in Chapter 12.
12.0 ANALYSIS AND DISCUSSION: PRODUCT AND ORGANISATIONAL ARCHITECTURE ANALYSIS OF LOW-COST SUBSIDIARIES

Regardless of their specific reasons for creation, the rise of LCS as a part of the strategic weaponry of Asian network airlines necessitates analysis of LCS to identify their strengths and weaknesses and sources of competitive advantage. This research uses the business model framework within an aviation context devised by Mason and Morrison (2008), whereby a business model is the consequence of a firm’s product and organisational architecture (POA) (see Chapter 5.2.3). Incorporating the output of profitability which is implied in most business model definitions, the POA model is a means by which airlines can be consistently compared. This is by identifying the individual attributes that define airline business models, so enabling comparison and analysis of airlines and their competitive environments.

This chapter thus compares the 11 surveyed LCS in and between themselves and then the 11 LCS with the 16 sampled LCCs. Table 12.1, as follows, provides the mean scores for all of the attributes of the ten indices of the POA model for the 11 LCS, and these indices are referred to from sub-chapters 12.1 to 12.10. Figure 12.1 follows, and this provides a comparison of airlines within the LCS groups by POA index relative to the best-in-class airline for each index. Chapter 12.11 then provides a comparison by POA of both higher- and lower-performing LCS to identify in what respects they differ, and what may account for their difference, while 12.12 comprehensively compares Asian LCS with their key LCC competitors. This chapter therefore enables the identification of ways by which to strengthen lower-performing LCS.
Table 12.1: A breakdown of POA index attributes for LCS

<table>
<thead>
<tr>
<th>POA index</th>
<th>Attribute</th>
<th>X HP LCS</th>
<th>SD</th>
<th>X LP LCS</th>
<th>SD</th>
<th>Overall X LCS</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability</td>
<td>Operating margin (%)</td>
<td>2.85</td>
<td>4.03</td>
<td>-11.17</td>
<td>11.47</td>
<td>-4.80</td>
<td>11.22</td>
</tr>
<tr>
<td>Cost</td>
<td>Cost per ASK ($ cents)</td>
<td>7.63</td>
<td>1.53</td>
<td>5.71</td>
<td>0.99</td>
<td>6.58</td>
<td>1.56</td>
</tr>
<tr>
<td>Revenue</td>
<td>Revenue per ASK ($ cents)</td>
<td>7.88</td>
<td>1.72</td>
<td>5.04</td>
<td>1.24</td>
<td>6.33</td>
<td>2.04</td>
</tr>
<tr>
<td></td>
<td>Mean fare paid ($)</td>
<td>84.48</td>
<td>15.62</td>
<td>95.07</td>
<td>33.75</td>
<td>90.25</td>
<td>26.41</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Departures per airport per day</td>
<td>3.00</td>
<td>1.17</td>
<td>2.03</td>
<td>1.13</td>
<td>2.47</td>
<td>1.20</td>
</tr>
<tr>
<td></td>
<td>Number of routes offered</td>
<td>18.40</td>
<td>5.22</td>
<td>27.67</td>
<td>14.83</td>
<td>23.45</td>
<td>12.01</td>
</tr>
<tr>
<td></td>
<td>All destinations available at airports served (mean)</td>
<td>46.64</td>
<td>22.21</td>
<td>36.23</td>
<td>14.28</td>
<td>40.96</td>
<td>18.13</td>
</tr>
<tr>
<td>Convenience</td>
<td>Mean weekly frequency per route</td>
<td>13.97</td>
<td>7.18</td>
<td>9.60</td>
<td>5.41</td>
<td>11.59</td>
<td>6.36</td>
</tr>
<tr>
<td></td>
<td>Airport location: distance from nearest population centre (km; mean)</td>
<td>25.78</td>
<td>6.64</td>
<td>21.59</td>
<td>5.98</td>
<td>23.50</td>
<td>6.35</td>
</tr>
<tr>
<td></td>
<td>Punctuality</td>
<td>80.66</td>
<td>6.97</td>
<td>85.67</td>
<td>4.97</td>
<td>83.39</td>
<td>6.21</td>
</tr>
<tr>
<td>Comfort</td>
<td>Passengers per flight (average based upon average aircraft seating)</td>
<td>144.22</td>
<td>4.14</td>
<td>147.50</td>
<td>12.19</td>
<td>146.01</td>
<td>9.17</td>
</tr>
<tr>
<td></td>
<td>Economy seat width (inches)</td>
<td>17.62</td>
<td>0.86</td>
<td>17.98</td>
<td>0.63</td>
<td>17.82</td>
<td>0.73</td>
</tr>
<tr>
<td></td>
<td>Economy seat pitch (inches)</td>
<td>30.02</td>
<td>1.27</td>
<td>29.50</td>
<td>0.84</td>
<td>29.74</td>
<td>1.03</td>
</tr>
<tr>
<td>Distribution</td>
<td>Internet distribution (%)</td>
<td>69.00</td>
<td>11.51</td>
<td>52.33</td>
<td>15.54</td>
<td>59.91</td>
<td>15.80</td>
</tr>
<tr>
<td>Aircraft</td>
<td>Utilisation (aircraft hours per 24 hours)</td>
<td>11.49</td>
<td>1.93</td>
<td>11.06</td>
<td>1.88</td>
<td>11.26</td>
<td>1.82</td>
</tr>
<tr>
<td></td>
<td>Sectors per day</td>
<td>4.98</td>
<td>2.25</td>
<td>4.76</td>
<td>1.59</td>
<td>4.86</td>
<td>1.81</td>
</tr>
<tr>
<td></td>
<td>Number of seats (mean)</td>
<td>175.81</td>
<td>4.24</td>
<td>185.17</td>
<td>6.24</td>
<td>180.91</td>
<td>7.11</td>
</tr>
<tr>
<td></td>
<td>Most populous aircraft in fleet (%)</td>
<td>85.40</td>
<td>23.51</td>
<td>94.33</td>
<td>13.88</td>
<td>90.27</td>
<td>18.42</td>
</tr>
<tr>
<td></td>
<td>Seat density of maximum permitted (%) based on most populous aircraft</td>
<td>97.10</td>
<td>5.34</td>
<td>98.45</td>
<td>3.29</td>
<td>97.84</td>
<td>4.16</td>
</tr>
<tr>
<td></td>
<td>Load factor</td>
<td>80.14</td>
<td>3.83</td>
<td>79.77</td>
<td>7.89</td>
<td>79.94</td>
<td>6.09</td>
</tr>
<tr>
<td>Labour</td>
<td>Passengers per employee</td>
<td>2544.20</td>
<td>795.34</td>
<td>2386.67</td>
<td>1006.88</td>
<td>2458.27</td>
<td>875.61</td>
</tr>
<tr>
<td></td>
<td>Employees per aircraft</td>
<td>90.00</td>
<td>13.69</td>
<td>101.33</td>
<td>17.93</td>
<td>96.18</td>
<td>16.45</td>
</tr>
<tr>
<td></td>
<td>Output (ASK) per employee (‘000)</td>
<td>2703.80</td>
<td>739.27</td>
<td>3283.50</td>
<td>1382.71</td>
<td>3020.00</td>
<td>1125.26</td>
</tr>
<tr>
<td>Market structure</td>
<td>Median HHI (seats)</td>
<td>0.84</td>
<td>0.83</td>
<td>0.75</td>
<td>0.83</td>
<td>0.79</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td>Mean HHI (seats)</td>
<td>1.676</td>
<td>855.34</td>
<td>2.517</td>
<td>832.16</td>
<td>2.1349</td>
<td>912.04</td>
</tr>
<tr>
<td></td>
<td>Mean number of competitors per route/market</td>
<td>2.14</td>
<td>1.26</td>
<td>1.79</td>
<td>0.91</td>
<td>1.95</td>
<td>1.04</td>
</tr>
<tr>
<td></td>
<td>Capacity share of seats (%; mean across all served markets)</td>
<td>39.71</td>
<td>20.53</td>
<td>45.05</td>
<td>25.47</td>
<td>42.62</td>
<td>22.37</td>
</tr>
</tbody>
</table>

Note: HP = higher-performing; LP = lower-performing.
There are five higher-performing LCS and six lower-performing.
The score for each airline within each index is in relation to the best-in-class airline for each index.

The maximum score, ten, is the most desirable to attain and the best-in-class airline for each index is positioned such.

- HK Express
- Peach
- Nok
- Air Busan
- Jetstar Asia
- Jetstar Pacific
- Citilink
- Tigerair
- Air India Express
- Mihin
- Jin
12.1 Profitability index

The profitability index in Table 12.1 is based upon the operating profit margin. As the table shows, the profitability across all surveyed 11 LCS was poor, for the mean operating margin was -4.8%. This means that, as a group, Asian LCS lost 4.8 US cents for every US$1 generated in revenue. This generalised result immediately questions the validity of this competitive response for Asian network airlines in keeping with the general belief surrounding this model, although this is overly simplistic. It also somewhat supports the finding that the creation of LCS was a borderline ‘very essential’ and ‘uncertain’ response (see Chapter 10.7) given its specific level of importance against other, more fundamental responses, and its high difficulty of implementation. The poor profitability of LCS somewhat confirms Morrell (2005) and Pearson and Merkert (2014) who illustrated the low success rate of LCS to date despite the length of their existence.

Of the analysed 11 LCS, six suffered losses in the analysed period: HK Express (-1%); Jetstar Pacific (-10.3%); Citilink (-22%); Tigerair (-9.2%); Air India Express (-0.01%); and Mihin Lanka (-27%). In comparison, five LCS had positive margins: Peach (3.6%); Nok Air (9.4%); Air Busan (1.7%); Jetstar Asia (0.54%); and Jin Air (1.5%). While the mean operating margin is positive for those within Northeast Asia (2.9%), it is negative for those within both Southeast Asia (-6.3%) and, significantly, South Asia (-13.5%). Furthermore, the difference in profitability between higher-performing and lower-performing LCS is clear, for while the former achieved a mean margin of 2.9% the latter achieved -11.2%. The standard deviation of the profitability of lower-performing LCS is considerable at 11.5, predominately from lower-performing LCS. The level of standard deviation clearly indicates the substantial performance difference commonplace across airlines, including LCS.

12.2 Cost index

The cost index comprises one measure of cost: cost per available seat kilometre (CASK). This represents the cost to fly one seat one kilometre. The CASK of the surveyed airlines is the consequence of all the indices (except revenue and profitability) and attributes within each index, as shown in Table 12.1.
For LCS, there is a reasonably weak positive correlation between profitability and cost of $r = 0.464$. This suggests that cost level does not necessarily matter in the attainment of profitability. For example, Tigerair achieved an operating profit margin of -9.2% and a CASK of $0.050, while Nok Air achieved 9.5% with a significantly higher CASK of $0.078. It is surprising that the relationship between profitability and cost is not stronger given the perception of the importance of cost for profitability.

Figure 12.1 shows that CASK varies widely by LCS relative to Air India Express, which is the best-in-class with a CASK of $0.043. In comparison, the worst-in-class is Peach with $0.095. From Figure 12.1, Peach’s high CASK is partially explained through its very high levels of convenience, comfort, and connectivity. For example, it has a high average weekly frequency of 18.5 against the mean for all LCS of 12, and it serves airports which have more routes at 52.6 against 40.9. More importantly, Peach’s costs are higher because its aircraft operate more sectors per day (6.1 against the mean of 4.9), representing shorter sector lengths, and it operates for longer per day (12.2 hours against 11.2). But for the contribution of the greater flying to lowering fixed costs, they clearly also increase direct operating costs. Indeed, Peach’s high convenience, comfort, and connectivity offset the cost advantages they have from greater productivity and efficiency derived from their very high labour, aircraft, distribution, and labour scores. In contrast, Air India Express’ very low CASK, at least in comparison to other sampled LCS, is partly attributable to its longer sector lengths and comparatively low emphasis upon connectivity and convenience. It is also despite attaining fewer cost advantages than other LCS given lower direct distribution (33% of all bookings via its website against the mean of 60%) and lower labour productivity (for example, 125 employees per aircraft against the mean of 96).

The stronger profitability of LCS from Northeast Asia is despite their CASK being higher per kilometre ($0.080) than those from Southeast Asia ($0.062) and South Asia ($0.048). Whyte and Lohmann (2014) showed that LCS are partly established to compete with LCCs and to participate in the growth of the budget segment of the market given the opportunities in terms of passenger volume generation. Thus, LCS, like LCCs, are primarily competing on price and are therefore reliant upon the cost of production. However, this research showed that higher-performing LCS by profit margin, regardless of geographic location, have a CASK disadvantage of one third vis-à-vis their lower-performing counterparts, at $0.076 and $0.057 respectively. This significant cost disadvantage is primarily attributable to 60% of the
higher-performing LCS being from Northeast Asia, a sub-region which is known to be particularly expensive within which to operate.

### 12.3 Revenue index

The revenue index includes two measures of revenue: revenue per available seat kilometre (RASK) and the mean fare paid. Revenue will be directly influenced by all indices and attributes of the POA except profitability and costs.

Unlike for CASK, there is a stronger positive relationship between RASK and profitability at \( r = 0.69 \). This suggests that, for LCS, unit revenue may explain profit or loss more than unit cost, that as unit revenue increases higher profitability might be achieved, and as unit revenue decreases profitability may reduce. For example, Thailand’s Nok Air, with the greatest operating margin of 9.4%, achieved RASK of \$0.087\) vis-à-vis Sri Lanka’s Mihin Lanka with a margin of -27\% and RASK of \$0.039\). Furthermore, there is a very strong negative relationship of \( r = -0.938 \) between the overall cost and revenue indices, which suggests that the lower the cost level the higher the revenue level, and the higher the revenue the lower the cost. The relationship between CASK and RASK is even stronger and also positive, at \( r = 0.957 \). This suggests that as CASK increases so too does RASK, and as RASK decreases so too does CASK. While this might appear unusual, it makes sense because as unit cost increases, higher unit revenue should exist to offset it. If it did not there would be a significant problem.

As Figure 12.1 indicates, Peach is the best-in-class overall for revenue, mainly because of achieving the highest RASK of \$0.099\) against the mean of \$0.063\) for all analysed LCS. That Peach is the strongest by this index is despite it achieving a mean fare of \$84\) which is below the mean of \$90.2\) for all LCS.

Mihin Lanka was the worst-in-class for revenue despite achieving a mean fare of \$97\), and its low score is primarily for achieving very low scores for connectivity, convenience, and aircraft-based. For example, Mihin Lanka has just 15 routes against 23.4 for all 11 LCS; a very low weekly frequency of 2.8 against 12; and a 67\% load factor against 80\%, so fewer passengers per flight from which to generate revenue (131 against 146 which does not offset its marginally higher-than-average fare). That Mihin Lanka has greater-than-mean
punctuality, seat pitch, seat width, and serves airports closer to its served cities does not necessarily seem logical given it overwhelmingly serves VFR markets which are price-driven. Mihin’s worst-in-class position for revenue is also because and despite its significant market dominance (89.5% market share against 42.6% on average) and lack of competitors (0.2 competitors per market against 1.95). Given Mihin Lanka’s general underperformance – including in terms of revenue – it will be merged with SriLankan as part of a broader turnaround plan (CAPA, 2015g).

Holloway (2008) indicated that what matters is not CASK in itself but whether RASK exceeds it. For LCS collectively, CASK clearly exceeds RASK, hence their unprofitability. Despite the higher CASK of higher-performing LCS ($0.076), it is notable that they surpass it with RASK ($0.079). Indeed, higher-performing LCS achieved much greater RASK than lower-performing LCS ($0.050), with lower-performing LCS not even able to cover their relatively low unit costs ($0.057). This inability is especially acute for Mihin Lanka (CASK $0.053 and RASK $0.039) and Citilink ($0.050 and $0.061). This finding supports Doganis (2012) who suggested that it is entirely possible for airlines with very low costs to not even achieve the low revenue required to breakeven, let alone to achieve sustainable profitability. This somewhat contradicts the logical finding by IATA (2005, p.10): “the ability to deliver cost effectiveness….is central to an airline’s competitiveness and success.”

While higher-performing LCS seem to benefit from greater CASK in the sense that they achieve higher operating margins, they achieve 11.1% lower fares mainly because of the inclusion of Nok Air which has a mean fare of just $62.4. However, Nok Air’s low fare is not surprising given that it operates many short sectors within Thailand, the trunk routes of which are already extremely competitive yet will become more so following the entry of Thai VietJet (Kositchotethana, 2014). That LCS with higher profitability have higher RASK but lower fares is explainable through their generally lower average sector lengths and also their lower number of seats per aircraft. While higher-performing LCS are relatively consistent in their mean fare, lower-performing LCS differ more greatly. The range of fares is extreme, from $66.5 for Jetstar Pacific, which overwhelmingly operates short sectors within Vietnam, to $148.4 for Air India Express. It is curious that LCS within South Asia, the worst-performing sub-region for LCS by profitability, have the highest fares of $122.7. In contrast, those from best-performing Northeast Asia have a third lower fares ($89.6).
12.4 Connectivity index

The first of the product-based indices, the connectivity index comprises three attributes which help to understand the nature of airline strategies: the mean number of departures per airport per day; the number of routes offered; and the mean number of destinations available at all served airports. The extent of compliance to the connectivity index indicates an airline’s choice over its network design, with Holloway (2008) showing the importance of such, and wider network management within the airline operating performance model. There is a negative relationship for LCS between the connectivity index and the profitability index ($r = -0.558$) for LCS. This suggests that the network design of LCS may not be particularly important in their generation of profitability and the success or failure of LCS, at least in this context. It also suggests that expenditure in connectivity, particularly related to the size of the airline, must be very carefully considered.

Figure 12.1 shows that connectivity is reasonably strong for all 11 surveyed LCS, with a mean score of 6.8 out of ten. While this suggests that Asian LCS place a reasonably strong degree of significance on connectivity relative to the best-in-class LCS, the lack of secondary airports in Asia and the typically small size of LCS, and as such their limited number of routes, clearly negatively influences the results.

Jetstar Asia is the best-in-class for connectivity while Mihin Lanka is the worst (2.8 out of ten). While Jetstar Asia has the mean number of routes (23), it serves airports which are typically twice as busy with more destinations (62.6 against 40.9) and it has two-thirds more departures per airport per day (4.1 against 2.4). Jetstar Asia’s network design is thus based upon greater network concentration. Like Jetstar Asia, Tigerair is also based in Singapore and it received the third-highest score for connectivity. While analysing European LCCs, Mason and Morrison (2008) showed that Air Berlin, which is an airline which performs ineffectively financially and is strategically stuck-in-the-middle, had the highest level of connectivity. Thus, it could be argued that LCS with very high levels of connectivity have less in common, at least by this index, with more ‘pure’ LCCs.

A negative relationship exists between the degree of connectivity and the market structure index at $r = -0.519$. This suggests that less competitive markets may mean lower connectivity, while more competitive markets may mean greater connectivity. This may
reflect the commercial necessity of offering greater connectivity. For example, Mihin Lanka has the least connectivity but also the second least competitive market structure and the greatest dominance. In comparison, Jetstar Asia and Tigerair have very high connectivity but also very competitive market structures with less dominance. This suggests that the nature and degree of competition may play a role in determining the extent of connectivity. In contrast, Nok Air has strong connectivity but also strong market structure, which suggests that it is trying to defend its niche routes more effectively, thereby strengthening this barrier-to-entry.

There is a clear difference in connectivity between higher- and lower-performing LCS. This is especially noticeable for the number of routes offered, with lower-performing LCS offering 50% more routes than their higher-performing counterparts (18.4). While lower-performing LCS have three times the variation for routes between them, they collectively serve more markets. This is especially the case for Air India Express with 48 markets and both Tigerair and Citilink with 37. However, these three airlines collectively have an operating margin of minus 31.2%. In contrast, Nok Air, Peach, and Air Busan have 25, 16, and 14 routes respectively and a margin of 14.7%. While it depends upon each airline’s specific objectives, this may suggest that size, by the number of routes, may be counterproductive for the achievement of positive margins for LCS, and that reassessment, rationalisation, and more effective selection may be necessary.

Higher-performing LCS have 50% more departures per airport per day. This is especially the case for Jetstar Asia (4.1), Air Busan (3.7), and Nok Air (3.5). Higher-performing LCS also serve airports which have a third more offered routes, particularly Jetstar Asia (62.6), HK Express (58.4), and Peach (52.6). When combined with greater weekly frequency (an attribute within the convenience index), it seems that higher-performing LCS place greater emphasis upon building market presence and domination than spreading themselves more thinly. Indeed, higher-performing LCS have a 42% higher score for connectivity against the best-in-class.
12.5 Convenience index

The second of the product-based indices, the convenience index comprises an airline’s punctuality, weekly frequency, and its mean airport location relative to the nearest main population centre.

With a mean score of just 3.1 out of ten, Asian LCS score less for convenience than they do for connectivity and comfort. Indeed, convenience is their lowest-scoring index, which is the consequence of much lower scores relative to the best-in-class airline. It is this which accounts for the very high standard deviation of 3.6 for this index in comparison to all others, with strong variation notable in Figure 12.1. Excluding punctuality, the comparative weakness of convenience would not be surprising within a European context for LCCs given it includes weekly frequency and relative airport location. However, it is more surprising within an Asian context.

Nok Air is best-in-class for convenience and it has a much greater score than any other LCS. Nok Air’s high convenience is because it has twice as many weekly frequencies than the mean for all LCS (24.3 against 12); it serves airports which are much closer to the nearest main population centre (14.4km against the mean of 23.5km); and because it has more flights arriving on time. The high convenience of Nok Air is partly because of its specific operating environment and the nature of its served markets, with 97.6% of its total weekly seats offered within Thailand (CAPA, 2015c). Indeed, this research found that LCS with significant domestic operations tend to have higher scores for convenience than those which mainly operate internationally Nok Air’s strong domestic presence gives rise to its high market concentration and dominance through strong market share (see the market structure index), both of which aid its convenience generally but especially weekly frequency.

Citilink, from Indonesia, has the third-highest score for convenience (6.2) primarily as a consequence of operating almost exclusively domestically, with 98.2% of its weekly seats deployed within Indonesia (CAPA, 2015c). Its relative convenience is therefore almost by virtue of its operating environment. While it has above-mean scores for weekly frequency (14.2) and punctuality (85%), its convenience score is primarily because of the locations of its served airports, which are just 15.9km from the nearest main population centre. However,
Citilink’s very poor profitability (-22.0%) in the surveyed year suggests that its overall strategy is not working, although it halved its net loss in the first half of its 2014 financial year (Suzuki, 2014) and made profit in the last two quarters of 2014 (CAPA, 2015i). Citilink expects 2015, overall, to deliver profitability, and its CEO recently commented: “My focus this year is to really make the airline profitable” (CAPA, 2015i).

Peach has the fifth greatest score for convenience primarily because of possessing the second-highest weekly frequency of all 11 LCS, 18.5, with mean weekly frequency having the greatest weighting with profitability of all the convenience attributes. Peach’s level of convenience is despite it having the worst punctuality (69%) and despite it serving airports which are further from the main population (31.3km). The latter is not surprising given its base, Osaka/Kansai, is 50km from Osaka and that Peach is disproportionally influenced by Osaka/Kansai given Peach’s small size (14 A320s) and 16 routes. The weighting attached to weekly frequency partly helps to explain why the following LCS have extremely low scores for convenience: Mihin Lanka, the worst-in-class for convenience, has a score of 0.16 out of ten and a weekly frequency of 2.8; Air Busan has 0.30 and 7.1; Jetstar Asia has 0.46 and 10.2; Jin Air has 0.50 and 10.4; and HK Express has 0.58 and 9.8.

Despite Booz-Allen (2001) showing that punctuality is a key performance indicator for airlines and is an important service differentiator, Table 12.1 indicates that higher-performing LCS have a worse punctuality rate (80.7%) than lower-performing LCS (85.6%). Their lower punctuality is attributable to Peach, without which it would increase to 83.6% but which is still lower. That higher-performing LCS have lower punctuality is despite them having fewer passengers per flight than their lower-performing counterparts (144.2 against 147.5; see Chapter 12.6).

More important is that higher-performing LCS have nearly 50% more weekly frequencies than lower-performing LCS. This is partly explained through the inclusion of higher-performing Nok Air (24.3 weekly) and Peach (18.5), and it is despite the inclusion of Jetstar Pacific, a lower-performing LCS with a margin of -10.3%, which has 16.8 weekly. These three airlines help to illustrate that higher weekly frequencies are more often offered by airlines with significant domestic operations. Despite higher-performing LCS having more weekly frequencies, they have a third lower mean score for convenience because they possess lower punctuality and serve less conveniently located airports. This suggests that increasing
weekly frequency is something which less effective LCS could contemplate, although it is clearly dependent upon their targeted market segments and the elasticities of them. Indeed, increasing frequency, and thereby convenience, would also increase their total operating costs, and because they do not presently cover their already low costs despite higher average fares indicates that they may have to serve more attractive markets while significantly improving their branding and awareness.

12.6 Comfort index

The comfort index is the third in the product architecture of airlines, and it comprises passengers per flight and both seat pitch and seat width in economy class.

Given the elements which comprise comfort, it is reasonable to assume that LCS, if replicating LCCs to a meaningful extent, would have a relatively low score for comfort. The relative insignificance of comfort for LCS was confirmed, as this research found that it had the second-lowest score across all indices of 5.2 out of 10. This contrasts with the scores for the other two elements of product architecture: convenience (3.2) and connectivity (6.8). Thus, it is clear that LCS adhere much more closely to the best-in-class airline for the comfort element than for convenience, but notably less than for connectivity.

Of all 11 LCS, Mihin Lanka is best-in-class for comfort. This means that it has the greatest level of comfort vis-à-vis all others, which is because of its comparative high seating quality from greater seat pitch (31”) and width (19”) and from fewer passengers per flight (131 against the mean of 146). It therefore follows the ‘pure’ LCC model less in this regard than other LCS. The emphasis placed by Mihin Lanka on comfort is confusing given it serves less trafficked markets with far less competition and which are heavily focused upon the VFR segment. Unlike comfort, and based upon the stronger LCS for each index, Mihin Lanka has far lower emphasis upon connectivity, convenience, direct distribution, and aircraft productivity. That Mihin Lanka’s RASK ($0.039) cannot even exceed its below-mean CASK ($0.053) indicates the wholesale change that it must implement.

Given generally very high seating densities (see Chapter 12.8) relative to the maximum certified by aircraft manufacturers, it was expected that both seat pitch and seat width would be comparatively low and with little variation among the surveyed LCS. This was confirmed
for the mean seat pitch was 29.7” while the mean seat width was 17.8”. By comparison, Mason and Morrison (2008) showed that easyJet’s seat pitch and width were 29” and 17.5” respectively, while Ryanair’s was 30” and 17.2”. Asian LCS therefore adhere closely to the minimum levels of comfort and the resultant lower seating quality from these two attributes, while counteractively reducing seat and unit cost and theoretically increasing revenue opportunities from the provision of more seats for sale per sector. Air Busan offers the greatest comfort based upon pitch and width, with 32” and 19” respectively. In comparison, Peach has the least comfort from offering a pitch of 29” and a width of 17”, below even Ryanair’s.

What is more surprising is that higher-performing LCS have slightly fewer passengers per flight, at 144.2 against 147.5. They also have far less variation between LCS for this attribute. This suggests that higher-performing LCS provide more comfort, for a less populated cabin should clearly be more attractive, although the difference of just three passengers may not be noticeable given the size of the aircraft. Unlike Mihin Lanka, Jetstar Pacific has the most passengers per flight, with 162. However, both airlines are heavily loss-making, which, along with minimal variation among LCS for pitch and width, helps to illustrate why both higher- and lower-performing LCS have relatively similar mean scores for comfort.

12.7 Distribution index

The distribution index comprises the percentage of bookings made online via each airline’s own website. Reducing the use of distribution intermediaries played an important role in reducing input costs for airlines, hence LCCs selling directly as a source of much more cost-effective distribution.

Despite the potential cost and revenue implications of direct distribution, Table 12.1 shows that LCS have a mean direct distribution of just 60%, albeit with a reasonably high standard deviation of 15.8. While 60% is low in itself, it is not surprising given typically lower internet and credit/debit card penetration across the countries of the surveyed airlines, with a mean internet penetration of 55 people out of 100 across the countries of the sampled LCS (Word Bank, 2015b). This compares to 89.8 people out of 100 in the United Kingdom and
84.2 people in the United States, with the highest worldwide being Iceland with 96.5 (World Bank, 2015b). However, the distribution index had the third-highest score (7.4 out of ten) of all ten indices, which suggests reasonably high similarity to the best-in-class airline for the distribution side of LCS.

Of all 11 LCS, it is HK Express which is the best-in-class for direct distribution with 81%. This is still reasonably low compared with LCCs in Europe, where Ryanair and easyJet have nearly 100% direct distribution. The strong result of HK Express illustrates the anticipatable difference in internet bookings by sub-region, with LCS from Northeast Asia achieving a mean of 70% against 61.6% for Southeast Asia and just 35% for South Asia. Given this, it is not surprising that fewer book directly with Air India Express (33%) than any other LCS, testament to its highly diversified distribution strategy including through online travel agencies, traditional travel agencies, city offices, and through selected retail outlets (Air India Express, 2014). Of all LCS, it is those higher-performing which are working towards becoming more akin to LCCs as they have a third more direct distribution (69%) than their lower-performing counterparts (52%).

12.8 Aircraft index

Figure 12.1 shows that almost all LCS have very high scores for aircraft. Indeed, this index has the highest overall score of all indices, with a mean of 8.4 out of 10. This suggests that Asian LCS are particularly strong for aircraft productivity against the best-in-class, which is perhaps surprising given the differing environments within which they exist. Jetstar Pacific is the best-in-class for the aircraft index particularly as it operates 7.8 sectors per day from short sectors against the mean for LCS of 4.9; operating one aircraft type against the mean of 90% for most populous aircraft; having the maximum possible seating density for its A320s; and because of its 90.5% load factor against the mean for all LCS of nearly 80% Jetstar Pacific therefore complies more than any other LCS to what is expected according to ‘pure’ LCC methodology.

Interestingly, three other LCS had scores very close to Jetstar Pacific’s: Nok Air (9.9 out of 10); Peach (9.4); and Air India Express (9.3). The strength of these is mainly because of strong load factors, aircraft utilisation, number of sectors per day, and aircraft seating density.
Nok Air, for example, has below-mean scores for both the most populous aircraft in its fleet (81%) from operating a mixed fleet of B737s and ATR-72s to serve multiple types of destination, including within rural and mountainous Thailand, and average seating of 172. However, it counteracts these results with above-mean scores for load factor (84%), daily utilisation (10.5 hours), sectors per day (8.3), and the seating density of its most populous aircraft (100%). Of all 11 LCS, it is Mihin Lanka which has by far the lowest score for aircraft because of a very low load factor (67%); operating only four sectors per day as a result of its longer average sectors; utilising the A320 and the A321\textsuperscript{46} and scoring 66% for most populous aircraft; and from having below-mean seating densities.

There is little variation among higher- and lower-performing LCS by virtually all measures within the aircraft index. While there is, at times, reasonably high variation among the mean for each attribute, the primary differences between performance levels is for the mean number of aircraft seats and for the most populous aircraft in the fleet. Indeed, it is somewhat surprising that higher-performing LCS perform less effectively in both respects, with both a more diversified fleet (85.4% for most populous aircraft against 94.3%) and with a lower seating density (176 seats against 185). It is Air Busan, in particular, which accounts for the lower aircraft commonality, as it has a small fleet of 12 aircraft spread among the A320 and A321, and the B737-400 and -500. It is Air Busan and Nok Air which account for the lower seating densities. In terms of aircraft seating, a moderate negative relationship ($r = -0.54$) exists with profitability. This suggests that adding more seats may not necessarily result in greater profitability. This therefore questions the significance of seating density for LCS unless sufficient revenue can be generated from the extra seats.

High aircraft productivity is a key requirement for LCC profitability. For aircraft productivity, Morrell (2013) showed that it is daily utilisation (block hours per 24 hours) and the number of flights operated per aircraft per day which are particularly crucial. LCS generally have relatively high daily utilisation of 11.2 hours, which is comparable to a number of LCCs, including in 2013 for Ryanair (11.8 hours), Southwest (11.2 hours), and easyJet (11.0) (Ryanair, 2014; Southwest, 2014; easyJet, 2014). Of all LCS, it is Jetstar Asia (13.9 hours) and Air Busan (8.8 hours) which are the highest and lowest respectively. Unlike

\textsuperscript{46} Notwithstanding the commonalities of the A320 and A321 in terms of pilots and components from being within the same family of aircraft, they still do not constitute one aircraft type from different seating capacities and performance.
daily utilisation, LCS have a moderate number of sectors per aircraft per day (4.9), but this has a reasonably high standard deviation of 1.81. It is Nok Air (8.3) and Jetstar Pacific (7.8), in particular, which meaningfully exceed the mean, largely because of their short sector lengths and the often comparatively uncongested airports given the countries (Thailand and Vietnam) in which they operate.

12.9 Labour index

Field (2008) argues that employee productivity is one of the fundamental elements of LCCs because of its overriding significance in reducing cost and increasing the likelihood of profitability. It is for this reason that this index includes three attributes: the number of passengers per employee; the number of employees per aircraft; and the amount of output per employee.

While the labour index scored a moderate 7.1 out of 10 across all 11 LCS, it has the second greatest variation (2.7) of all indices except for cost, which is clear in Figure 12.1. This suggests that LCS, while relatively few in number, vary quite widely by labour productivity, and they are noticeably less strong than for aircraft productivity, which not only had an 18% higher mean score but also half the variation. It was found that there was a moderate negative relationship ($r = -0.636$) between labour productivity and cost: as labour productivity increases cost will decrease. This was expected, but it indicates the degree to which labour productivity should be increased wherever viable.

Of all LCS, it is Jin Air, of South Korea, which is the best-in-class for the labour index. This is overwhelmingly because Jin Air has nearly three quarters more passengers per employee (3,993) than the mean across all LCS (2,458) and because it has fewer employees per aircraft (86 against 96). Despite this it carries more passengers, and it is more productive as a result. Its best-in-class position is despite having a below-mean score for ASK per employee (2,713 million against 3,020 million) mainly because of its preponderance of short domestic flights.

The strength of Tigerair by labour productivity is also notable, with a score of very close to the best-in-class largely because of both more ASK per employee (4,627 million), a longer

47 Unlike for passengers per employee and ASK per employee, which should be as high as possible for greater productivity, employees per aircraft should be minimised for greater productivity.
average sector length, and fewer employees per aircraft (76). An interesting comparison is between Nok Air, Jetstar Pacific, and Citilink, all of which have substantial domestic operations and comparatively short flights. While Nok Air was near the best-in-class for LCCs for labour (9.5), Jetstar Pacific (4.5) and Citilink (4.0) were not. The difference is because Nok Air has far fewer employees per aircraft (84) than Jetstar Pacific (111) and Citilink (110) and because of carrying more passengers per employee, at 3,300, 2,139, and 1,661 respectively. The LCS with by far the lowest labour productivity is Air India Express, with a score of just 1.3. Its very low score is because of being overstaffed (125 employees per aircraft) and less productive (1,129 passengers per employee), despite having the second highest score for ASK per employee (3,907 million).

Unlike for aircraft productivity which surprisingly had minimal difference by performance among most of its attributes, the attributes which comprise labour do vary by performance. When the results are combined\(^4\)\(^8\), it is the lower-performing LCS which have greater labour productivity at 5,568 against 5,158. While this is not a big difference, it is because lower-performing LCS have a fifth more ASK per employee (3,284 million against 2,704 million) as a result of longer sector lengths and more seats per aircraft. The inclusion of lower-performing Tigerair (4,627 million) and Air India Express (3,907 million) and higher-performing Nok Air (1,934 million) account for this difference.

Tigerair and Air India Express both have many flights over four hours, and including up to six hours\(^4\)\(^9\) (CAPA, 2015c), which partly accounts for their lower number of sector lengths. However, the effect of the difference in ASK by performance level per employee reduces the performance difference for lower-performing LCS as they have lower results for both passengers per employee and employees per aircraft. Notwithstanding ASK per employee, which is distance-weighted, higher-performing LCS have fewer employees per aircraft (90 against 101) and more passengers per aircraft (2,544 against 2,387) as they are more streamlined and efficient. It is interesting to note that while HK Express has the fewest employees per aircraft of all LCS (75), it also has the third-lowest number of passengers per employee (1,667). Its relative unproductivity for passengers per aircraft is somewhat

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\(^4\)\(^8\) Passengers per employee plus ASK per employee minus employees per aircraft.

\(^4\)\(^9\) Tigerair has 131 weekly frequencies at 4 hours; 55 frequencies at 4.5; 35 at 5 hours; 8 at 5.5; and 16 at 6 hours. Air India Express has 161 weekly frequencies at 4 hours; 58 at 4.5; 7 at 5; and 3 at 6.
explained through being a relatively new operator, for it was restructured as a LCS of Hong Kong Airlines in 2013 (Timms, 2013).

12.10 Market structure index

The market structure index is perhaps the most unusual of all the POA indices, and it exists, to a certain degree, because of all of the others. This is because this index concerns market attractiveness and market power, which is partly the consequence of an airline’s strategy and the other POA attributes which comprise it. For this index, four attributes were used: median HHI; mean HHI; mean number of competitors per market; and market share by capacity of seats across served markets. Note that the HHI concerns market concentration and is a proxy for market competitiveness. The HHI scores vary from 0 to 10,000 and according to the US Department of Justice a HHI score of 0 indicates perfect competition; below 100 indicates a highly competitive index; 101-1,500 indicates an unconcentrated index; 1,501-2,500 indicates moderate concentration; 2,501+ indicates high concentration; and a score of 10,000 indicates a monopoly.

Of all 11 LCS, it is Air India Express which is best-in-class for this index, followed closely by Nok Air (9.3 out of 10) and Mihin Lanka (9.1). These airlines therefore operate in less competitive markets and have greater market dominance and power. The benchmark score for Air India Express is partly because it has a very high market concentration based upon the HHI of 3,867. This is in contrast to the concentration across all sampled LCS of 2,135, which represents medium concentration, with concentration used as a proxy for competitiveness. Air India Express’ very high HHI is based upon the competitiveness at by far its most-served airport by weekly seats, Dubai, at which it has a total of 23,058 seats (CAPA, 2015c). That Dubai is so concentrated is because of the high dominance of Emirates (60.7% market share) and the extremely low market shares on an individual airline basis for the remaining 82 airlines (mean of 0.49%) (CAPA, 2015c). Air India Express also has fewer competitors per served market (1.3 against the mean of 2.0) and above-mean market share by percentage of seats across all served markets (52.7% against 42.6%). While Air India Express clearly has strong overall dominance vis-à-vis other LCS, it is nevertheless still loss-making. In comparison to Air India Express, Jetstar Asia is the worst-in-class for the market structure index (4.3 out of 10), which means that it operates in more competitive markets.
This can be seen by its comparatively low HHI (1,331), that it has the highest mean number of competitors per market (4.0), and that it has the lowest market share (13.5%). Despite its relative lack of market power, it too is scarcely profitable, and it lost SGD$35 million in 2014 (CAPA, 2014e).

Interestingly, lower-performing LCS have greater scores for the majority of the market structure benchmark attributes. Thus, those LCS which under-perform have greater market concentration (2,517 against 1,676 for higher-performing LCS). With the exception of Tigerair because of its operation in very competitive Singapore, all lower-performing LCS have much higher concentrations than the mean for higher-performing LCS, for example Jin Air (2,389) and Citilink (2,332). The 50% lower concentration for higher-performing LCS is partly because of the very low HHI of Peach (649), with this score the result of a reasonably large number of airlines (48) at Osaka/Kansai but with no particularly dominant airline (Peach has the greatest share with 15.2%) and a low market share of all airlines at Kansai (mean of 2.1%). Furthermore, lower-performing LCS have slightly fewer competitors per market (1.8 against 2.1), principally because of Mihin Lanka (0.2) from mainly operating monopoly routes, such as Colombo to Jakarta, Dhaka, Lahore, and Varanasi (Mihin Lanka, 2014). Excluding Mihin Lanka, the number of competitors would be the same. While not a significant difference, lower-performing LCS have 13.3% greater market share (45.1% against 39.7%) despite the low shares by Tigerair (23.8%) and Jetstar Pacific (18.5%).

12.11 POA analysis of higher- and lower-performing low-cost subsidiaries

As Table 12.1 shows, lower-performing LCS perform relatively well overall based upon most of the attributes which constitute the POA indices. In comparison to higher-performing LCS, lower-performing LCS have higher mean fares; a greater number of routes; serve airports closer to the main population centre; have superior punctuality; carry more passengers per flight; offer virtually the same seat width and pitch in economy class; have more seats per aircraft; have a higher seating density relative to the maximum permissible; have a virtually identical load factor; produce more ASK per employee; have greater market concentration; see fewer competitors per market; and possess greater market share by seats. Despite these apparent strengths, lower-performing LCS, as a group, are considerably less profitable (-11.2% margin) than their higher-performing counterparts (2.9% margin). The profitability
difference can be seen in Figure 12.2. However, the profitability of higher-performing LCS while positive is not particularly strong, and it is below the 2013 operating margin of IATA member airlines of 3.5% (IATA, 2014e), although this 3.5% figure only includes network airlines. The significant underperformance of lower-performing LCS despite the aforementioned apparent strengths suggests real underlying problems, and it is especially interesting given that they have greater market power and less competition. This therefore indicates the degree to which change is needed to strengthen this borderline very essential response.

**Figure 12.2: A POA comparison between higher- and lower-performing LCS**

The root cause of the underperformance of lower-performing LCS by profitability is not cost, as they already have a 50% lower CASK than those LCS which achieve greater profitability. However, higher-performing LCS are profitable despite their cost disadvantage, and they have scores closer to the maximum of ten across seven of the ten POA indices, but especially

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50 It is crucial to note that the mean scores for higher- and lower-performance are based upon the best-in-class airline for each specific index; as such, the possible range from zero to ten as per the previous chapter applies. It does not contain actual figures for each element of each index, as shown in Table 12.1, but rather the overall result for each index relative to the best-in-class.
revenue, connectivity, distribution, and labour. As a group, higher-performing LCS are therefore closer to the best-in-class airline for these indices. The cost advantage of lower-performing LCS is partly because of the longer sector lengths of some of the sampled LCS and not necessarily from a real focus by them on cost control and reduction. This therefore suggests that comprehensive cost cutting is not necessarily the answer for lower-performing LCS, although it does depend upon the specific index, the individual elements of each index, and each specific LCS.

In terms of areas where cost cutting is needed, and as Figure 12.2 as supported by Table 12.1 shows, lower-performing LCS need to significantly improve their direct distribution and labour productivity, while also improving their overall aircraft productivity. Meaningfully increasing direct distribution may be challenging because of the countries from which the LCS come and the markets that they serve and the resultant lower internet and credit card use. However, greater direct distribution is an obvious means of further reducing costs, regaining a certain degree of control over the selling of seats, and potentially driving ancillary revenues, although it is not without revenue risk and it will take time to educate customers.

In terms of labour productivity, lower-performing LCS particularly need to reduce the number of employees per aircraft, thereby ensuring that their staff achieve more with less and are more productive. This includes increasing the amount of passengers carried per employee and further strengthening output per employee. A greater use of outsourcing, where viable, may also assist with improving the labour index, with the dual benefit of further reducing costs. For aircraft productivity, lower-performing LCS should concentrate on increasing their load factors beyond their mean of 80% by reducing average fares to stimulate further traffic volume and total revenue (assuming adequate price elasticity) or from reducing frequencies or both. They should also consider increasing aircraft utilisation by both block hours per 24 hours and sectors per day. However, greater aircraft usage to reduce fixed costs and CASK and to increase revenue-generating opportunities is dependent upon the age of the aircraft (and the consequent ownership, fuel, and maintenance cost considerations), whether they are leased or owned, and if they can be profitably deployed (Vasigh et al., 2012). The poor profitability of lower-performing LCS despite greater market share, fewer competitors, and greater market concentration suggests that a re-evaluation of their existing served markets is necessary before the pursuit of greater aircraft productivity which will increase operating costs.
The weakness of lower-performing LCS derives from their inability to achieve adequately high revenues despite possessing considerably lower CASK. While lower-performing LCS achieve a greater mean fare than those higher-performing, their RASK is 56% lower. Although this is partly because of longer sectors and from operating aircraft with more seats, with the extra output automatically offsetting the higher mean fare, it nevertheless clearly indicates that it is their difficulty in growing revenues which largely accounts for their lower profitability. As such, it is revenue generation which must receive greater attention. (It is the much greater variation for mean fare which helps to explain why they underperform so greatly in Figure 12.2.) However, the need for greater revenue supposes that LCS are created by their parent network airlines for profit maximisation, and that they have sufficient autonomy, motivation, and capability for improvement.

Given the negative relationships between the profitability index and the connectivity ($r = -0.558$) and convenience ($r = -0.704$) indices, more focus on these two indices for greater revenue may need not be prolonged. This is as connectivity and convenience improves profitability may reduce. In contrast, the relationship between profitability and comfort is positive ($r = 0.504$), which suggests that as comfort levels are increased profitability should rise. However, building greater penetration at served airports through more departures per day (part of the connectivity index) given higher-performing LCS have a third more departures is logical and it would help them to avoid spreading themselves too thinly. This would also assist in growing awareness, benefiting from marketing economies, and it should reduce their operating costs. However, this is entirely dependent upon sufficiently attractive opportunities. Indeed, given poor performance despite greater market dominance, lower-performing LCS should focus more upon their markets and decide whether they should continue to be served based upon their contribution to fixed costs and profitability. They should, where appropriate, better tailor their products to more effectively meet the requirements of their targeted market segments. This may include reducing frequencies where commercially viable to increase load factor, passengers per flight, and RASK, while also lowering operating costs, seat costs, and per-passenger costs.

Crucially, and in relationship with growing their low number of bookings via direct distribution channels, lower-performing LCS should fully exploit ancillary revenue opportunities, specifically regarding unbundling their fare structures more fully and implementing a la carte pricing, while pursuing relevant commission-based components.
Indeed, IdeaWorksCompany (2014) showed that world airlines generated $31.5 billion in ancillary revenues in 2013, of which LCCs alone generated $6.2 billion (IdeaWorksCompany, 2014c). Spirit Airlines, for example, generated 38.4% of its total revenues from ancillary sources in 2013, while Ryanair generated 24.8% and the AirAsia Group 17.6% (IdeaWorksCompany, 2014c). The significance of ancillary revenues for LCCs, and by implication LCS, is because they enable lower seat prices to be offered which drives demand, and thereby compete to a greater degree on price\textsuperscript{51}. The lower fares are then supplemented by ancillary revenues to benefit the airline from both greater passenger volume and total revenue.

12.12 A POA comparison between low-cost subsidiaries and low-cost carriers

Beyond comparing LCS and LCCs by levels of performance to identify how and why they are different, it is very important to compare LCS and LCCs in their entirety. This is especially important from the perspective of LCS given the impacts and changing customer motivations from their parents. It is this which has resulted in network airlines responding to the rise of LCCs in many ways, increasingly by utilising LCS. It is also important because many perceive LCS to perform comparatively weakly vis-a-vis LCCs given their high historic failure rate. Through Table 12.2, this analysis therefore enables a comprehensive understanding of the strengths and weaknesses of LCS against LCCs. Crucially, it indicates the areas on which LCS, in particular, should focus attention in order to increase their strength, competitive advantage, and their likelihood of greater performance. The potential increase in the effectiveness of LCS should also aid parent network airlines in competing with Asian LCCs while perhaps contributing to strengthening their performance, in an indirect manner, within short-haul markets. This goes hand-in-hand with the reasons for creating LCS, including that LCS have the potential to enable network airlines to focus more greatly upon their core competencies and strengths. It may also enable network airlines to further strengthen their top-two intangible resources, product and service reputation and brand, especially in terms of the value of them.

Various authors have shown the inherent weakness of LCS, albeit often in an historical and non-Asian context (see, for example, Morrell (2005), Graham and Vowles (2006), Gillen and

\textsuperscript{51} A la carte pricing may also help to reduce costs from removing cost centres; shape/change customer behaviour towards an ‘ideal’ customer in terms of cost-effectiveness and simplicity; increase customer choice, so providing a self-selected tailor-made offering; and, ultimately, increase the likelihood of an airline surviving.
Gados (2008), Pearson and Merkert (2014)). Table 12.2 shows that, across Asia, there is a reasonably high profitability difference between LCCs (1.6%) and LCS (-4.8%). While previous research into LCS did not provide specific profitability figures, the findings of this research broadly supports previous research. However, the profitability difference between LCS and LCC is not, in itself, necessarily surprising, but what is unexpected is the relatively low performance of LCCs in comparison to them.

As 12.2 shows, LCS underperform across many elements of the POA framework in comparison to LCCs. It is these which help to account for their lower profitability. As a result of their individual strategies and reasons for existing, LCS particularly underperform relative to LCCs by having higher costs; fewer departures per airport per day; offering half the number of routes as LCCs; offering a lower weekly frequency; carrying more passengers per flight, so reducing comfort; having fewer direct bookings via the internet; operating fewer sectors per aircraft per day; carrying considerably fewer passengers per employee; having more employees per aircraft; and by producing far less output per employee. However, LCS outperform LCCs in various ways, especially in terms of revenue generation; punctuality; lower cost per carried passenger; more seats per aircraft, so reducing seat and unit cost; more concentrated HHI; fewer competitors per market; and a greater market share. Across the POA indices, and as Figure 12.3\textsuperscript{52} shows, LCS have higher scores relative to the best-in-class airline for revenue, connectivity, comfort, and labour. This therefore means that LCCs surpass LCS for six of the ten POA indices, but most notably for convenience.

\textsuperscript{52} A score for LCS or LCC closer to the maximum of ten does not mean that one model is better for that index than the other. It simply means that the airlines within that specific group are performing more similarly for that index or for the individual elements thereof. For example, while LCS score lower for the elements of the connectivity index than LCCs as shown in Table 3, they score higher in Figure 5 in part because of the significantly lower standard deviation for the number of routes offered. In comparison, LCCs have much greater variation among themselves for this element.
<table>
<thead>
<tr>
<th>POA index</th>
<th>Attribute</th>
<th>( \bar{x} ) LCS</th>
<th>SD</th>
<th>( \bar{x} ) LCC</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability</td>
<td>Operating margin (%)</td>
<td>-4.80</td>
<td>11.22</td>
<td>1.63</td>
<td>9.70</td>
</tr>
<tr>
<td>Cost</td>
<td>Cost per ASK ($ cents)</td>
<td>6.58</td>
<td>1.56</td>
<td>6.00</td>
<td>1.28</td>
</tr>
<tr>
<td>Revenue</td>
<td>Revenue per ASK ($ cents)</td>
<td>6.33</td>
<td>2.04</td>
<td>6.13</td>
<td>1.25</td>
</tr>
<tr>
<td></td>
<td>Mean fare paid ($)</td>
<td>90.25</td>
<td>26.41</td>
<td>79.81</td>
<td>17.63</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Departures per airport per day</td>
<td>2.47</td>
<td>1.20</td>
<td>3.45</td>
<td>1.79</td>
</tr>
<tr>
<td></td>
<td>Number of routes offered</td>
<td>23.45</td>
<td>12.01</td>
<td>54.43</td>
<td>41.05</td>
</tr>
<tr>
<td></td>
<td>All destinations available at airports served (mean)</td>
<td>40.96</td>
<td>18.13</td>
<td>42.79</td>
<td>14.14</td>
</tr>
<tr>
<td>Convenience</td>
<td>Mean weekly frequency per route</td>
<td>11.59</td>
<td>6.36</td>
<td>14.78</td>
<td>4.60</td>
</tr>
<tr>
<td></td>
<td>Airport location: distance from nearest population centre (km; mean)</td>
<td>23.50</td>
<td>6.35</td>
<td>21.86</td>
<td>5.87</td>
</tr>
<tr>
<td></td>
<td>Punctuality</td>
<td>83.39</td>
<td>6.21</td>
<td>79.21</td>
<td>7.43</td>
</tr>
<tr>
<td>Comfort</td>
<td>Passengers per flight (mean based upon mean aircraft seating)</td>
<td>146.01</td>
<td>9.17</td>
<td>138.68</td>
<td>23.08</td>
</tr>
<tr>
<td></td>
<td>Economy seat width (inches) (on most populous aircraft)</td>
<td>17.82</td>
<td>0.73</td>
<td>17.07</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td>Economy seat pitch (inches) (on most populous aircraft)</td>
<td>29.74</td>
<td>1.03</td>
<td>29.57</td>
<td>1.11</td>
</tr>
<tr>
<td>Distribution</td>
<td>Internet distribution (%)</td>
<td>59.91</td>
<td>15.80</td>
<td>67.00</td>
<td>12.75</td>
</tr>
<tr>
<td>Aircraft</td>
<td>Utilisation (aircraft hours per 24 hours)</td>
<td>11.26</td>
<td>1.82</td>
<td>11.48</td>
<td>1.45</td>
</tr>
<tr>
<td></td>
<td>Sectors per day</td>
<td>4.86</td>
<td>1.81</td>
<td>6.57</td>
<td>1.10</td>
</tr>
<tr>
<td></td>
<td>Number of seats (mean)</td>
<td>180.91</td>
<td>7.11</td>
<td>174.63</td>
<td>21.47</td>
</tr>
<tr>
<td></td>
<td>Most populous aircraft in fleet (%)</td>
<td>90.27</td>
<td>18.42</td>
<td>87.14</td>
<td>19.56</td>
</tr>
<tr>
<td></td>
<td>Seat density of maximum permitted (%) based on most populous aircraft</td>
<td>97.84</td>
<td>4.16</td>
<td>98.72</td>
<td>3.40</td>
</tr>
<tr>
<td></td>
<td>Load factor</td>
<td>79.94</td>
<td>6.09</td>
<td>79.38</td>
<td>7.07</td>
</tr>
<tr>
<td>Labour</td>
<td>Passengers per employee</td>
<td>2458.27</td>
<td>875.61</td>
<td>3,320.76</td>
<td>919.89</td>
</tr>
<tr>
<td></td>
<td>Employees per aircraft</td>
<td>96.18</td>
<td>16.45</td>
<td>85.06</td>
<td>19.64</td>
</tr>
<tr>
<td></td>
<td>Output (ASK) per employee (millions)</td>
<td>3020.00</td>
<td>1125.26</td>
<td>3,958.71</td>
<td>1,307.43</td>
</tr>
<tr>
<td>Market structure</td>
<td>Median HHI (seats)</td>
<td>0.79</td>
<td>0.79</td>
<td>0.91</td>
<td>2.11</td>
</tr>
<tr>
<td></td>
<td>Mean HHI (seats)</td>
<td>2,134.95</td>
<td>912.04</td>
<td>1,912.43</td>
<td>735.01</td>
</tr>
<tr>
<td></td>
<td>Mean number of competitors per route-market</td>
<td>1.95</td>
<td>1.04</td>
<td>3.12</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td>Capacity share of seats (%) mean across all served markets</td>
<td>42.62</td>
<td>22.37</td>
<td>34.96</td>
<td>8.75</td>
</tr>
</tbody>
</table>
The negative profit margin of LCS is primarily attributable to LCS possessing 10% higher unit costs than LCCs. On a 500-mile sector, their seat cost is $32.9 against $30 for LCCs and their trip cost is $5,952 against $5,238. It is important to note that the higher trip cost of LCS is also because they have a mean number of seats per aircraft of 181 against 175, which increases weight and fuel burn but also the revenue-generating opportunity. The higher unit cost of LCS as the primary reason for their loss-making nature confirms Pearson and Merkert (2014), who showed that a contributing reason for the unsuccessfulness of Asian LCS is because they typically possess higher costs from lower efficiency. This provides an interesting alternative view to Gillen and Gados (2008) who showed that LCS may introduce greater efficiencies and lower costs, thereby contributing to the attainment of one of three identified objectives for the creation of a LCS: for the parent to spin it off as a profitable business. Morrell (2005) showed that LCS within the USA did not succeed in reducing their unit costs to the level of Southwest, in 2005 the benchmark airline for low costs. This is interesting as it is replicated by this research within an Asian context. The unit cost differential between LCS and LCCs is amplified further if considering the benchmark LCC
by cost, Malaysia AirAsia: while LCS have a mean CASK of $0.0658, Malaysia AirAsia’s CASK is 46% lower at $0.0450.

Despite higher unit costs, LCS achieve 3% greater unit revenues and 13% higher mean fares than LCCs. Their greater ability somewhat supports a finding of Whyte and Lohmann (2015) who showed that Jetstar has been able to increase its revenues while other airlines, of whatever form, have suffered financially53. That LCS achieve higher revenues is because of more passengers per flight, but it is also because of operating less competitive routes, so benefiting from an ability to set higher prices, and because LCS are rarely the providers of the lowest average fares anyway. It may also be because LCS are typically believed to have more complicated operations, products, and value propositions from a lower absolute focus upon the cost of production (Holloway, 2008; Morrell, 2005). As Table 12.2 shows, of the three indices which play a clear role in generating revenues – connectivity, convenience, and comfort – LCS generally appear to underperform against LCCs. Notwithstanding these findings, the greater revenues of LCS do not outweigh their high unit costs. This clearly indicates the need for LCS to meaningfully reduce their costs or to further increase their revenues or preferably both, with their choice likely based upon the degree to which they were established to compete with LCCs or to grow market share.

Across all 11 LCS, the mean number of aircraft is 16, although this reduces to 13 when Citilink and Tigerair, the two larger LCS, are excluded. These mean scores hide that three LCS – HK Express, Jetstar Pacific, and Mihin Lanka – have fewer than ten aircraft each. By comparison, Asian LCCs are more than twice as large with a mean of 34 aircraft, and the most profitable LCCs are twice as large again with a mean of 66 aircraft. Thus, LCS are small by the number of aircraft resulting in relatively few served markets (23) against those which are higher-performing (54). The differential is further supported by LCS having a lower weekly frequency per route (12 against 14.8). Given the smaller size of LCS, and notwithstanding their specific environments, strategic positions, and product features, is not surprising that LCS have higher CASK.

It is curious that LCCs, but especially those higher-performing, are much larger in size, and it suggests that LCS should consider whether the economic benefits of expansion, particularly

53 The Australian branch of Jetstar, which Whyte and Lohmann (2015) analysed, is profitable while Asian LCS collectively, as shown in this sub-chapter, are not.
economies of scale, scope, and density, together with the potential for greater brand awareness, warrant growth and the consequent capital investment. However, they should not expand for its own sake, for O’Connor (2001, p.22) showed that “whether any airline is likely to realise economies by simply getting bigger is a matter of much controversy.” Crucially, whether LCS are permitted to expand depends upon the parent network airline of the LCS and the afforded level of autonomy to the subsidiary. It is also dependent upon the specific objectives, the reasons for creating the LCS, and the degree to which direct competition is permitted between the parent airline and the LCS.

LCS significantly underperform relative to LCCs for all elements of the labour index, with a third lower score for both passengers per employee and for output per employee, while having 13% more employees per aircraft. This indicates that LCS are less effective than LCCs for labour productivity, and that this is an important area on which they should focus to reduce costs. Indeed, Low and Lee (2014) show the importance of a strong emphasis by LCCs upon the utilisation of human and physical resources, with this indicating the significance of this area for cost reduction by LCS. However, IATA (2010) showed that the cost of labour as a proportion of total cost is less in Asia than elsewhere, at around 14.7% against 24.8% in Europe and 21.5% in North America, which reflects relatively lower wages from many developing countries within South and Southeast Asia. While this was not based upon LCCs, it suggests that increasing labour productivity may be less meaningful for LCS as a source of cost reduction. In contrast to labour costs, fuel represents a greater percentage of total costs for Asian airlines than those elsewhere, at 36.7% against 34.2% for those from North America and 25.3% for those from Europe. While the cost of aviation fuel has reduced by 40% between December 2013 and December 2014 to $76 a barrel (IATA, 2014f), it is clear that LCS should also actively pursue reducing fuel consumption wherever possible.

Table 12.2 indicates that the higher profitability of LCCs is despite them having a lower market concentration than LCS, having two-thirds more competitors per market, and possessing a fifth lower market share. Clearly, more competitive markets are typically associated with markets which are more heavily trafficked, and the lower dominance of LCCs against LCS suggests that they have carved out profitable niches. This is somewhat supported by Asian LCCs offering higher weekly frequencies and having more departures per airport per day. The strategy of LCCs entering more competitive and fundamental markets is
shown by Spirit Airlines in the USA\textsuperscript{54}, which has achieved a mean profit margin over the past three years of 14.5% (CAPA, 2014), with Spirit avoiding market share in its own right in favour of profitability (Nielson, 2014). Ryanair is also increasingly serving primary airports, which are often more congested and expensive, as a means of more effectively targeting business travellers to drive yield and to increase growth opportunities, and this will result in more direct competition for Ryanair on major city-pairs in Europe (Mulligan, 2014).

That Asian LCS perform less effectively despite greater market dominance suggests that they should perhaps also consider more heavily trafficked markets if there are sufficiently attractive opportunities. This is not a contradiction of the previously established very strong agreement among surveyed airlines that LCS are best utilised on leisure, lower-yielding, hub-bypass, and non-core routes, for such routes could also be in strong demand. However, it is possible that their parent network airlines may not permit their serving more heavily trafficked markets given the potential for revenue and traffic cannibalisation, two common problems with LCS, with Graham and Vowles (2006) and Adam (2014) showing that a dual-brand strategy can be successful only with limited cannibalisation. However, the cannibalisation argument is somewhat illogical given that revenue and traffic would be kept within the broad airline group vis-à-vis unaligned competitors. Irrespective, it is important that LCS reconsider their served markets and determine whether changes need to be made in order to increase the likelihood of greater advantage, competitiveness, and ultimately stronger performance.

12.13 Summary

This chapter examined Asian LCS across ten POA indices to identify their relative strengths, weaknesses, and sources of advantage, and it compared LCS by higher- and lower-performance. It concluded by comparing LCS with their key LCC competitors to show in what ways LCS could improve. While the results of a number of attributes between higher-performing and lower-performing LCS and between LCS and LCCs are comparatively and surprisingly similar, a number are meaningfully different. Furthermore, the differences

\textsuperscript{54} Spirit is increasingly serving major airports, including Atlanta, New York/La Guardia, Philadelphia, Boston, Chicago O’Hare, Dallas/Ft. Worth, Houston/Intercontinental, Minneapolis, Denver, and Los Angeles, and linking them to other major cities on a low-frequency basis. For example, it operates Chicago/O’Hare-Atlanta once-daily. It has explicitly stated that it does not target the business traveller.
between these two groups is magnified when all the results are combined and when standard deviations are considered.

Asian LCS have many weaknesses when compared with LCCs, which corresponds to the belief by many of their underperformance and thus the degree to which they should be used. LCS have higher costs, are noticeably smaller, see fewer direct bookings, operate fewer sectors per aircraft per day, and have lower labour productivity. However, LCS are better than LCCs at generating revenues and they operate within less competitive markets. Overall, LCS are closer to the best-in-class airline for the revenue, connectivity, comfort, and labour indexes. Despite this, it was shown that LCS across Asia suffer from poor profitability and this, together with the variability of results, suggests that it is uncertain as to whether it is worth pursuing LCS.

Higher-performing LCS have a meaningfully greater profit margin than those lower-performing despite having higher unit costs; their profitability is due to achieving higher unit revenues despite lower mean fares. Despite the profitability difference, lower-performing LCS outperform them in many ways, including a greater number of routes, more seats per aircraft, and carrying more passengers per flight. However, lower-performing LCS must strengthen their strategies and advantages.

There is a high profitability difference between LCS and LCCs, with LCS especially underperforming in terms of higher costs, lower size/scale, and lower productivity. In terms of means of improvement, lower-performing LCS need to increase their use of direct distribution, aircraft productivity, re-evaluate their existing served markets, exploit ancillary revenue opportunities, and reduce unit costs. More crucially, however, lower-performing LCS need to improve labour productivity. When combined, these changes should improve the effectiveness, competitive advantages, and performance of LCS.

The findings that have been analysed and discussed in this, and the preceding, chapters have answered the objectives stated in the introduction. Chapter 13 now draws conclusions from these findings in order to answer the aim of this research.
13.0 CONCLUSIONS

Against the rise of LCCs and increasing competitiveness across Asia, this research sought to establish the sources of competitive advantage for Asian airlines within short-haul markets and economy class, while determining their strategic capabilities of Asian network airlines in competing with LCCs and examining the competitive responses that they could implement. Of the many potential competitive responses, this research especially focused upon the use of LCS, for this is a growing competitive weapon by network airlines but particularly within Asia.

This chapter takes each research objective in turn to show how they have been achieved with reference to both literature and gaps in knowledge, before concluding with how the two research aims have been achieved and the contributions to knowledge. It then discusses the limitations of this research before identifying future research opportunities.

13.1 Objective one: Asian aviation, the threat of low-cost carriers, and ways of overcoming them

The first objective corresponds to the literature review (see Chapter 2 and Chapter 3) from which the gaps in knowledge materialised.

LCCs within South and Southeast Asia now account for nearly six in ten seats offered by airlines within these two sub-regions. The competitive situation for Asian network airlines will only increase across this continent, particularly within Northeast Asia given its comparatively minimal penetration in 2014. Harris (2007) established that the threat posed by LCCs varies in intensity, with Asian network airlines susceptible to the emergence of new LCCs, growth by penetration of existing LCCs, and the evolution of LCCs away from the more ‘pure’ model, together increasing competitiveness within Asia. This increased threat is supported by growing open skies, especially the ASEAN agreement, and other liberalisation together with Asia’s generally spread geography, large populations, and often relatively poor overland transport alternatives. This has manifested itself in the financial underperformance of many of Asia’s network airlines, most notably those within South and Southeast Asia.
It was found that Asia has many emerging countries whose citizens have low but growing propensities to fly, and it is economic growth in such countries which explains why Asia is forecast to have 36% of all unit traffic by 2031. Indeed, it is that many countries within Asia are fast growing economically, which is supported by Asia being home to over half of the world’s population, which suggests that the attractiveness of Asia as a whole will further increase the competitive pressure on Asian network airlines by attracting more LCCs. The threat posed by LCCs is therefore considerable and growing. However, Asian network airlines are concurrently also being increasingly challenged from the rising penetration of MEB3 within long-haul markets, and increasingly by Asia’s growing number of LCCs within medium-to-long-haul markets. This research found a number of negative impacts of LCCs on network airlines, and a variety of changes to customers’ booking decision-making.

It is against increasing competitiveness for Asian network airlines, their inherent but expected cost disadvantages, and their need for higher yields that it is necessary to determine the response strategies that are and that could be employed by them in competing with LCCs. However, Daft and Marcic (2010) showed that traditional firms often display complacency over low-cost competitors and dismiss them, while Fu and Um (2014) indicated that this could be because the incumbents are growing quickly yet are unaware that their share of markets are reducing. Like network airlines elsewhere, Asian network airlines target the budget segment of air transport, even though this may not correspond to their cost structures or core competencies. This is supported by Ryans (2009), who suggested that it is essential that all incumbents evaluate the degree to which they compete with low-cost competitors.

This research indicated that the use of a LCS might be a key way for network airlines to participate in the growth of the budget segment and a means of more effectively competing with LCCs, especially if they are strengthened.

While Markides (2006) showed that responses to the threats posed by low-cost competitors should be based upon a firm’s objectives, resources, and core competences, this often does not happen. Indeed, Wong (2003) categorised into four the level of threat from LCCs to network airlines and the probable responses: firstly, discreet existence by LCCs meaning monitor but ignore; secondly, taking market share or increasing penetration, requiring price, capacity, and other retaliation; thirdly, more market share taken and further growth likely, necessitating longer-term cost and revenue counterstrategies; and fourthly, LCC competition unhindered, requiring a total change in countermeasures through next-generation strategies.
and reformed business models. While the first and second threat levels concern responses that are tactical and short-term, the third threat level involves responses which consider longer-term cost reduction, cost control, productivity, and revenue improvements that underpin the reaction and restructuring of network airlines. These include increasing aircraft and labour productivity, product simplification, fleet and network rationalisation, offering more output beyond the reach of LCCs, and ancillary revenues. Such responses were found by this research to generally be of importance in competing with LCCs.

It was shown that network airlines within Southeast Asia, in particular, are instigating the greatest cost reduction programmes, especially by reducing the number of employees, renegotiating contracts, the retirement of fuel-inefficient and maintenance-heavy aircraft, and eliminating or moving unprofitable or inappropriate parts of their networks to their LCS. Indeed, the use by Asian network airlines of LCS is now commonplace, with 17 in existence across the continent with ten alone within Northeast Asia. Their use thus confirms Whyte and Lohmann (2015), who indicated that LCS have become “an integral part of many airlines’ strategies”. While Graham and Vowles (2006) indicated that the use of LCS does not simply materialise from the existence of LCCs, they often do but they have many different objectives depending upon their parent network airlines, the degree of competition, and their aggressiveness and foresight. These include reducing the labour costs of their parents; helping to reduce losses in short-haul markets by divesting non-core routes to LCS; a means of market segmentation and for more effective targeting; and to enable their parents to focus upon their core competencies. However, LCS are considered to be unsuccessful for a number of reasons, including incompatibilities between network airline and LCS models, higher costs, and late market entrance, which questions their use as a competitive response to the growing threat by LCS. This research confirmed a number of these reasons for creation but it was found that LCS possess competitive disadvantages relative to their LCC competitors.

13.2 Objective two: the competitive advantages of Asian airlines

The second objective relates to the sources of competitive advantage for Asian airlines in short-haul markets with LCC competition both generally (see Chapter 6) and specifically to intangible resources (see Chapter 7).
Across Asian network airlines, LCS, and LCCs, it was found that the top three intangible resources for competitive advantage are slots, brands, and product and service reputation. While slots are specific to the airline industry, their significance for Asian airlines confirms Doganis (2006, p.25) who showed that “airlines that control slots through grandfather rights will enjoy major competitive advantage.” The importance of slots within Asia may be such because of the lack of alternative airports, which confirms Halpern and Graham (2013) and Duval (2014) who showed that a severe shortage of attractive slots often exists at major airports in Asia. It may also confirm Clayton (2010) and Hutchinson (2013) who found that passenger demand within Asia has frequently not been met with sufficient investment, hence continuing slot constraints and flight delays particularly at Jakarta, Manila, Bangkok/Suvarnabhumi, Shanghai/Pudong, Shanghai/Hongqiao, Beijing, Mumbai, Delhi, and Hong Kong.

While slots as a source of advantage are artificial in nature because they may not result from internal strength and capability and as such advantage may be prolonged because of the grandfathering of them, brands and product and service reputation are not artificial. The significance of reputation for advantage confirms Hall (1992, 1993), who showed that it matters regardless of industry. However, the importance of reputation for Asian airlines generally was largely because of the emphasis placed upon it by network airlines, who believe it to be of much greater significance for advantage than both LCS and LCCs. This is not surprising as it coincides with their strategic positions and their core market segments. The importance of brands for Asia’s airlines confirms Vomberg et al. (2014), who found that brand equity often constitutes one of a firm’s most valuable resources. It also alludes to Choe and Zhao (2013), who indicated that brands are a key way to achieve differentiation as brands may enable a price premium and add value to a product from conveying the degree of quality, credibility, and experience.

While slots, brands, and reputation were predictable sources of advantage for Asian airlines, it was found that many resources that should logically be important, such as culture, knowhow, and relationships with customers, were not. In contrast, Carmeli (2001), Gouthier and Schmid (2003), and Michalism et al. (1997), who found such resources to be important regardless of location and industry.
It was found that Asian network airlines, LCS, and LCCs each had relatively distinct core resources, particularly in terms of the emphasis placed upon them and the specific resources within their core bundles. This confirms Carmeli (2001) who showed that the RBV is based upon firms possessing a core bundle of resources given the idiosyncratic nature of resources.

Furthermore, this research established that the emphasis placed upon resources varies by whether Asian airlines have higher- or lower-performance, with lower-performing airlines generally, but LCS in particular, focusing more strongly upon artificial resources for their advantage. To strengthen the competitive advantages of lower-performing airlines and their ability to compete, they should focus more greatly upon strengthening their strategies, reputations, and managerial competence, while effectively developing and communicating strong brands. Given increasingly competitive external environments it is crucial that they strengthen their existing and primary sources of competitive advantage while actively pursuing new sources. They should also ensure that their strategies and tactical toolbox are sufficiently flexible to enable expeditious and appropriate responses to competitive threats.

The achievement of objective two contributes to knowledge by establishing the internal sources of competitive advantage for Asian network airlines, LCS, and LCCs based upon value, rarity, being hard to copy, and being hard to substitute; by establishing the core bundles of resources for the three airline business models; and by showing how the emphasis upon resources vary by performance level. The geographic focus and the wider scope of this research means that this objective satisfies this gap in knowledge.

13.3 Objective three: the impacts of low-cost carriers on Asian network airlines and changing customer motivations

The third objective concerns the impacts of LCCs on Asia network airlines, changing customer motivations for decision-making criteria as a result of LCC development, and in what scenarios network airlines are likely to respond to LCCs. It relates to Chapter 8.

Despite strong LCC penetration within Asia, there was a surprisingly high belief by Asian network airlines that they had not been particularly negatively impacted by them. However, the loss of market share within short-haul markets was the most significant impact, with 82% of Asian network airlines suggesting that market share has reduced to some degree with
nearly a third of them believing that it has reduced by 10% to 15%. This is supported by network airlines neither being cost leaders nor offering real differentiation, both of which contribute to increasing substitution between airlines. The impacts on market share was anticipated given the emphasis placed by many network airlines on the achievement and protection of market share (Graf, 2005). The fall in market shares may be problematic because Fageda et al. (2015) found that the market shares of LCCs tend to be lower within shorter and denser markets, which are broadly characteristic of many Asian markets, which suggests that the market shares of network airlines should be higher within such environments.

Nearly 70% of the sampled airlines believed that their yields had reduced within short-haul markets and economy class by at least 5%. This reduction confirms Walker (2014), who showed that network airlines within South and Southeast Asia are partially suffering from a decline in yield by 5%, albeit not entirely from LCC activity. It also confirms Wittman (2014), who showed that yields have declined because LCCs have utilised the gap between the expectations from network airlines and the actual performance or delivery. The impact upon yield is influenced because of the inability of Asian network airlines to set prices, with 55% believing that their ability has reduced by up to 10%. That so many Asian network airlines believe that their yields have reduced is problematic given the degree to which they rely on higher fares because of their strategic positions and cost disadvantages. Indeed, this research found that fewer than 30% of Asian network airlines have reduced their costs while nearly two-thirds have seen no change whatsoever, which is clearly concerning given the reduced yields and market shares. It is also problematic as 19 out of 22 Asian network airlines are not the cost leaders, although this is not surprising given they do not pursue cost leadership. However, the increasing competitiveness within Asia and the growth in the importance of price necessitates work by them on both the cost and revenue sides, as both will improve profit margins.

Efforts by Asian network airlines to increase revenue per passenger may be difficult as the key customer motivation in booking decision-making is nowadays price and value-for-money, with which all 22 airlines were in agreement. This may be partially the result of three-quarters of network airlines believing that there is excess output, which in itself and in combination with LCCs may increase the role of price. This confirms Walker (2015), who
showed that excess capacity was a fundamental reason for the underperformance of Asian airlines in 2014. The overriding significance of price and value-for-money within economy class and short-haul markets suggests that Asian network airlines must consider the precise levels of the overall market at which they wish and need to compete, while reconsidering their entire short-haul strategies. This is supported by half or more of all surveyed network airlines believing that flight schedule, comfort, and frequent flyer programmes are nowadays less important within economy class and short-haul markets. Like flight schedules and comfort, Klophaus (2005) indicated that FFPs are a means of attracting higher-yielding passengers and a way for network airlines to differentiate their products against LCCs to try to achieve higher yields. The lower importance of these variables may help to explain falling yields but also the need for change.

Ryans (2009) showed that incumbent firms should anticipate potential threats by lower-cost competitors and design pre-emptive strategies to them because their vulnerability to LCCs increases over time from the dismissal of the threat, the underestimation of it, or inappropriately anticipating how it may develop. Despite this, this research established that Asian network airlines know that they need to respond to LCCs in a timely and effective manner, and that there are three situations in which they are most likely to respond to them: if the LCCs are fast-growing at the hubs of network airlines; if they focus on the core markets of network airlines; and if they intentionally offer high frequencies and target higher-yielding passengers.

To increase their ability to compete, and against the impacts of LCCs and changing customer motivations, Asian network airlines need to develop strong brands and they should focus upon meeting the specific needs of their targeted market segments. As Ryans (2009) and Winit et al. (2014) showed, it is often unnecessary for incumbent firms to compete at all price points in a market. As such, Asian network airlines must decide how downmarket they themselves wish to compete and whether they utilise a LCS for this purpose. They need to create products and value propositions that account for the changing motivations yet which cover their costs. Their more effective targeting should reduce the reliance by customers on price and reduce substitution between airlines, while increasing the likelihood of more loyal customers from greater satisfaction. These elements, when combined, should strengthen yields.
13.4 Objective four: the strategic capabilities of Asian network airlines to compete with low-cost carriers

The fourth objective corresponds to Chapter 9 which ascertained the strategic capabilities of 22 Asian network airlines to compete with LCCs, and it identified how strategic capabilities vary by both sub-region within Asia and by actual and perceived performance.

The competitive pressure that afflicts many Asian network airlines, such as reduced yields, a loss of market share, and a reduction in the interest given to key product features, is likely to only increase in the coming years within short-, medium-, and long-haul markets. In terms of short-haul markets, it will especially affect those within Japan, South Korea, Hong Kong, and Taiwan, for Northeast Asia had a LCC penetration in 2014 of just 12.8%, which was half of both the mean for Asia and the world, and because LCCs are increasingly materialising within these four countries. However, LCCs will also grow in almost all Asian countries whether by home-based or international LCCs, but notably within those countries which already have a high or fast-growing LCC penetration, particularly India, Thailand, Malaysia, Vietnam, Singapore, Indonesia, and the Philippines. Thus, it is suggested that Asian network airlines have never been so exposed and so vulnerable to LCCs, hence the need to determine their capabilities, which Teece et al. (1997) showed to be a primary driver of competitive advantage, in competing with them. This confirms Graham and Vowles (2006) who showed that LCCs are a growing and emerging phenomenon within Asia, with this research indicating that it is the growth phase of LCCs, in particular, which is of the greatest consequence to Asian network airlines.

It was determined that Vietnam Airlines has the strongest strategic capability to compete with LCCs, which indicates that it finds the competitive responses to be relatively easy and relatively important to implement. Its strategic strength is required given the fast growth of foreign LCCs to and from Vietnam, but particularly the considerable plans that VietJet has for domestic and international services. The strategic capability of Vietnam Airlines is partially based upon its 70% equity ownership of Jetstar Pacific, its LCS, and from its considerable government ownership and its consequent degree of protectionism.

Malaysia Airlines was found to have the second greatest capability primarily from the ease with which it finds the responses, which is influenced by competing with AirAsia Malaysia
over the past 12 years, rather than the importance of them. However, Malaysia Airlines is unprofitable for many different reasons, which indicates the imperativeness of it strengthening its entire existence and acting upon its determined capability. While Gillen et al. (2015) found that the ongoing threat by LCCs has been a primary consideration in the creation of network airline strategies, it is important that this guides the changes or the strengthening of their strategies rather than to become the sole or primary consideration. While Vietnam Airlines, Malaysia Airlines, and Garuda Indonesia are well placed to compete with LCCs, this research found that Thai Airways, Air India, and Philippine Airlines, whose countries are also already heavily served by LCCs, are particularly vulnerable to them. However, it is Asian network airlines that are at present less exposed to LCCs, particularly Hainan Airlines, SriLankan, and SilkAir, which have the weakest strategic capabilities.

It was found that strategic capabilities have strengthened since 2007 and that competitive responses are now less difficult to implement. However, as strategic capabilities are based entirely upon the capabilities in competing only with LCCs, it is possible that the sampled airlines are nevertheless still unprofitable for different and collective reasons. Indeed, it was found that Asian network airlines within Southeast Asia have the greatest mean capability, yet CAPA (2014b) indicated that “Southeast Asian airlines have faced extremely challenging market conditions in 2014, resulting in an alarming amount of red ink.” This is due in part because “a large portion of the FSC capacity gains in Southeast Asia have come from Gulf carriers, so, on top of their strategies for dealing with LCC competition, it is hardly surprising that flag carriers in the region are now in restructuring mode” (Airline Leader, 2015e).

Unlike network airlines from Southeast and South Asia, those from Northeast Asia have the weakest capabilities, yet they are next to face the greatest confrontation from LCC activity. Like all sampled airlines, it is essential that network airlines from Northeast Asia strengthen their capabilities and fully exploit them, for this research found that there are reasonably strong correlations between strategic capability and both actual performance ($r = 0.756$) and perceived performance ($r = 0.886$). However, the possession of strong capabilities, or high or low levels of importance or difficulty of specific competitive responses which make up their capabilities, does not necessarily mean that they will be properly or expeditiously acted upon. This may reduce their ability to compete with LCCs and threaten their performance and existence.
Given the importance of the ability to compete effectively with key competitors, the achievement of objective four contributes to knowledge by determining the strategic capabilities of 22 Asian network airlines. It has therefore met the gap in knowledge in a comprehensive, up-to-date, and in a geographically specific manner, although it is acknowledged that capabilities may change very quickly.

13.5 Objective five: the importance and difficulties of Asian network airlines implementing competitive responses in competing with low-cost carriers

The fifth objective is based upon further analysis of the competitive responses which underpin strategic capability, particularly in terms of the importance of implementing them (see Chapter 10).

Wong (2003) showed that upon reaching the third threat level attempts to counteract the existence and growth of LCCs have failed, which suggests that LCCs are succeeding and developing by both penetration and market share. It is this which gives rise to the longer-term responses to LCCs, with the emphasis upon cost and revenue models unsurprising given their role in the airline operating performance model and that all potential competitive responses and changes will impact either or both of these perspectives.

Of all 37 competitive responses, the most important to implement in competing with LCCs are the ability of management to quickly introduce changes, leveraging brand strength, and increasing aircraft utilisation. In contrast, the least important to implement are changing to one fleet, pursuing M&As, and equity investment in other airlines. Of the difficulty of implementing competitive responses, the most difficult are changing to one fleet, the ability to reduce costs to within 30% of LCCs, and pursuing M&As. In contrast, the easiest to implement are maintaining FFPs, maintaining premium cabins, and simplifying fares.

It was found that the importance of competitive responses will influence those which are implemented by Asian network airlines in competing with LCCs. Despite the contention by many to the contrary, it was established that for Asian network airlines both cost and rationalisation responses and revenue responses are not of great importance in themselves, although this is based upon the mean level of importance for these categories and not individual responses within them. The importance of cost and rationalisation and revenue
responses varies by airline which indicates that other factors are involved. It was also found that productivity responses, while important to implement, were also of lower significance overall than might have been expected. However, the importance of increasing aircraft utilisation and increasing labour productivity confirms Franke (2004), Field (2008), and Molnrova (2009), although they did not specifically look at productivity for network airlines or airlines within Asia.

The high degree of importance of product responses indicates the relationship between product, revenue generation, and attributes of value to network airlines’ core markets in achieving greater yields, for example the maintaining of FFPS and premium cabins and enhancing quality. This confirms Gursoy et al. (2005), who found that network airlines should increase their product differentiation to stand out by being different and better. This research further confirmed this because increasing product differentiation was found to be an important response to implement. Of all six response categories, product responses are the easiest overall to implement, while other responses are the most difficult. The revenue and fare category was the second easiest to implement and it was found that responses which require the generation of revenues, such as increasing the role of cargo and revenue from alliance and codeshare partners, are harder to implement than those which do not, such as simplifying fares and driving more sales through their websites.

The marketing category is the most important overall, with consistency across specific marketing responses which attests to its importance by both airline and Asia sub-region. It was found that the leveraging of brand strength was a very important response to implement in competing with LCCs, which confirms Clark (2012) who stated that branding is a key product feature affecting travel decisions and the choice of airline. Marketing responses which are ‘change-based’, such as more effectively targeting each market, are harder to implement than those which are ‘promotion-enhancing’, for example increasing advertising.

It was established that the use of LCS in competing with LCCs are neither unimportant nor important to implement. However, the neutral degree of importance of LCS within Asia adds an interesting dimension to Whyte and Lohmann (2015), who indicated that LCS have become a key part of the strategy of many network airlines within this continent. Indeed, seven in ten network airlines considered the creation of LCS to be difficult to implement. It is this difficulty which may explain their failure rate and why Moutinho (2011) argued that
their ill-defined strategies may have resulted in competitive disadvantage. However, this research found that the creation of LCS may be easier to implement than network airlines themselves changing certain aspects of their own existence to rationalise, to increase efficiency, and to increase their competitiveness, particularly regarding changing to one fleet, significantly reducing costs, increasing the use of direct distribution, reducing labour, and increasing aircraft utilisation. It is this which helps to explain why the creation of LCS was found to be a borderline very essential response to implement in competing with LCCs based upon their likely effectiveness and sustainability.

Of all 37 competitive responses it was found that the most worthwhile responses for Asian network airlines to implement are pursuing cost reduction to within 30% of LCCs, increasing aircraft utilisation, and increasing labour productivity, with these likely to be effective and sustainable sources of advantage if they are achieved. In contrast, the least worthwhile competitive responses are changing to one fleet, pursuing M&A activity, and equity investments in other airlines, with none of these likely to be effective against LCCs. The achievement of objective five in terms of the importance and difficulty of all 37 competitive responses and the potential effectiveness and sustainability of them means that the gap in knowledge regarding what Asian network airlines should or should not do to strengthen their ability to compete has been achieved.

13.6 Objective six: reasons for Asian network airlines creating low-cost subsidiaries

Having established that LCS are a popular competitive response of Asian network airlines, and that they are borderline very essential, the sixth objective examines the reasons for the creation of LCS. This corresponds to Chapter 11.

IATA (2005) showed that without pre-emptive and timely responses to LCCs network airlines may face heightened financial ill-performance or potentially even cessation, while Carpenter and Nakamoto (1990) suggested that late market entrance often results in lower profitability and market share. Indeed, this research showed that the creation of LCS are reactive and not proactive to LCC entry, which may undermine their existence and their likelihood of strong effectiveness and performance. This is supported by Morrell (2005) who indicated that LCS have ordinarily appeared after LCCs, hence their reactive nature. Their slower disposition may mean that they are at a competitive disadvantage vis-à-vis LCCs,
while Shaw (2007) suggested that it may make it more difficult for them to gain dominance and to appeal to customers to gain sufficient traffic and revenue. For greater effectiveness, Asian network airlines should utilise LCS to pre-empt LCCs which may act as a sufficient barrier to entry, especially if supported by traffic rights, thereby potentially dissuading the emergence, rise, and evolution of LCCs.

The key reason for the creation of LCS is that they are the best way for network airlines to participate in the growth of the fast-growing budget segment, which confirms Graf (2005), but from a more appropriate and cost-effective platform. This is partially because the network airlines themselves were not able to reduce their costs to within 30% of LCCs; they could not unbundle their fare structures without damaging their brands and increasing the expectations gap; they could not adequately reduce labour without consequent labour problems; they could not meaningfully reduce the use of distribution intermediaries towards direct distribution; and because they could not change to one fleet of aircraft given their differing networks and markets. LCS thus enable network airlines to focus upon their core competencies and to leave the budget segment wholly or partially to specifically created vehicles which have suitable cost structure, products, value propositions, and brands. Indeed, a large majority of Asian network airlines and LCS agreed that LCS enable the removal of less profitable or unprofitable customers from network airlines, although this may have negative implications. It was also found that refocusing may enable network airlines to overcome strategically stuck-in-the-middle positions, whereby they would not attempt to be everything to everyone which Kuhlmann (2013) showed to be impractical and counterproductive.

That LCS enable network airlines to participate in the budget segment gives rise to other key reasons for creation, including that they can operate routes which are unsuitable for their parent airlines, which suggests a reallocation of markets based upon the airline which offers the greater likelihood of achieving profitability or minimising costs. The focusing upon routes which are not suitable for network airlines confirms Ionides and O’Connell (2004), who illustrated the importance of non-core routes for LCS, and it confirms Graf (2005) who indicated that the identification of the most suitable business model for each market underpins the creation of LCS. The utilisation of LCS on routes or from airports that their parent airlines do not operate is commonplace across Asia, Europe, and Canada. Furthermore, it was strongly believed that LCS could be utilised to feed their parent airlines’
longer-haul services but from more cost-effective platforms, thereby potentially revolutionising the performance of network airlines within short-haul markets, albeit in an indirect manner. This supports Morrell (2005) who found that past LCS were most successful on routes feeding their parents’ hubs. Given the strategic nature of their reasons for creation, it is not surprising that this research did not entirely support Graf (2005), and common belief, because it was found that Asian LCS are not created simply because other network airlines have one or from desperation.

13.7 **Objective seven: sources of competitive advantage for low-cost subsidiaries relative to their key low-cost carrier competitors in terms of product and organisational attributes**

The primary reasons for why Asian network airlines create LCS supports the situations in which the use of LCS might correspond to being a borderline very essential competitive response. Given this, the rise of LCS across Asia but within Northeast Asia in particular, and the contention by many that they are ineffective, the seventh objective compares LCS with their key LCC competitors to identify the sources of competitive advantage for LCS and how they may improve to strengthen themselves (see Chapter 12). It was shown that while research has been conducted into LCS, it was often seven to ten years’ ago, not focused upon Asia, and not comprehensive. Thus, this objective fills a clear gap in knowledge concerning Asian LCS.

This research found that LCS across Asia suffer from poor profitability with a mean margin of -4.8%, which is mainly because they have a cost disadvantage of 10% against their key LCCs. Their cost disadvantage provides an interesting alternative view to Gillen and Gados (2008), who indicated that LCS may introduce greater efficiencies and lower costs, and it is in keeping with the findings of Morrell (2005), albeit in a different geographic location, who found that US LCS did not lower their costs to the benchmarked LCC.

The poor profitability of Asian LCS as a group undermines their existence and their effectiveness in competing with LCCs. It also somewhat confirms Pearson and Merkert (2014) who illustrated the low success rate of LCS to date despite the length of their existence, and it supports general arguments over the inability of LCS to be a meaningful competitive response. Despite LCS being less difficult for Asian network airlines to implement than changing a number of areas internally and despite LCS being a borderline
very essential competitive response, it questions whether it is worth Asian network airlines pursuing LCS at all in competing with LCCs.

Beyond LCS having lower profitability and higher costs than LCCs, it was found that LCS underperform relative to LCCs in many different areas. Despite being found to be the best way of network airlines participating in the budget segment, LCS have higher mean fares and higher RASK than LCCs. This is an extension of LCS typically having more complicated operations, products, and value propositions than LCCs from a lower absolute focus upon the cost of production. While this supports Whyte and Lohmann (2015) who suggested that LCS may be good at generating relatively strong revenues, it is somewhat counterproductive on a per-passenger basis when specifically targeting the budget segment. However, it is partially explainable because LCS operate in less competitive markets and because they have higher market domination.

The potential ineffectiveness of LCS is supported by their higher revenues being insufficient to offset their higher costs. The higher costs of LCS are mainly attributable to having a lower proportion of direct distribution; operating fewer sectors per aircraft per day, so not sufficiently reducing CASK given often relatively new aircraft; and, in particular, from possessing lower labour productivity than LCCs.

Despite their collective unprofitability, LCS already have a collection of strengths relative to LCCs. In particular, they are better at generating revenues; they have greater punctuality; possess a lower cost per carried passenger (but not CASK); have a higher seating density; and they have greater market domination from fewer competitors and a higher market share. However, lower-performing LCS, which have a margin of -11.2% against +2.9% for those higher-performing, should strengthen their strategies by increasing their use of direct distribution; increasing aircraft productivity; re-evaluating their existing served markets; looking to expand to attain greater scale founded upon profitability given their small sizes; exploiting ancillary revenue opportunities; and improving labour productivity. If achieved, their unit costs should reduce which should help to improve the effectiveness, competitive advantages, and performance of LCS, which, in turn, should increase the worthwhileness of LCS as a competitive response for Asian network airlines given increasingly competitive external environments.
13.8 Contributions to knowledge

The above seven objectives have enabled the two aims of this research – to establish the sources of competitive advantage of Asian airlines and to examine the competitive responses of Asian network airlines and their strategic capabilities in competing with LCCs, with a particular focus upon the use of LCS – to be achieved. Through both primary and secondary research and the applied theoretical framework of competitive advantage theory, it has been found that the key source of competitive advantage for Asian airlines is strategy, and that the most important resources are slots, brands, and product and service reputation. To be sustainable it is essential that Asian airlines strengthen their existing and primary sources of competitive advantage while pursuing new sources of advantage.

The strategic capabilities of Asian network airlines have strengthened since 2007 with airlines from Southeast Asia possessing the strongest capability overall. While Vietnam Airlines, Malaysia Airlines, and Garuda Indonesia are well placed to compete with LCCs, assuming that determined capability is fully and properly acted upon, other airlines must strengthen their capabilities and act upon them. The competitive responses which underpin strategic capability are the ability of management to quickly introduce changes, leveraging brand strength, and increasing aircraft utilisation. Pursuing cost reduction to within 30% of LCCs, increasing aircraft utilisation, and increasing labour productivity are the most likely to be effective and may be sustainable sources of competitive advantage against LCCs.

LCS are used by Asian network airlines to more effectively compete with LCCs, to participate in the growth of the budget segment, and to operate routes that are not suitable for their parent airlines. However, LCS are reactive to LCCs, they are unprofitable, and they have a cost disadvantage. It is therefore crucial that LCS strengthen their strategies to improve their ability to compete, their advantages, and their performance for the benefit of themselves and their parent Asian network airlines.

This research identified a number of gaps in knowledge (see Chapter 3.5), including the strategic capabilities of network airlines; what they should or should not do to strengthen their abilities to compete; the role of intangible resources as internal sources of competitive advantage; and, for LCS, the strength of their strategies, the sources of their advantages, and ways for them to improve. This research addressed these gaps through the application of
competitive advantage theory and the use of the interval rating technique to identify the importance of intangible resources of competitive advantage for Asian network airlines, LCS and LCCs. Through its comprehensive, up-to-date, and geographically-specific manner, this research has further contributed to knowledge in the ways mentioned above. However, the nature of the subjects suggest that research like this must be ongoing to keep it up-to-date, applicable, and of relevance.

13.9 Recommendations for LCS strategy

LCS play a crucial and growing role within the strategic weaponry and competitive toolbox of network airlines. They are a fundamental positioning tool within airline groups, especially within Asia, focusing as they do on lower frills and lower fares within short-haul markets. Their strategic positioning with airline groups is typically clear.

The use by network airlines of LCS is often because the parent does not have the appropriate cost structure, value proposition, or product to effectively meet the changing needs, wants, and requirements of various segments of the market. As such, the role of LCS has become more prominent and this will continue.

Despite the significance of LCS, they are, as a group, unprofitable. While this assumes that they exist for profitability and return on investment, which is unlikely for all, it is nevertheless concerning. Because of this, a number of elements should be addressed on an across-model basis.

For a stronger likelihood of financial success, LCS should focus much more thoroughly on unit cost reduction as their cost per available seat kilometre is notably higher than that of their key LCC competitors. This is an essential change that should – assuming revenue remained the same – result in a more profitable outcome. While their unit revenue is stronger than LCCs, this does not translate into profitability for this airline model. The area on which they should focus attention – cost reduction – is therefore clear. This is further supported by the common perception by many that LCS are unsuccessful and are not adequately low-cost despite their clear strategic positioning.
To reduce unit costs, LCS should focus considerable attention on their productivity for both aircraft and labour, their two areas of greatest cost. Such focus is essential because LCS are notably less productive than their key LCC competitors, and because productivity improvements is a clear way to reduce costs. However, changes might be limited by the objectives underpinning each LCS and the strategic, commercial, and operational independence and freedom given to them by their parents.

As a group, LCS meaningfully should increase the daily utilisation of their operated aircraft by block hours per 24 hours and increase the number of sectors flown per aircraft per day. Of course, this is dependent upon the location of each LCS in terms of operations and the also sufficient opportunities for them. Total operating costs would increase, but this would be spread over greater output and so would reduce unit cost. This, in turn, would reduce seat cost. LCS should also focus on achieving greater seat load factors, which, across all LCS, is below the global average for airlines generally. This would contribute to reducing the cost of each occupied seat while contributing towards increasing total revenue and improved revenue passenger kilometres.

LCS should focus much more greatly on the productivity of their labour as it is relatively low. They should eliminate excess staff and streamline their operations. This would therefore assist not only in reducing their total labour costs, a fundamental cost centre, but also in improved labour productivity metrics, especially passengers per employee, employees per aircraft, and output per employee.

Increasing the aircraft and labour productivity of LCS is essential. However, these increases should be achieved alongside meaningful growth of LCS as they are presently small and do not benefit from the exposure, awareness, and efficiencies that is afforded by being bigger. Their small size means that LCS are ordinarily focused on one or a very small number of cities within a country while entrepreneurial and fast-growing LCCs expand continent-wide, often via joint-ventures. Thus, LCS should consider growth beyond their often narrow or very narrow boundaries. However, this goes to the heart of why they LCS exist and what they are designed to do, so it might go beyond their remit.

LCS should still focus on their less competitive routes but – depending on why they exist – should prioritise profitability and return on investment over market share and dominance. To
aid in their growth, it is advisable that they seek more heavily trafficked but less competitive markets, ideally in a proactive rather than a reactive way regarding LCCs.

While reducing unit costs, primarily through increased productivity and growth, Asian LCS should, as a group, reconsider their sources of revenue. Asian LCS achieve a higher mean fare and higher unit revenue than their key LCC competitors, but they also achieve a lower seat load factor. It would be advisable for them to analyse the degree to which they could lower their airfares, so stimulating new demand and increasing load factors, while increasingly focusing on ancillary revenues, particularly from a la carte and commission-based sources to replace the lost airfare revenue. As passengers are ordinarily less sensitive to the prices of ancillary components while increasing choice, this may be a sensible development. It would also mean that they become more akin to LCCs.

13.10 The limitations of this research

This research has identified a number of pertinent and thought-provoking findings which are of relevance to the study of aviation and to practitioners. The study and research of strategic management within the context of airlines is relatively commonplace, but there has been comparatively little research overall, and on Asia specifically, on the areas on which this research has focused. It is these areas which may be considered the strengths of this research. However, a number of limitations have been found which may be considered weaknesses and which may have negatively impacted this research.

Almost all of the questionnaire survey, resource survey, and interview participants did not have English as their first language, which may have meant that misinterpretations over words and explanations occurred. This may have been exacerbated by the length of the questionnaire: although it covered all necessary areas to attain the required data to perform the analysis, the length of it might have been unwieldy to ascertain thoughtful and considered answers.

The lack of comprehensive data, including financial and related to particular aspects of products and organisational areas, meant that the POA analysis was not as comprehensive as it might have been. This therefore did not provide as thorough an analysis of the strategies, weaknesses, and sources of advantages of LCS and LCCs as anticipated.
More important, however, might be respondent bias, such as respondents saying or answering what they assumed the researcher wanted them to state, which is always a potential risk. More fundamentally, though, might have been that they weren’t necessarily the most ideal person to answer all questions given the specialist nature of some of them. More realistically, however, was the likelihood of them underestimating or understating the challenges posed to their airline and the changing environment within which they operate, and the likely difficulty of implementing strategic responses. As they represent the company in answering the questions, they may have intentionally resisted revealing the truly difficulties that they face. Regardless of the limitations stated above, the nature of this research and the topics that it covered is such that it is not static: it simply represents a snapshot in time.

13.11 Recommendations for further research

This research and its limitations have given rise to many potential areas of further research which builds upon what has been undertaken and areas which have materialised because of it.

It is essential that airlines, like all firms, know how effective they are relative to their competitors in terms of their capabilities to compete, as this is the foundation of competitive improvement. Given the penetration of LCCs within Europe and North America, strategic capability analysis should be undertaken in these continents for network airlines. Analysis should also be undertaken for groups of LCCs, LCS, regional airlines, and charter airlines, as applicable, within key world regions. Future research should focus in particular on Latin America given its emerging nature.

It is also essential that airlines, like all firms, identify the best ways to compete and to dismiss less effective options. Given this, further research should particularly be undertaken on competitive responses and a more comprehensive list of potential responses should be attained across the entire existence of airlines. Building upon the research in this thesis, the utilisation of the interval ranking system would enable a thorough and more precise determination of the importance and difficulty of competitive responses on both a global and regional basis. A methodology which does not consider actual financial values, given the unavailability of such information, could then be developed which would enable a comprehensive analysis of precisely which responses are more or less worthy of being
implemented given the costs and benefits of them. This could be undertaken both generally for all types of airline and also for each airline business model.

Given so many airlines around the world underperform financially, with IATA reporting a mean operating margin in the last 40 years of 0.01%, and given the growing competitiveness of the industry, there is a great need for airlines to achieve stronger financial performance. Further research on individual airlines incorporating strategic capability analysis, POA analysis, competitive response analysis, and otherwise, would identify ways by which airlines could strengthen and compete more effectively within this continually changing market.
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### APPENDIX 1: QUESTIONNAIRE SURVEY

**Introduction**

Thank you for agreeing to participate in my PhD research. My PhD is looking at:

- The competitive advantages of Asian network airlines within short-haul markets; and
- The role of low-cost subsidiaries as part of their strategic capability in competing with low-cost carriers.

Given the ever-growing penetration of low-cost carriers and low-cost subsidiaries within Asia, this is timely and exciting research.

Please note that this survey is 100% confidential, with confidentiality very important. It should take around 30 minutes to complete. You may print a copy of your responses within 15 minutes of completing this survey.

All questions relate to short-haul markets and economy class, "network airlines" refers to full-service operators, "LCC" means low-cost carriers, and "budget segment" refers to more price-elastic customers.

I am genuinely grateful for your time, and I hope that you find my questions thought-provoking and useful. I hope that you benefit from my survey as well.

Feel free to contact me at: j.pearson@lboro.ac.uk

With kind regards and many thanks,

James Pearson.

**Network airlines and LCCs**

1. To what degree do you agree or disagree with the following statements? Strongly disagree to strongly agree.

   - The budget segment represents a considerable market opportunity
   - Network airlines should target the budget segment
   - Network airlines cannot survive without the traffic volume from the budget segment
   - Network airlines failing or inappropriately responding to the LCC threat will likely have long-term and wide-reaching negative consequences
   - Customers within the budget segment will upgrade to a more sophisticated product over time
   - Your airline reverts to its core competencies in determining its response strategies to LCCs
2. At what stage is the threat posed by LCCs greater? Please use each option only once. Least threat, medium threat, greatest threat.

- When they are emerging
- When they are growing
- When they are evolving

3. To what degree do you agree or disagree with the following statements? Strongly disagree to strongly agree.

- A network airline responds to LCCs if LCCs have high frequencies and target higher-yielding passengers
- A network airline responds to LCCs if LCCs target core markets and grow market share
- A network airline responds to LCCs if LCCs have a growing number of flights at the network airline’s hub airport
- A network airline responds to LCCs if the network airline believes the LCC has much lower costs and is willing to sustain a prolonged price-based attack
- A network airline responds to LCCs if LCCs begin brand-new routes with no existing direct competition
- A network airline responds to LCCs if LCCs have low frequencies on existing routes

**The impacts of LCCs**

4. What has been the impact of LCCs within your short-haul markets? Down 15% or more, down 10%, down 5%, no impact, up 5%, up 10%, up 15% or more.

- Seat load factors
- Operating costs
- Profitability
- Percentage of economy passengers as a percentage of the passengers
- Yields (average fares)
- Ability to set prices
- Market share

5. To what degree do you agree or disagree with these impacts of LCCs within your short-haul markets? Strongly disagree to strongly agree.

- Price and value-for-money have become increasingly important to your customers
- There is increasing unwillingness to pay for certain product attributes
- This is a reduction in premium class demand
- There is dissatisfaction with the economy product
- Customers increasingly expect their requirements to be met
- There is increasing substitution between airlines
- More capacity/excess capacity

6. What has been the impact of LCCs within your short-haul markets? Down 15% or more, down 10%, down 5%, no impact, up 5%, up 10%, up 15% or more.
- Utilisation of aircraft (block hours per day)
- Utilisation of pilots (hours per year)
- Utilisation of cabin crew (hours per year)
- Average turnaround time
- Short-haul market share as a percentage of total market share
- Short-haul revenue as a percentage of total revenue

The competitive responses of network airlines to LCCs

Productivity competitive responses

7. To what degree are the following productivity competitive responses to LCCs within short-haul markets difficult for your airline to implement? Very difficult to very easy.

- Increasing aircraft utilisation (block hours per day)
- Increasing labour productivity (hours per shift)
- Reducing turnaround times
- Reducing labour (e.g. pilots, cabin crew, ground staff, catering, maintenance)
- Increasing seating density (e.g. from removing galleys or offering one class)

8. To what degree are the following productivity competitive responses to LCCs within short-haul markets important for your airline to implement? Very unimportant to very important.

- Increasing aircraft utilisation (block hours per day)
- Increasing labour productivity (hours per shift)
- Reducing turnaround times
- Reducing labour (e.g. pilots, cabin crew, ground staff, catering, maintenance)
- Increasing seating density (e.g. from removing galleys or offering one class)

Cost and rationalisation competitive responses

9. To what degree are the following cost and rationalisation competitive responses to LCCs within short-haul markets difficult for your airline to implement? Very difficult to very easy.

- Reducing use of distribution intermediaries (e.g. travel agents and call centres)
- Unbundling the product (so removing cost centres)
- Ability/speed to exit unprofitable markets
- Ability to reduce costs to within 30% of LCC costs
- Changing to one fleet (a homogenised fleet)
- Negotiating with airports and other providers to reduce charges/costs
- Outsourcing particular areas (e.g. maintenance, catering, and ground handling)

10. To what degree are the following cost and rationalisation competitive responses to LCCs within short-haul markets important for your airline to implement? Very unimportant to very important.

- Reducing use of distribution intermediaries (e.g. travel agents and call centres)
- Unbundling the product (so removing cost centres)
- Ability/speed to exit unprofitable markets
- Ability to reduce costs to within 30% of LCC costs
- Changing to one fleet (a homogenised fleet)
- Negotiating with airports and other providers to reduce charges/costs
- Outsourcing particular areas (e.g. maintenance, catering, and ground handling)

Revenue and fare competitive responses

11. To what degree are the following revenue and fare competitive responses to LCCs within short-haul markets difficult for your airline to implement? Very difficult to very easy.

- Driving more sales through your own website
- Commission-based ancillary components/dynamic packaging (e.g. hotels, insurance, cars, etc.)
- Simplifying fares (e.g. pricing on a one-way basis, removing rules/restrictions)
- Increasing the role of cargo for profitability
- Revenues from alliance or codeshare partner
- Travel policy agreements with companies

12. To what degree are the following revenue and fare competitive responses to LCCs within short-haul markets important for your airline to implement? Very unimportant to very easy.

- Driving more sales through your own website
- Commission-based ancillary components/dynamic packaging (e.g. hotels, insurance, cars, etc.)
- Simplifying fares (e.g. pricing on a one-way basis, removing rules/restrictions)
- Increasing the role of cargo for profitability
- Revenues from alliance or codeshare partner
- Travel policy agreements with companies

Product competitive responses

13. To what degree are the following revenue and fare competitive responses to LCCs within short-haul markets difficult for your airline to implement? Very difficult to very easy.

- Frequent flyer programmes
- Maintaining premium cabins
- Increasing product differentiation
- Enhancing quality to premium passengers
- Greater reliance on connecting passengers
- More emphasis on longer-haul flights

14. To what degree are the following revenue and fare competitive responses to LCCs within short-haul markets important for your airline to implement? Very unimportant to very important.

- Frequent flyer programmes
- Maintaining premium cabins
- Increasing product differentiation
- Enhancing quality to premium passengers
- Greater reliance on connecting passengers
- More emphasis on longer-haul flights

**Marketing competitive responses**

15. To what degree are the following marketing competitive responses to LCCs within short-haul markets **difficult** to implement? Very difficult to very easy.

- Leveraging brand strength
- More effectively segmenting each market
- More effectively targeting chosen market segments
- Effectively meeting the needs/requirements of customers
- Building value through customer relationship management (CRM)
- Increasing advertising

16. To what degree are the following marketing competitive responses to LCCs within short-haul markets **important** to implement? Very unimportant to very important.

- Leveraging brand strength
- More effectively segmenting each market
- More effectively targeting chosen market segments
- Effectively meeting the needs/requirements of customers
- Building value through customer relationship management (CRM)
- Increasing advertising

**Other competitive responses**

17. To what degree are the following competitive responses to LCCs within short-haul markets **difficult** to implement? Very difficult to very easy.

- Diversifying (e.g. divisions, including maintenance, catering, and holidays, or hotels/flight training schools)
- Joint-purchase agreements with alliance members
- Equity investments in other airlines
- Creating a low-cost subsidiary
- Pursuing mergers/acquisitions
- High market shares on routes with LCC competition
- Ability of management to quickly introduce changes

18. To what degree are the following competitive responses to LCCs within short-haul markets **important** to implement? Very important to very unimportant.

- Diversifying (e.g. divisions, including maintenance, catering, and holidays, or hotels/flight training schools)
- Joint-purchase agreements with alliance members
- Equity investments in other airlines
- Creating a low-cost subsidiary
- Pursuing mergers/acquisitions
- High market shares on routes with LCC competition
- Ability of management to quickly introduce changes

**Network airlines and low-cost subsidiaries**

19. How important do you consider the following to be for network airlines within short-haul markets and in economy class? Very unimportant to very important.

- Poor market segmentation
- Excess output/capacity
- Increasing importance of price and value-for-money for customers
- Reducing premium class demand
- Increasing customer dissatisfaction with economy product
- Customers increasingly expecting their requirements to be met
- Increased commoditisation of the airline product
- Increasing substitution between airlines

20. To what degree do you agree or disagree with the following statements regarding low-cost subsidiaries and their reasons for creation? Strongly disagree to strongly agree.

- A low-cost subsidiary is a sign of network airline desperation
- A low-cost subsidiary is created because other network airlines have one
- A low-cost subsidiary ordinarily achieves first-mover advantage
- A low-cost subsidiary is able to operate routes that are unsuitable or not realistic for network airlines
- A low-cost subsidiary is an important way of reducing labour costs
- A low-cost subsidiary eventually will be spun off as a profitable business

21. To what degree do you agree or disagree with the following statements regarding low-cost subsidiaries, LCCs, and the budget segment? Strongly disagree to strongly agree.

- A low-cost subsidiary is the best way of responding to the existence of LCCs
- A low-cost subsidiary is an effective way of pre-empting LCC entry
- A low-cost subsidiary means network airlines may compete more effectively with LCCs
- A low-cost subsidiary is the best way for network airlines to participate in the growth of the budget segment

22. To what degree do you agree or disagree with the following statements regarding the use of low-cost subsidiaries? Strongly disagree to strongly agree.

- A low-cost subsidiary has more appropriate resources than network airlines to target the budget segment
- A low-cost subsidiary has a more appropriate product than network airlines to target the budget segment
- A low-cost subsidiary has a more appropriate value proposition than network airlines to target the budget segment
- A low-cost subsidiary means budget passengers are more satisfied than with the value proposition of network airlines

23. To what degree do you agree or disagree with the following statements regarding low-cost subsidiaries and overcoming problems? Strongly disagree to strongly agree.

- A low-cost subsidiary enables network airlines to remove less profitable or unprofitable customers
- A low-cost subsidiary enables network airlines to focus on their core competencies/strengths
- A low-cost subsidiary enables network airlines to remove non-core routes
- A low-cost subsidiary overcomes commoditisation problems on short-haul routes
- A low-cost subsidiary enables network airlines to overcome stuck-in-the-middle strategic positions

24. To what degree do you agree or disagree with the following statements regarding low-cost subsidiaries and network airline performance? Strongly disagree to strongly agree.

- A low-cost subsidiary enables network airlines to improve the yield on their own short-haul routes
- A low-cost subsidiary lowers network airlines' seat load factors on short-haul routes
- A low-cost subsidiary gives or strengthens network airlines' competitive advantage on short-haul routes
- A low-cost subsidiary gives network airlines with a low-cost subsidiary a greater competitive advantage than network airlines without them
- A low-cost subsidiary means customers flying network airlines are more satisfied
- A low-cost subsidiary is best for leisure, lower-yielding, and hub-bypass routes
- A low-cost subsidiary could be effectively used to feed network airlines' longer-haul flights

**Changes to your airline and its short-haul markets**

25. How are your customers' motivations to purchase tickets changing within your short-haul markets? Much less important to much more important.

- Price and value-for-money
- Brand
- Product/service quality
- Flight schedule
- Comfort
- Frequent flyer programme

26. In short-haul markets and in terms of operating costs, is your airline normally the cost leader? Yes, no, unsure.

27. In short-haul markets and in economy class, to what degree is the willingness of your customers to pay a premium for your product changing? Highly decreasing to highly increasing.
28. In short-haul markets and in economy class, to what degree is the willingness of your customers to pay for an unbundled product changing? Highly decreasing to highly increasing.

29. How differentiated do you believe your short-haul product is in comparison to your competitors? Highly undifferentiated to highly differentiated.

**Performance**

30. Please indicate the degree of importance your airline gives to each of the following financial performance criteria. Very unimportant to very important.

- Revenue level
- Revenue growth rate
- Cash flow
- Return on shareholder equity (ROE)
- Profit margin
- Net profit from operations
- Return on investment
- Ability to fund business growth from profits

31. Please indicate the extent to which your airline is currently satisfied with the same financial performance criteria as provided within the previous question. Very dissatisfied to very satisfied.

- Revenue level
- Revenue growth rate
- Cash flow
- Return on shareholder equity (ROE)
- Profit margin
- Net profit from operations
- Return on investment
- Ability to fund business growth from profits

**Final question**

32. For which airline do you work? (100% confidential.)

**Thank you**

Thank you very much for participating in my research; I am genuinely grateful for your time.

If you have any comments regarding my survey or simply wish to get in touch, please email me: j.pearson@lboro.ac.uk.

Thank you once again,

James Pearson.
APPENDIX 2: RESOURCE SURVEY

Instructions

- Please have a look at the following list of resources and choose any 7 resources from these.
- Then, please rank the 7 resources by distributing 203 points between them (there is a methodological reason for 203 points based on the number of resources)
- Please distribute 203 points by whether the resources are valuable, rare, hard for another airline to copy, and hard to substitute, where:
  - Valuable resources: resources provide value or counteract threats from competitors
  - Rare resources: resources cannot be obtained or utilised by competitors
  - Hard to copy: resources cannot be duplicated by competitors
  - Hard to substitute: resources cannot be commonly used by competitors
- What points you give each resource is entirely up to you; for example, the more valuable of the 7 resources, the more points; a less valuable resource, the fewer points
- All valuable resources must have over 0 points, but 0 points can be given for the remaining categories
- Please ensure all 203 points are used for each of the four categories
- Please avoid giving all resources the same points, or else weighting of resources won't be possible

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<thead>
<tr>
<th>Ability to learn</th>
<th>Organisational communication</th>
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<tbody>
<tr>
<td>Ability to raise funds</td>
<td>Organisational culture</td>
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<tr>
<td>Aircraft leases</td>
<td>Organising</td>
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<tr>
<td>Bilateral air service agreements /traffic rights</td>
<td>Product/service reputation</td>
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<tr>
<td>Brand</td>
<td>Quality standards/professionalism</td>
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<tr>
<td>Business environment</td>
<td>Relationships with employees/suppliers</td>
</tr>
<tr>
<td>Customer focus</td>
<td>Relationships with local/national governments</td>
</tr>
<tr>
<td>Databases /information systems</td>
<td>Research and development (R&amp;D)</td>
</tr>
<tr>
<td>Decision-making capabilities</td>
<td>Slots</td>
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<tr>
<td>Distribution system</td>
<td>Stable leadership</td>
</tr>
<tr>
<td>Entrepreneurial capabilities</td>
<td>Strategic goals/planning</td>
</tr>
<tr>
<td>Financial stability</td>
<td>Strategic partners</td>
</tr>
<tr>
<td>Intellectual property</td>
<td>Supply contracts</td>
</tr>
<tr>
<td>Knowhow</td>
<td>Teamwork</td>
</tr>
<tr>
<td>Legal knowledge</td>
<td>Technical experience</td>
</tr>
<tr>
<td>Managerial competence/experience</td>
<td>Trained/experienced workforce</td>
</tr>
<tr>
<td>Managing principles/corporate governance</td>
<td>Training programmes</td>
</tr>
<tr>
<td>Marketing/promotional activities/strategies</td>
<td>Trustworthiness/dependability</td>
</tr>
</tbody>
</table>

55 Trademarks, copyrights, patents, etc.
56 For instance, how is management structured and communications and reporting drawn?
Example: allocation of 203 points to your chosen resources

<table>
<thead>
<tr>
<th>Chosen 7 resources</th>
<th>Valuable?</th>
<th>Rare?</th>
<th>Hard to copy?</th>
<th>Hard to substitute?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example resource 1</td>
<td>20</td>
<td>0</td>
<td>28</td>
<td>12</td>
</tr>
<tr>
<td>Example resource 2</td>
<td>53</td>
<td>47</td>
<td>53</td>
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<td>Example resource 3</td>
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<td>Example resource 4</td>
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<td>0</td>
<td>0</td>
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<td>Example resource 5</td>
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<td>50</td>
</tr>
<tr>
<td>Example resource 6</td>
<td>56</td>
<td>16</td>
<td>42</td>
<td>33</td>
</tr>
<tr>
<td>Example resource 7</td>
<td>13</td>
<td>8</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total points (of 203)</strong></td>
<td><strong>203</strong></td>
<td><strong>203</strong></td>
<td><strong>203</strong></td>
<td><strong>203</strong></td>
</tr>
</tbody>
</table>

*Note: all valuable resources must have over 0 points, but 0 can be given for the remaining categories.*
APPENDIX 3: INTERVIEW QUESTIONS

The following interview questions are generic across all surveyed network airlines. In reality, they were personalised to the airline being interviewed to elicit better answers, and if necessary they were marginally adapted in response to given answers. Additional questions were also sometimes asked following set questions or in response to answers.

**Competitive advantage and its importance to their airline**

How would you define competitive advantage?

In what ways do you consider competitive advantage to be important?

Are you able to derive advantage from the external environments within which you exist and operate?

What do you think the role is of internal resources and capabilities in achieving competitive advantage?

Do you think it is the external or internal perspectives of a firm that best explain the variation in firm performance?

What is the role of managers in achieving and sustaining competitive advantage?

**How is competitive advantage reflected in their strategies?**

How is competitive advantage reflected in your strategy?

To what degree do you consider the achievement of competitive advantage in deciding strategy?

How important is an effective strategy and effective tactics in response to significant short-haul competition?

How important is the ability to change strategy and tactics as necessary in response to a changing external environment?

**What do they do with resources in the face of external developments?**

If your external environment changed, can you rely on your resources or better leverage your resources?

Is it important to adapt your resources over time in response to external developments?

If your external environment altered and your resources didn’t adapt, what do you think would happen to your competitive advantage? How could this be counteracted?

How do you go about altering your resources in response to a change in the external environment to achieve better strategic fit between the internal and external environments?
Problems encountered when responding to LCCs

What are the main problems of competing with LCCs within your short-haul markets?

How do these problems compare to when competing with other competitors, such as other network airlines?

Of the problems encountered when competing with LCCs, which did you expect and which were unexpected?

Of those problems for which you were prepared, what had you done to prepare for them?

Lessons learned from competitors/the ability to compete

What lessons have you learned from your key competitors within short-haul markets?

What things does your airline do better within short-haul markets compared to its competitors? What gives your airline an upper hand?

Do you think you are adequately able to compete with LCCs on short-haul routes?

Low-cost subsidiaries

Are low-cost subsidiaries a viable strategy to compete with LCCs on short-haul routes?

What are the most important lessons you have learned from your LCS? (Only asked if they have or had one.)

Could you explain within which types of market your LCS were are typically employed? (Only asked if they have or had one.)

What would you do instead of a LCS to counteract the increasing threat by LCCs and the myriad problems from them?

What do you think about LCS replacing network airlines within short-haul markets and thereby providing feed from a lower-cost platform?

Do you think LCS will become more commonplace around Asia? And what that be a good thing?

Thank you very much for your time.
Appendix 4: Competitive responses by importance for individual airlines and categories
Appendix 5: Competitive responses by difficulty for individual airlines and categories