Export marketing adaptation and export performance

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EXPORT MARKETING ADAPTATION
AND EXPORT PERFORMANCE

By

JOÃO S. OLIVEIRA

A Doctoral Thesis
Submitted in partial fulfillment of the requirements for the
award of Doctor of Philosophy of Loughborough University

March 2015

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ABSTRACT

Identifying the antecedents of export performance is critical for researchers, due to the many benefits of exporting for firms and nations. Many researchers have, thus, devoted their research efforts to identifying export performance antecedents. Export marketing adaptation and “firm level export market orientation” (or EMO) have emerged as two critical export performance predictors. However, two important research questions remain unexamined. The first is whether firms ought to pursue heterogeneous levels of marketing adaptation across ventures in order to boost venture performance, and whether the answer to this question is contingent upon internal firm resources which support adaptation (namely EMO) and upon the environments faced across ventures. The second question concerns what the total amount (i.e. quantity) of export marketing adaptation firms should undertake in order to boost firm export performance is, and whether the answer to this question depends on internal firm resources supporting adaptation (more specifically, EMO) and on the overall export environments faced by firms. Underpinned by a contingent approach to the study of business performance, this study set out to answer to such questions, via developing and testing two conceptual models. The models were tested using data collected from British exporting companies.

The findings of the first model indicate that marketing adaptation across ventures becomes increasingly beneficial for venture performance (directly in the case of sales performance and indirectly in the case of profit performance) as EMO rises and as the levels of environmental differences across ventures increase. Results of the second model suggest that, under greater levels of EMO, firm export sales performance attains its highest values when the firm practices either very low or very high levels of marketing adaptation quantity. Also, under greater levels of EMO, firm export sales performance is increasingly reduced the more the firm deviates from extreme (low/high) marketing adaptation quantities. Additionally, as the firm’s export environments become more heterogeneous, the firm benefits increasingly more from pursuing either very low or very high marketing adaptation quantity levels (with sales performance being maximized when the firm pursues very high levels of marketing adaptation quantity), and the reductions in firm export sales performance accruing from undertaking intermediate marketing adaptation quantity levels are increasingly higher. Findings also suggest that enhancing marketing adaptation quantity is beneficial for firm export profit performance up to an optimal point. The returns brought by additional increments in marketing adaptation quantity are increasingly smaller as marketing adaptation quantity increases. Beyond an optimal point, additional increments in marketing adaptation quantity diminish firm export profit performance. The marketing adaptation quantity-firm export profit performance link was not found to be moderated directly neither by EMO nor by firm export environmental differences. EMO was found to have a positive impact on firm export sales and profit performance.

Keywords: firm, export venture, marketing adaptation across ventures, marketing adaptation quantity, export environmental differences, export sales performance, export profit performance.
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# TABLE OF CONTENTS

ABSTRACT ................................................................................................................................. 2

CHAPTER 1: INTRODUCTION ........................................................................................................ 3

1.1 THE DETERMINANTS OF EXPORT PERFORMANCE .............................................. 3

1.2 EXPORT PERFORMANCE .............................................................................................. 5

1.3 LEVEL OF ANALYSIS .................................................................................................... 5

1.4 CORE DETERMINANTS OF EXPORT PERFORMANCE: EXPORT MARKETING ADAPTATION ......................................................................................................................... 9

1.5 CORE DETERMINANTS OF EXPORT PERFORMANCE: EMO ................................. 11

1.6 RESEARCH GAPS .......................................................................................................... 12

  1.6.1 Introduction ............................................................................................................. 12

  1.6.2 Export marketing adaptation .............................................................................. 14

  1.6.3 EMO as a moderator ............................................................................................. 17

  1.6.4 Export environment as a moderator .................................................................. 18

  1.6.5 Export performance: sales and profits .............................................................. 20

1.7 RESEARCH QUESTIONS ................................................................................................. 22

1.8 RESEARCH CONTRIBUTIONS ....................................................................................... 23

1.9 OUTLINE OF THESIS STRUCTURE ........................................................................... 27

CHAPTER 2: LITERATURE REVIEW ......................................................................................... 29

2.1 INTRODUCTION ............................................................................................................ 29

2.2 CHAPTER ORGANIZATION .......................................................................................... 44

2.3 EXPORT PERFORMANCE ........................................................................................... 45

2.4 LEVEL OF ANALYSIS .................................................................................................. 47

2.5 CORE DETERMINANTS OF EXPORT PERFORMANCE: EXPORT MARKETING ADAPTATION ......................................................................................................................... 51

2.6 CORE DETERMINANTS OF EXPORT PERFORMANCE: EMO ................................. 54

2.7 RESEARCH GAPS .......................................................................................................... 56

  2.7.1 Introduction ............................................................................................................. 56

  2.7.2 Export marketing adaptation .............................................................................. 88

  2.7.3 EMO as a moderator ............................................................................................. 91

  2.7.4 Export environment as a moderator .................................................................. 93

  2.7.5 Export performance: sales and profits .............................................................. 94
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8</td>
<td>CHAPTER SUMMARY</td>
<td>96</td>
</tr>
<tr>
<td>3</td>
<td>CHAPTER 3: CONCEPTUAL FRAMEWORK</td>
<td>100</td>
</tr>
<tr>
<td>3.1</td>
<td>INTRODUCTION</td>
<td>100</td>
</tr>
<tr>
<td>3.2</td>
<td>THEORETICAL FRAMEWORK</td>
<td>101</td>
</tr>
<tr>
<td>3.3</td>
<td>CONCEPTUAL MODELS AND HYPOTHESES DEVELOPMENT</td>
<td>103</td>
</tr>
<tr>
<td>3.3.1</td>
<td>Conceptual Model I</td>
<td>104</td>
</tr>
<tr>
<td>3.3.2</td>
<td>Conceptual Model II</td>
<td>117</td>
</tr>
<tr>
<td>3.4</td>
<td>CHAPTER SUMMARY</td>
<td>129</td>
</tr>
<tr>
<td>4</td>
<td>CHAPTER 4: METHODOLOGY</td>
<td>131</td>
</tr>
<tr>
<td>4.1</td>
<td>INTRODUCTION</td>
<td>131</td>
</tr>
<tr>
<td>4.2</td>
<td>GENERAL DATA COLLECTION ISSUES</td>
<td>132</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Cross-Sectional versus Longitudinal Design</td>
<td>132</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Survey administration</td>
<td>134</td>
</tr>
<tr>
<td>4.2.3</td>
<td>Choice of Target Respondents</td>
<td>135</td>
</tr>
<tr>
<td>4.3</td>
<td>QUESTIONNAIRE DESIGN</td>
<td>136</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Information Sought</td>
<td>137</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Marketing adaptation across ventures</td>
<td>140</td>
</tr>
<tr>
<td>4.3.3</td>
<td>Environmental differences across ventures</td>
<td>141</td>
</tr>
<tr>
<td>4.3.4</td>
<td>EMO</td>
<td>143</td>
</tr>
<tr>
<td>4.3.5</td>
<td>Venture sales performance</td>
<td>144</td>
</tr>
<tr>
<td>4.3.6</td>
<td>Venture profit performance</td>
<td>146</td>
</tr>
<tr>
<td>4.3.7</td>
<td>Marketing adaptation quantity</td>
<td>148</td>
</tr>
<tr>
<td>4.3.8</td>
<td>Firm export environmental differences</td>
<td>152</td>
</tr>
<tr>
<td>4.3.9</td>
<td>Firm export sales performance</td>
<td>154</td>
</tr>
<tr>
<td>4.3.10</td>
<td>Firm export profit performance</td>
<td>155</td>
</tr>
<tr>
<td>4.3.11</td>
<td>Firm resources</td>
<td>155</td>
</tr>
<tr>
<td>4.3.12</td>
<td>Firm export experience</td>
<td>155</td>
</tr>
<tr>
<td>4.3.13</td>
<td>Export dependence</td>
<td>156</td>
</tr>
<tr>
<td>4.3.14</td>
<td>Countries exported</td>
<td>156</td>
</tr>
<tr>
<td>4.3.15</td>
<td>Additional variables</td>
<td>156</td>
</tr>
<tr>
<td>4.4</td>
<td>PRE-TESTING</td>
<td>160</td>
</tr>
</tbody>
</table>
4.4.1 Personal interviews ................................................................. 160
4.4.2 Questionnaire revision after personal interview pre-test .......... 162
4.4.3 Pilot study ............................................................................. 163
4.4.3 Sample frame selection .......................................................... 165
4.4.4 Response rate ..................................................................... 165
4.5 MAIN SURVEY ........................................................................ 168
4.5.1 Final questionnaire revision .................................................. 168
4.5.2 Sample frame selection and sample administration ............... 169
4.6 RESPONSE ............................................................................. 171
4.6.1 Follow-up sample on eligibility ............................................. 171
4.6.2 Non-response bias ................................................................. 174
4.7 CHAPTER SUMMARY ............................................................... 176
CHAPTER 5: DATA PROCESSING AND PROFILING .......................... 177
5.1 INTRODUCTION ..................................................................... 177
5.2 DATA CODING AND CLEANING .............................................. 177
5.3 MISSING VALUES .................................................................... 178
5.4 RESPONDENTS’ PROFILE ....................................................... 179
  5.4.1 Firm resources ................................................................. 179
  5.4.2 Firm export experience ...................................................... 181
  5.4.3 Business experience ........................................................... 182
  5.4.4 Export dependence .............................................................. 183
  5.4.5 Countries exported .............................................................. 184
  5.4.6 Geographical markets exported: Product α ......................... 185
  5.4.7 Firm industry ................................................................. 186
  5.4.8 Respondents’ employment role .......................................... 187
5.5 CHAPTER SUMMARY ............................................................... 187
CHAPTER 6: MEASURE DEVELOPMENT AND ASSESSMENT .......... 188
6.1 OBJECTIVE ........................................................................ 188
6.2 MEASURE EVALUATION CRITERIA ....................................... 188
  6.2.1 Measure unidimensionality ............................................... 188
  6.2.2 Measure validity ................................................................. 189
  6.2.3 Measure reliability .............................................................. 190
6.3 ASSESSMENT STRATEGY ....................................................... 190
LIST OF TABLES

Table 1.1 Levels of theory in export performance research ........................................ 7
Table 2.1 Export performance measurement .................................................................. 46
Table 2.2 Levels of theory in export performance studies ............................................... 49
Table 2.3 Empirical studies on the link between export marketing adaptation and export performance .................................................................................................................. 57
Table 4.1: Effective response rate for different contact strategies used in the pilot study ........................................................................................................................................ 167
Table 4.2: Effective response rate for the two contact strategies used in the main survey ..................................................................................................................................... 171
Table 4.3: Non-response analysis ...................................................................................... 172
Table 4.4: Comparison between early and late respondents ............................................. 175
Table 4.5: Respondents’ employment role within the firm - Summary statistics ................. 187
Table 6.1: Statistics and indices for venture level measurement models ......................... 195
Table 6.2: Statistics and indices for firm level measurement models .................................. 197
Table 6.3: Factor matrix for export venture level measurement model ......................... 199
Table 6.4: Summary statistics and correlations for venture level measures .................... 201
Table 6.5: Factor matrix for firm level measurement model ............................................ 202
Table 6.6: Summary statistics and correlations for firm level measures .......................... 203
Table 6.7: Statistics and indices for measurement models ............................................... 207
Table 6.8: Factor matrix for measurement model .............................................................. 209
Table 6.9: Summary statistics and correlations for measures ......................................... 211
Table 7.1: Final estimation of variance components: Null model for export venture sales performance ....................................................................................................................... 233
Table 7.2: Final estimation of variance components: intercepts- and slopes- as-outcomes model for export venture sales performance .................................................................................. 238
Table 7.3: Final estimation of variance components: Null model for export venture profit performance ...................................................................................................................... 241
Table 7.4: Final estimation of variance components: intercepts- and slopes- as-outcomes model for export venture profit performance ............................................................................. 245
Table 7.5: Path coefficients and t-values: venture sales performance .............................. 249
Table 7.6: Path coefficients and t-values: venture profit performance ............................. 261
Table 7.7: Structural model assessment ............................................................................ 274
Table 7.8: Path coefficients and t-values: Firm export sales performance ...................... 277
Table 7.9: Path coefficients and t-values: firm export profit performance ....................... 285
Table 7.10: Summary of the supported hypotheses: Model I ........................................ 290
Table 7.11: Summary of the supported hypotheses: Model II ......................................... 291
LIST OF FIGURES

Figure 1.1: Thesis structure ................................................................. 27
Figure 3.1: Conceptual Model I ......................................................... 105
Figure 3.2: Impact of marketing adaptation across ventures on venture sales performance ......................................................... 108
Figure 3.3: Moderating role of EMO the link between marketing adaptation across ventures and venture sales performance ............................................. 109
Figure 3.4: Moderating effect of environmental differences on the relationship between marketing adaptation across ventures and venture sales performance. ......................................................... 111
Figure 3.5: Impact of marketing adaptation across ventures on venture profit performance ................................................................. 113
Figure 3.6: Moderating effect of EMO on the relationship between marketing adaptation across ventures and venture profit performance ....................... 114
Figure 3.7: Moderating effect of environmental differences on the link between marketing adaptation across ventures and venture profit performance. 116
Figure 3.8: Conceptual model II .......................................................... 117
Figure 3.9: Impact of marketing adaptation quantity on firm export sales performance ................................................................. 119
Figure 3.10: Direct impact of EMO on firm export sales performance ...... 120
Figure 3.11: Moderating role of EMO on the link between marketing adaptation quantity and firm export sales performance ................................. 121
Figure 3.12: Moderating role of firm export environmental differences on the link between marketing adaptation quantity and firm export sales performance. ......................................................... 123
Figure 3.13: Impact of marketing adaptation quantity on firm export profit performance ................................................................. 125
Figure 3.14: Direct impact of EMO on firm export profit performance .... 126
Figure 3.15: Moderating role of EMO on the link between marketing adaptation quantity and firm export profit performance ...................................... 127
Figure 3.16: Moderating role of firm export environmental differences on the link between marketing adaptation quantity and firm export profit performance. ......................................................... 129
Figure 4.1 Procedure adopted for designing the questionnaire .......... 137
Figure 4.2: Information sought ............................................................. 139
Figure 4.3: Scale items for marketing adaptation across ventures .......... 140
Figure 4.4: Scale items for differences in type of competition across ventures. ................................................................................................. 141
Figure 4.5: Scale items for differences in level of competitive intensity across ventures ................................................................................................. 142
Figure 4.6: Scale items for differences in customer characteristics across ventures

Figure 4.7: Scale items for differences in market characteristics across ventures

Figure 4.8: Scale items for EMO

Figure 4.9: Scale items for sales performance in Benchmark Venture.

Figure 4.10: Scale items for variation in sales performance in Market X relative to Benchmark Venture.

Figure 4.11: Scale items for profit performance in Benchmark Venture

Figure 4.12: Scale items for variation in profit performance in Market X relative to Benchmark Venture.

Figure 4.13: Scale items for firm export sales performance

Figure 4.14: Scale items for firm export profit performance

Figure 5.1: Firm resources (number of full-time employees)

Figure 5.2: Firm export experience (number of years exporting)

Figure 5.3: Business experience (number of years in business)

Figure 5.4: Export dependence (ratio of exports to total sales)

Figure 5.5: Countries exported (number of countries to which the firm exports).

Figure 5.6: Geographical regions exported - Product α (number of geographical markets to which the firm exports Product α)

Figure 7.1: Study findings: impact of marketing adaptation across ventures and EMO on venture level sales performance.

Figure 7.2: Study findings: moderating impact of EMO on the relationship between marketing adaptation across ventures and venture sales performance.

Figure 7.3: Study findings: impact of marketing adaptation across ventures and environmental differences across ventures on venture sales performance.

Figure 7.4: Study findings: moderating impact of environmental differences across ventures on the relationship between marketing adaptation across ventures and venture sales performance.

Figure 7.5: Study findings: impact of marketing adaptation quantity and EMO on firm export sales performance.

Figure 7.6: Study findings: impact of marketing adaptation quantity on firm export sales performance under low and high degrees of EMO.

Figure 7.7: Study findings: impact of marketing adaptation quantity and firm export environmental differences on firm export sales performance.

Figure 7.8: Study findings: impact of marketing adaptation quantity on firm export sales performance under low and high degrees of firm export environmental differences.

Figure 7.9: Study findings: impact of marketing adaptation quantity on firm export profit performance.
CHAPTER 1: INTRODUCTION

1.1 THE DETERMINANTS OF EXPORT PERFORMANCE

Globalization of trade has induced an ever-increasing number of firms to engage in international operations (Leonidou and Katsikeas 2010; Mühlbacher, Leihs, and Dahringer 2006). Exporting is one of the strategic options for firms to internationalize and has remained the most frequently used foreign market entry modes used (Katsikea, Theodosiou, and Morgan 2007; Morgan and Katsikeas 1997; Sousa, Martínez-López, and Coelho 2008; Zhao and Zou 2002), as it gives firms high levels of flexibility and requires minimal financial, human, and other resource commitments when compared to other international entry modes (Leonidou 1995; Sousa 2004). Furthermore, exporting allows firms to acquire market knowledge, as it often requires them to compete in diverse and less familiar environments (Czinkota 1994). Knowledge acquired through exporting can be applied not only in foreign markets, but also in the domestic market, thereby rendering firms more competitive (and, thus, more successful) abroad and at home. Furthermore, exporting can enable firms to acquire/develop new resources, which may be also used by firms to gain competitive advantage both abroad and in the domestic market (e.g. Czinkota 1994). For instance, achieving superior export performance levels in a specific export market may require the firm to acquire/develop a particular technology. Nonetheless, such technology may also give the firm competitive edge in its domestic market (for example, such technology may enable the firm to produce better products than competitors), thereby contributing to augmenting the firm’s level of domestic performance.

Exporting is also very important for public policy makers and researchers. In this context, exporting enables nations to accumulate foreign exchange reserves to finance their imports, to increase their productivity levels, and to create more job opportunities, thereby fostering economic and social
As a consequence, researchers view exporting as a challenging and promising area or theory development in international marketing (Sousa, Martínez-López, and Coelho 2008; Zou and Stan 1998).

As a result of the several benefits that exporting can bring to firms and to nations, over the last five decades many researchers have devoted their research efforts to the identification of the variables which influence firms’ export performance. However, and despite notable progress in our understanding of the drivers of export performance of firms, knowledge on this topic is still limited and the export performance literature frequently yields inconsistent results (Sousa, Martínez-López, and Coelho 2008). In this context, researchers have investigated the impact of a large variety of factors on export performance, including industry antecedents (e.g. Das 1994; Ito and Pucik 1993), environmental factors (e.g. Cadogan et al. 2012; Cavusgil and Zou 1994), and organizational antecedents (e.g. Auquier 1980; Cadogan et al. 2005; Morgan, Katsikeas, and Vorhies 2012). Among the factors just outlined, organizational variables are the ones which have been more often examined by researchers. This may be explained by the fact that organizational predictors are more under the control of firms. As such, organizational factors can potentially be used by firms to shape their levels of export success.

Organizational factors investigated by researchers as antecedents of export performance include managerial characteristics (e.g. Baldauf, Cravens, and Wagner 2000; Katsikeas, Piercy, and Ioannidis 1996), organizational structures (e.g. Auquier 1980; Wengel and Rodriguez 2006), organizational resources and capabilities (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Morgan, Katsikeas, and Vorhies 2012), organizational systems (e.g. Cadogan et al. 2005; Shoham, Evangelista, and Albaum 2002), and organizational strategies (e.g. Lages, Jap, and Griffith 2008; Hultman, Robson, and Katsikeas 2009; Morgan, Kaleka, and Katsikeas 2004).
1.2 EXPORT PERFORMANCE

Researchers seem to agree that export performance is a multidimensional construct. In this context, two broad categories of export performance are export sales performance and export profit performance (Cadogan, Kuivalainen, and Sundqvist 2009; Morgan, Katsikeas, and Vorhies 2012; Zou, Taylor, and Osland 1998). Sales-based assessments of export performance range across numerous outcomes, including export sales volume, export sales revenue, growth in export sales volume, growth in export sales revenue, export market share, ratio of exports sales revenue to total sales revenue, and ratio of export sales volume to total sales volume. Profit-based assessments of export performance take into account costs and range across differing outcomes such as export return on investment, absolute export profits, and export gross profit margin. The importance of export sales performance and export profit performance as two crucial categories of export performance corresponds to the notion that organizational success can be classified into outcomes that take account for costs versus outcomes that place emphasis on revenues and that do not reflect costs (cf. Homburg, Müller, and Klarmann 2011; Mantrala et al. 2007).

1.3 LEVEL OF ANALYSIS

Researchers that examine the antecedents of export performance usually adopt either the export function level of analysis or the single export venture level of analysis (Oliveira, Cadogan, and Souchon 2012). Export function level studies examine the overall degree of export performance obtained by the exporting entity (e.g. Brouthers and Xu 2002; Cadogan et al. 2012; Calantone et al. 2006; Kuivalainen, Sundqvist, and Servais 2007; Souchon and Diamantopoulos 1997; Souchon, Sy-Changco, and Dewsnap
Single export venture level investigations (e.g. Cavusgil and Zou 1994; Hultman, Robson, and Katsikeas 2009; Katsikeas, Samiee, and Theodosiou 2006; Morgan, Kaleka, and Katsikeas 2004) focus on the performance outcomes of a single export venture within the firm, with an export venture being defined as a single product or product line exported by a company to a specific foreign market (Cavusgil and Zou 1994; Morgan, Kaleka, and Katsikeas 2004). The export function and the single export venture level of analysis are related, since firms’ export functions can be conceptualized as portfolios comprising such firms’ various export ventures (Katsikeas, Leonidou, and Morgan 2000; Madsen 1998). One can, hence, verify the presence of hierarchical ordering in exporting (and, hence, in export performance), as firms’ export functions can be considered as higher level units and those firms’ export ventures can be thought of lower level units, which are nested within the export functions (hereafter, and for purposes of simplicity, “export functions” will be referred to as “firms”) (Oliveira, Cadogan, and Souchon 2012).

In their article of levels issues in export performance, Oliveira, Cadogan, and Souchon (2012) pinpoint that export performance theories constructed at different levels of analysis are appropriate for answering different types of research question. See Table 1.1.
<table>
<thead>
<tr>
<th>Level of theory</th>
<th>Phenomenon examined</th>
<th>Type of research question addressed</th>
<th>Usefulness</th>
<th>Covered by existing studies?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm level</td>
<td>Inter-firm variations in firm export performance</td>
<td>What variables determine how firm export performance varies across firms?</td>
<td>Identification of variables that enhance the overall export performance of firms</td>
<td>Yes - Many Studies</td>
</tr>
<tr>
<td>Level of theory</td>
<td>Single export venture level</td>
<td>Inter-firm variations in performance with regard to a single export venture</td>
<td>What variables determine how the performance of a single export venture varies across firms?</td>
<td>Identification of variables that lead to single venture success (useful for firms that only have one export venture)</td>
</tr>
<tr>
<td>Intra-firm export venture level</td>
<td>Intra-firm variations in performance across individual ventures within firms</td>
<td>What variables determine how the performance of individual export ventures varies within firms?</td>
<td>Identification of variables that enhance individual venture performance across firms’ export ventures</td>
<td>No - Research Gap</td>
</tr>
</tbody>
</table>

Adapted from Oliveira, Cadogan, and Souchon (2012)
Table 1.1 Levels of theory in export performance research

Theories developed at the firm level (first row, Table 1.1) investigate why some firms surpass others in terms of the overall degree of export performance attained. Firm level investigations have an external orientation, since their focus is on export performance variations across firms. Firm level investigations have instant and evident value, as they result in the identification of the factors that shape the overall export performance of firms (Oliveira, Cadogan, and Souchon 2012).

Theories constructed at the single export venture level (second row, Table 1.1) examine why the performance attained in a single export venture within the firm varies across firms. Single export venture level studies also have an external orientation, as they also examine inter-firm variations in export performance (more specifically, with regard to a single export venture within firms). Single export venture level studies can be useful for purposes of investigating the export activities of firms that are starting export operations, and have only one export venture, or in cases where the single venture under study is highly important or influential for the firm.

Theories developed at the intra-firm export venture level (third row, Table 1.1) examine why, within the same firm, different export ventures display different levels of performance. Intra-firm export venture level investigations have an internal orientation, as they investigate performance variations within the firm. Intra-firm export venture level theories are relevant as they offer managers insights into how to leverage individual venture performance levels in their firms’ multiple ventures which, in turn, contributes to augmented firm export performance (Oliveira, Cadogan, and Souchon 2012).

In this context, while there have been several studies carried-out at the and at the single export venture levels of analysis, there is a lack of research conducted at the intra-firm export venture level. This is regrettable, as it may be the case that there are variations in performance across different export ventures of the same firm (Cavusgil and Zou 1994). Furthermore, it may be
that the factors that determine venture performance vary across the firm’s different ventures. Managers need, thus, to know if there are factors that lead to variations in performance on an intra-firm venture basis, so that they can leverage individual venture performance across their firm’s ventures. There is, hence, a need for models which examine whether performance variations occur at the intra-firm export venture level and, if that is the case, the factors that explain such variations.

1.4 CORE DETERMINANTS OF EXPORT PERFORMANCE: EXPORT MARKETING ADAPTATION

The export performance literature indicates that export marketing adaptation is a crucial determinant of export performance (e.g. Leonidou, Katsikeas, and Samiee 2002; Sousa, Martínez-López, and Coelho 2008; Tan and Sousa 2011, 2013; Theodosiou and Leonidou 2003; Zou and Stan 1998). There are different conceptualizations of export marketing adaptation in the literature (Ryans, Griffith, and White 2003). Nonetheless, at a broadly generic level, export marketing adaptation can be defined as the adaptation of the firm’s marketing across international markets (e.g. Aulakh, Kotabe, and Teegen 2000). There are three competing views on export marketing adaptation, namely the standardization perspective, the adaptation approach, and the contingency perspective (Ryans, Griffith, and White 2003; Theodosiou and Leonidou 2003; Zou, Andrus, and Norvell 1997).

Advocates of the standardization approach highlight the increased levels of convergence of consumer needs, tastes and preferences, and the enhanced levels of market similarity and technological uniformity which result from globalization (e.g. Levitt 1983; Ohmae 1985). According to this approach, standardization of firms’ global strategies is further facilitated by the growth of international communication channels, the emergence of global markets, and
the widespread use of the Internet. Pursuing a standardized global strategy can bring several benefits to firms, such as significant economies of scale across all value-adding activities, consistency in terms of corporate/brand image across countries, and reduced managerial complexity, (Douglas and Craig 1986; Levitt 1983; Yip, Loewe, and Yoshino 1988).

Proponents of the adaptation perspective argue that, in spite of globalization trends, differences across countries in dimensions such as consumer needs, product use conditions, purchasing power, commercial infrastructure, culture and traditions, and laws and regulations are still too great. Therefore, firms need to adjust their marketing to the idiosyncratic characteristics of each foreign market (Terpstra and Sarathy 1994). Furthermore, a firm’s ultimate objective is not cost reduction via standardization, but long-term profitability via higher sales. Higher sales derive from a better exploitation of the differences in consumer needs which exist across countries (Onkvisit and Shaw 1990; Rosen 1990; Whitelock and Pimblett 1997).

Advocates of the contingency approach argue that standardization or adaptation ought not to be seen in isolation from each other, but as two ends of the same continuum. Accordingly, the decision to standardize or adapt is a strategic decision that should depend on the situations firms face both internally and externally and should be the outcome of an analysis and assessment of the relevant contingency factors which characterize each specific market at a given moment in time. The suitability of a particular level of adaptation ought to be assessed on the basis of its alignment or fit with internal and external environmental contingencies (Cavusgil and Zou 1994; Hultman, Robson, and Katsikeas 2009; Jain 1989; Katsikeas, Samiee, and Theodosiou 2006; Onkvisit and Shaw 1987; Quelch and Hoff 1986; Theodosiou and Leonidou 2003).

Despite intense research efforts, empirical results on the link between marketing adaptation and export performance have been inconsistent and often contradictory (Sousa, Martínez-López, and Coelho 2008; Tan and Sousa
2013; Theodosiou and Leonidou 2003). Such conflicting results create difficulties for academic researchers and for managers with regard to their attempts to advance theory and management practice in the field (Tan and Sousa 2013). One may argue, thus, that there is a need for a deeper investigation of the link between export marketing adaptation and export performance.

1.5 CORE DETERMINANTS OF EXPORT PERFORMANCE: EMO

As Sousa, Martinez-López, and Coelho (2008) pinpoint in their literature review of the determinants of export performance, “firm level export market orientation” (herein referred to as “EMO”) has emerged as a crucial predictor of export performance (e.g. Cadogan et al. 2012; Murray, Gao, and Kotabe 2011). Market orientation is best defined as the business unit level culture which most effectively and efficiently produces the necessary behaviors for the creation of superior value for buyers and, hence, of continuous superior performance for the business (e.g. Kohli and Jaworski 1990; Narver and Slater 1990). Export market-oriented firms consistently identify and respond to customers’ current needs and preferences and are able to anticipate future needs and preferences, thereby being in a better position to satisfy customers and perform well against competitors (Cadogan, Diamantopoulos, and Siguaw 2002).

While EMO research mostly focuses on the direct link between EMO and export performance, there is a growing body of evidence that suggests that EMO also plays a supporting role, leveraging the positive effect of other strategic predictors on export performance (i.e. positively moderating the link between other antecedents and export performance). For example, Boso, Cadogan, and Story (2012, 2013) find that EMO acts as a facilitating mechanism of export entrepreneurial behavior, leveraging its relationship with firm-wide export performance. Similarly, Cadogan et al. (2012) report a positive
moderating effect of EMO on the relationship between strategic flexibilities and firm-wide export performance. However, research examining the role of EMO as a facilitating mechanism of other strategic export performance predictors is still in its infancy. There is, hence, a need for further research which enlarges our understanding of the role of EMO as a moderator of the relationship between strategic predictors and export performance.

1.6 RESEARCH GAPS

1.6.1 Introduction

In this section the potential research gaps are outlined and explained. Such gaps concern the link between marketing adaptation and export performance and relate to two main research questions. The first concerns the issue of marketing adaptation across ventures or, more specifically, whether firms should vary the extent to which they adapt a given product in different venture markets relative to a base market in order to enhance venture performance. Such issue corresponds, thus, to the profile of marketing adaptation firms ought to pursue across ventures.

For instance, the firm might adapt to a great extent the marketing of a particular product in different markets relative to a base market, meaning that very different marketing activities occur in different product-markets (i.e. in different ventures). Alternatively, the firm may pursue a similar marketing in different markets relative to the base market, meaning that standardized marketing activities occur across ventures. In this context, the literature does not provide an answer regarding which of the two approaches just described is more beneficial for venture performance. Thus, should firms practice heterogeneous levels of marketing adaptation across their export ventures in order to leverage venture performance?; i.e. does venture performance benefit most from undertaking heterogeneous levels of marketing adaptation across
ventures, or from using a standardized approach with adaptations being rolled-out across ventures? Furthermore, is the answer to this question contingent upon internal firm resources which support adaptation (namely EMO) and external environmental attributes?

The second research gap concerns the issue of the total amount (i.e. quantity) of marketing adaptation activities that firms should to pursue in their export operations in order to firm export performance. In this context, consider, for instance, the case of two firms operating in a different number of ventures ("Firm A" and "Firm B"). "Firm A" operates in 2 ventures and carries-out an "X" amount of marketing adaptation in each of them. "Firm B" has 100 ventures and pursues the same amount of adaptation in each of its ventures as "Firm A" (i.e. "Firm B" also undertakes an "X" amount of adaptation in each of its ventures). While both firms adopt the same stance in terms of adapting marketing to foreign markets (i.e. they pursue “X” much adaptation in their export operations), it is obvious the total amount (i.e. quantity) of marketing adaptation pursued varies across them. Put differently, “Firm A” and “Firm B” vary with regard to the firm level quantity of marketing adaptation (hereafter, referred to as marketing adaptation quantity) pursued. More precisely, “Firm B” undertakes a much greater quantity of marketing adaptation than “Firm A”, simply because the scale of export operations of “Firm B” is much greater than the one of “Firm A” (more specifically, “Firm B” operates in 100 ventures, while “Firm A” only operates in 2 ventures).

Existing studies have failed to examine the issue of marketing adaptation quantity and its relationship with firm export performance. Accordingly, the following question remains: What are the consequences for firms of practicing greater versus smaller adaptation quantities in terms of the overall levels of export performance achieved? Furthermore, does the answer to such question depend on internal firm resources supporting adaptation (more specifically, EMO), and on the environments that firms encounter in their export operations?
1.6.2 Export marketing adaptation

Export markets tend to differ to some extent with regard to their environmental characteristics (e.g. Boddewyn, Soehl, and Picard 1986; Douglas and Wind 1987). In this context, a number of studies indicate that, for a single export venture of the firm, superior venture performance results from the extent to which the marketing pursued in that venture fits (or is coaligned with) the environmental characteristics of the venture market (e.g. Cavusgil and Zou 1994; Hultman, Robson, and Katsikeas 2009; Katsikeas, Samiee, and Theodosiou 2006). The managerial implication of such finding is that, for a single export venture within the firm, marketing should be adapted in order to meet the environmental circumstances of the venture market. Nonetheless, the literature does not provide answers to two important research questions. These are discussed now.

1.6.2.1 Marketing adaptation across ventures

The first research question concerns the issue of export marketing adaptation across ventures or, more specifically, whether firms should vary the extent to which they adapt the marketing activities of a given product in different venture markets relative to a base market in order to enhance venture performance. This corresponds to the issue of the ideal profile of marketing adaptation that firms ought to pursue across ventures so as to boost venture performance.

Carrying-out different levels of marketing adaptation in different ventures may be beneficial for the firm, as it potentially enables the firm to meet the idiosyncratic characteristics of individual venture markets (for instance, in terms of customers’ tastes and preferences). However, undertaking different levels of adaptation across ventures may also bring disadvantages. For example, it may increase the level of complexity of the firm’s export operations, thus enhancing the level of strain exerted over the firm’s management. As a result, the quality of the marketing delivered in each
venture market may be reduced, thereby harming individual venture performance levels. Also, varying the level of marketing adaptation across different markets may increase venture costs as it may, for instance, require the firm to carry-out additional investments in plants and other resources, as well as in terms of the marketing research activities undertaken in each market, or contribute to reduce the economies of scale and/or scope achieved by the firm in its export operations. As such, pursuing different levels of marketing adaptation across ventures may result in an increase in the unit costs attained in each venture and, thus, in reduced venture performance.

Therefore, the issue of whether or not firms should vary the level of marketing adaptation across different ventures, i.e. the ideal profile of marketing adaptation that firms ought to pursue across ventures is of paramount relevance for firms. It may be that, in order to boost venture performance, marketing adaptation needs to be managed in a profile-like way, with some ventures having a great deal of marketing adaptation and others less. This issue remains unexamined in the literature, as existing venture level studies on the link between marketing adaptation and performance focus solely on a single export venture within firms. Thus, single venture level studies do not address the issue of the profile of adaptation firms need to pursue across ventures. Researchers have overlooked the question of whether adapting differently in different ventures is or not beneficial for venture performance, because inter-venture differences in performance within firms are never examined. Therefore, a first research gap consists of the need to examine the link between export marketing adaptation and export performance at the intra-firm export venture level (i.e. across multiple export ventures of the same firm).
1.6.2.2 Marketing adaptation quantity

The second research question relates to the issue of the marketing adaptation quantity that firms should to pursue in their export operations in order to boost their overall export performance levels. Existing studies adopt a general approach to marketing adaptation, as firms are asked for their general stance when it comes to marketing adaptation (i.e. “yes we do it/ no we do not do it”) and, so far, have not been asked about how much of it they actually do across their export operations.

To illustrate the point just made, consider, for instance, the case of two firms operating in a different number of ventures (“Firm A” and “Firm B”). “Firm A” operates in 2 ventures and carries-out an “X” amount of marketing adaptation in each of them. “Firm B” has 100 ventures and undertakes the same amount of adaptation in each of its ventures as “Firm A” (i.e. “Firm B” also undertakes an “X” amount of adaptation in each of its ventures). While both firms adopt the same stance in terms of adapting marketing to foreign markets (i.e. they pursue “X” much adaptation in their export operations) it is evident that marketing adaptation quantity varies across them. More specifically, “Firm B” pursues a much greater quantity of marketing adaptation than “Firm A” due to the fact that the scale of export operations of “Firm B” is much greater than the one of "Firm A" (more specifically, “Firm B” operates in 100 ventures, while “Firm A” only operates in 2 ventures).

The lack of studies on the link between marketing adaptation quantity and firm export performance is problematic because the adaptation quantities pursued by firms can have important implications in terms of the levels of export performance attained. For example, it is reasonable to expect that ever-greater marketing adaptation quantity will not always be good for export performance, especially if it implies a rise in the costs associated with coordinating the management of a more complex structure. Such costs come in the form of, for instance, higher managerial information-processing demands, higher levels of strain exerted over management, enhanced logistical costs, or higher error-related costs (e.g. Hitt, Hoskinson, and Kim 1997; Lu and Beamish 1998).
Accordingly, it seems fundamental to answer the question of whether the relationship between marketing adaptation quantity and firm export performance changes as marketing adaptation quantity increases since, if that is the case, managers need to manage the marketing adaptation quantity pursued by their firms in order to ensure that it is not too high or too low.

Also, for instance, venture level assessment might indicate that ever-increasing marketing adaptation always enhances venture success but, when assessed at the firm level, the implication is that costs which may be invisible at the venture level - or (apparently) remote from the ventures themselves – increase as marketing adaptation quantity rises, such that firm-wide export success may suffer even though the ventures themselves appear to be performing well. The issue concerning the marketing adaptation quantity that firms ought to pursue is, thus, of paramount relevance for managers. Hence, a second research gap consists of the need to study the link between marketing adaptation quantity and firm level export performance.

1.6.3 EMO as a moderator

As defended earlier in this chapter, pursuing different levels of marketing adaptation in different ventures may be beneficial for venture performance. Assuming that such is the case, a critical question remains regarding the kinds of supporting mechanisms that firms may call on to help them deliver high quality marketing adaptation across their ventures. Drawing on a contingency approach to the resource-based view (RBV) of the firm (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hitt et al. 2001), a primary candidate as a supporting mechanism of adaptation is EMO. The underlying reasoning is that export market-oriented activity can be viewed as a business resource that assists firms with regard to attaining positions of sustainable competitive advantage and, hence, superior business performance (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hult and Ketchen 2001; Hunt and
EMO renders firms wiser with regard to their export efforts (e.g. Boso, Cadogan, and Story 2012) and, more specifically, in terms of their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014). As such, more export market-oriented firms may be in a better position to carry-out the right kinds of marketing adaptations across different export ventures. In other words, it may be the case that EMO positively moderates the link between marketing adaptation and performance across multiple ventures of the same firm (i.e. at the intra-firm export venture level). Therefore, a further research gap consists of the need to investigate the potential moderating role of EMO on the relationship between marketing adaptation and performance at the intra-firm export venture level.

A similar reasoning to the one just presented may apply to marketing adaptation quantity. In this context, a crucial question remains regarding the kinds of supporting mechanisms that firms can use to assist them in terms of delivering high quality marketing adaptation. Adopting a contingency perspective to the RBV of the firm (e.g. Hitt et al. 2001), a key candidate as a supporting mechanism of marketing adaptation quantity is EMO. Given that EMO renders firms wiser in terms of their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014), firms displaying higher levels of EMO may be better positioned to adapt marketing more effectively and/or efficiently. Put differently, it may be the case that EMO positively moderates the relationship between marketing adaptation quantity and firm export performance. Hence, an additional research gap consists of the need to examine the potential moderating role played by EMO on the link between marketing adaptation quantity and firm export performance.

1.6.4 Export environment as a moderator

As pinpointed previously, pursuing different levels of marketing adaptation in different ventures may bring benefits for individual venture performance. In this context, a crucial research question remains in terms of
whether the usefulness of varying the level of marketing adaptation across different ventures depends on the attributes of the venture markets served. Grounded on a contingency approach to business strategy (e.g. Venkatraman and Prescott 1990), a number of studies indicate that the export environment is a crucial moderator of the relationship between marketing adaptation and export performance (e.g. Chung, Wang, and Huang 2012; Li 2010). The underlying reasoning is that the appropriateness of a particular degree of export marketing adaptation in terms of optimizing export performance is contingent upon the degree to which it fits the characteristics of the export environment.

In this context, it may be that the usefulness of pursuing different levels of adaptation across ventures in terms of maximizing individual venture performance levels is contingent upon the environmental attributes faced across venture markets. More specifically, one may argue that the benefits brought by adapting marketing are more observable in cases where venture markets differ in some ways (e.g. in cases where customers’ needs are not homogeneous across markets). The underlying reasoning is that, in such cases, it may be more important to adapt marketing across ventures so as to meet the idiosyncrasies of each venture market. It may be, thus, the case that the degree of environmental differences which the firm faces across venture markets positively moderates the link between marketing adaptation across ventures and venture performance. A further research gap consists, therefore, of the need to examine the potential role played by export environmental differences in determining the need for marketing adaptation across ventures.

A similar reasoning may apply to marketing adaptation quantity. In this context, a critical research question remains regarding whether the usefulness of marketing adaptation quantity is contingent upon the environmental attributes faced by the firm in its export operations. Adopting a contingency approach to business strategy (e.g. Zajac, Kraatz, and Bresser 2000), one may argue that the benefits resulting from marketing adaptation quantity are higher when the firm’s export markets are more heterogeneous with regard to their environmental attributes. The idea is that, in such circumstances, it may
be more necessary for the firm to pursue greater marketing adaptation quantities so as to meet the environmental idiosyncrasies of its export markets. Hence, it may be the case that the overall degree of environmental differences the firm faces in its export operations moderates the link between marketing adaptation quantity and firm export performance.

Therefore, an additional research gap consists of the need to investigate the potential role played by export environmental differences in determining the need for marketing adaptation quantity.

1.6.5 Export performance: sales and profits

Madsen (1987) contends that export sales and export profits constitute two broad categories of export performance. Sales-based assessments of export performance range across numerous outcomes, including export sales volume, export sales revenue, growth in export sales volume, growth in export sales revenue, export market share, ratio of exports sales revenue to total sales revenue, and ratio of export sales volume to total sales volume. Profit-based measurements take into account costs and range across differing outcomes such as export return on investment, absolute export profits, and export gross profit margin.

The majority of existing studies on the link between export marketing adaptation and export performance implicitly assume that such relationship is identical across all the categories of export performance. The reason for this is that researchers that examine the export marketing adaptation-export performance relationship often use broad assessments of export performance which encompass multiple categories of this construct. This is unfortunate, as a number of studies suggest that export performance antecedents may predict export sales performance and export profit performance differently. For instance, research shows that EMO behavior affects export sales performance
and export profit performance differently (e.g. Cadogan, Cui, and Li 2003; Cadogan et al. 2002; French and Cadogan 2012).

In this context, it may be that pursuing different levels of adaptation across different ventures of the firm predicts venture sales performance and venture profit performance. Accordingly, varying the levels of marketing adaptation across ventures may be more or less beneficial for firms depending on which performance category the firm wants to maximize (sales performance or profit performance). Failure to analyze the impact of marketing adaptation across ventures separately for sales performance and for profit performance may, thus, produce less correct recommendations for managers regarding whether they should pursue different levels of marketing adaptation in different ventures. Therefore, a further research gap consists of the need to examine the link between marketing adaptation across ventures and venture performance separately for sales performance and for profit performance.

A similar reasoning to the one just presented may apply to marketing adaptation quantity. It may be that the effect of marketing adaptation quantity on firm export performance varies across sales performance and profit performance. Thus, pursuing higher marketing adaptation quantities may be more or less beneficial for the firm, depending on whether the firm is seeking to maximize export sales performance or export profit performance. Accordingly, failure to examine the marketing adaptation quantity-export performance relationship separately for sales and for profit performance may lead firms to draw incorrect conclusions about the results that can be achieved by increasing marketing adaptation quantity. A further research gap consists, hence, of the need to investigate the impact of marketing adaptation quantity on firm export performance separately for sales performance and for profit performance.
1.7 RESEARCH QUESTIONS

The points made in the previous sections indicate the need to study the relationship between export marketing adaptation and export performance in more depth. Specifically, two crucial research questions need to be addressed:

- **Marketing adaptation across ventures**: we do not know whether firms should practice heterogeneous levels of marketing adaptation across their export ventures in order to boost venture performance or, put differently, we do not know the ideal profile of marketing adaptation that firms ought to pursue across ventures. Does venture performance benefit most from undertaking heterogeneous levels of marketing adaptation across ventures or from using a standardized approach with adaptations being rolled-out across ventures? Furthermore, is the answer to this question contingent upon internal firm resources which support adaptation (namely EMO) and external environmental attributes? Obtaining answers to such questions is of paramount importance for managers, as it may be the case that marketing adaptation needs to be managed in a profile-like way (with some ventures having a great deal of marketing adaptation and others less), and that the ideal adaptation profile to be pursued across ventures depends on internal firm resources (namely, EMO) and on the environments faced by the firm across ventures.

- **Marketing adaptation quantity**: we do not know the amount of marketing adaptation that firms should to pursue in their export operations in order to enhance the export performance levels of their firms. What are the consequences for firms of practicing greater versus smaller adaptation quantities in terms of the overall export performance levels attained?; Also, does the answer to this question depend on internal firm resources supporting adaptation (more specifically, EMO), and on the
environments that firms face in their export operations? The answers to such questions are of extreme importance as they can assist managers in their task of ensuring that the marketing adaptation quantities pursued by their firms are not too high or too low taking into account their firms’ internal resources (namely, EMO) and external export environments.

1.8 RESEARCH CONTRIBUTIONS

This research aims at addressing the research questions outlined in the previous section. More specifically, the objectives of this study are to further current knowledge with regard to the link between export marketing adaptation and export performance, the role of EMO (i.e. a firm resource) as a supporting mechanism of export marketing adaptation, and the external environmental circumstances under which export marketing adaptation is more/less beneficial for export performance. By pursuing such objectives this research makes a number of important theoretical, managerial, and methodological contributions.

First, this study introduces important new perspectives with regard to the link between export marketing adaptation and export performance. More specifically, to the best knowledge of the researcher, this is the first study ever to examine the issue of the profile of marketing adaptation that firms ought to pursue across multiple ventures in order to boost venture performance. In this context, existing venture level studies have focused essentially on whether adapting marketing a single export venture within firms results in enhanced venture level performance across firms. Therefore, this study makes an important contribution as it is the first to investigate the marketing adaptation-performance relationship within firms, i.e. from an internal firm perspective. Furthermore, this study is the first to examine the issue of the marketing adaptation quantity pursued by firms and its relationship with overall export
performance levels. Existing studies adopt a general approach to marketing adaptation, as firms are asked for their general stance when it comes to marketing adaptation and, so far, have not been asked about how much of it they actually do across their export operations. Hence, this study makes an important contribution as it examines the export performance implications of marketing adaptation quantity for the first time. More specifically, this research argues that there are diminishing returns associated with marketing adaptation quantity, which implies a non-linear relationship between the latter and firm export performance. By doing so this study makes an additional contribution since, with rare exceptions, existing export marketing adaptation studies investigate only linear relationships.

Second, this study broadens current knowledge on the role of EMO as a supporting mechanism of adaptation. With the exception of the investigation by Navarro-García, Arenas-Gaitán, and Rondán-Cataluña (2014), existing studies on export marketing adaptation fail to examine the role of EMO as a moderator of the link between export marketing adaptation and export performance. In this context, Navarro-García, Arenas-Gaitán, and Rondán-Cataluña (2014) report a positive role played by EMO on the link between firms’ general stance with regard to marketing adaptation and firm export performance. Grounded on a contingent approach to the RBV of the firm, this study takes the research by Navarro-García, Arenas-Gaitán, and Rondán-Cataluña (2014) further by analyzing whether EMO also acts as a supporting mechanism of marketing adaptation across ventures and of marketing adaptation quantity. By doing so, this research also makes a contribution to the EMO literature as it deepens our understanding of the role of EMO as a moderator of the relationship between strategic predictors and export performance.

Third, this research expands current knowledge in terms of the role of the export environment as a critical contingency in the relationship between marketing adaptation and export performance. In this context, the relatively few studies which examine the moderating role played by the export environment on the export marketing adaptation-export performance link focus either on the degree of marketing adaptation pursued in a single export
venture within firms or on firms’ general stance in terms of marketing adaptation.

Fourth, this study makes an important contribution by making a distinction in terms of the impact of export marketing adaptation on export sales performance and on export profit performance. Existing studies on the link between export marketing adaptation and export performance typically assume that such relationship is identical across sales and profit performance, as not many studies examine the link between export marketing adaptation and export performance separately for sales and profit performance. Nonetheless, export performance and export profit performance constitute distinct dimensions of the export performance construct (Madsen 1987). Furthermore, different firms may have different performance objectives (both in the short and in the long term). It is, hence, very important to study the impact of export marketing adaptation on export performance separately for sales performance and profit performance. In this context, this study makes an important contribution, as it examines the export performance consequences of marketing adaptation across ventures and of marketing adaptation quantity separately for sales performance and for export profit performance.

This research also makes important contributions for managerial practice. Empirical support for the arguments developed in this study can potentially increase the awareness of managers with regard to the different consequences of export marketing adaptation. Specifically, empirical validation of the hypothesized relationships would imply that different ventures within the firm need to be managed differently with regards to the level of marketing adaptation undertaken. It would also raise caution against pursuing high marketing adaptation quantities due to the negative effects which these may have on firm export performance.

Empirical support for the theorized relationships would also inform managers that they can manipulate the usefulness of export marketing adaptation (both across ventures and in terms of the marketing adaptation quantity pursued) by investing in higher levels of EMO. It would also provide
managers with insights in terms of the external environmental conditions under which it is more or less beneficial to adapt marketing across ventures and to pursue higher marketing adaptation quantities. Therefore, empirical corroboration of the relationships specified in this research would contribute to increase managerial awareness of the potential intricacies surrounding the impact of export marketing adaptation on export performance, and provide managers with information which they can use when undertaking export marketing adaptation-related decisions.

Finally, this research makes important methodological contributions. More specifically, this is the first study to adopt a multilevel approach to the investigation of export performance antecedents. Existing export performance studies adopt single level of analysis techniques. In this context, unlike single level based approaches, multilevel models allow the researcher to accurately examine the predictors of variance in outcome variable(s) across multiple lower level units that are nested within the same higher level unit. As such, contrarily to single level approaches, multilevel modelling techniques enable the researcher to accurately analyze the antecedents of performance variations across multiple ventures of the same firm (i.e. the predict of intra-firm variations in export venture level performance).

Therefore, this research is the first of its kind to develop and test intra-firm venture level theory, the latter being an important new angle from which to analyze export performance antecedents. As such, this study makes a notable contribution to the advancement of the export performance research field, constituting a foundation on which future intra-firm export venture level theories can be based.
1.9 OUTLINE OF THESIS STRUCTURE

The remaining of the thesis is organized into seven chapters (see Figure 1.1).

Figure 1.1: Thesis structure.

Chapter 2 provides systematic review of the literature and corroborates the research gaps identified in the present chapter. Subsequently, Chapter 3 draws on Chapter 2 to develop two conceptual models concerning the link
between export marketing adaptation and export performance. The first model analyses the marketing adaptation-performance relationship across ventures (i.e. at the intra-firm export venture level), as well as the potential moderating roles played by EMO and by export environmental differences across ventures on such relationship. The second model examines the link between marketing adaptation quantity and firm export performance, as well as the potential roles of EMO and of firm export environmental differences as moderators of such relationship. Chapter 4 outlines the methodology applied to collect data for purposes of testing the two conceptual models of this research. Chapter 5 describes data processing and profiling. Chapter 6 outlines the development and assessment of the measures used in this study. Chapter 7 concerns the testing of the hypotheses included in the two models of this research. Chapter 8 concludes the thesis by presenting a discussion of the main findings of this research, of its theoretical and managerial implications, of its limitations, and of directions for future research.
CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

Worldwide exporting has grown to surpass eighteen trillion dollars annually and represents more than 25% of global economic activity (World Bank 2014). Exporting is essential not only for firms, but also for nations. In this context, exporting is one of the strategic options for firms to internationalize and has remained the most frequently foreign market entry mode adopted (Sousa, Martínez-López, and Coelho 2008; Zhao and Zou 2002), as it provides firms with high levels of flexibility and requires minimal financial, human, and other resource commitments in comparison to other international entry modes (Leonidou 1995; Sousa 2004; Katsikea, Theodosiou, and Morgan 2007; Morgan and Katsikeas 1997; Young et al. 1989). Exporting renders firms less dependent on their domestic markets and allows firms to serve new customers abroad, thereby enabling them to explore economies of scale and attain lower production costs, and to increase production efficiency. Exporting allows firms to acquire market knowledge, as it often requires them to compete in frequently diverse and less familiar environments (Czinkota 1994). Knowledge acquired in export markets can be applied not only for export purposes, but also in the context of firms’ domestic market operations. As such, exports renders firms more competitive (and, hence, more successful) not only abroad, but also at home.

Additionally, exporting can enable firms to acquire/develop new resources which may be used by firms to gain competitive advantage both abroad and in the domestic market (e.g. Czinkota 1994). For instance, attaining superior export performance levels in a particular export market(s) may require the firm to acquire/develop a specific technology. However, such technology may also give the firm competitive edge in its domestic market (for example, it may allow the firm to manufacture better products than its domestic
competitors), hence contributing to boost the firm’s level of domestic performance. In sum, exporting may play an important role within the firm as a way to decrease production costs, stabilize cyclical demand, reach new markets, and gain competitive advantage (Czinkota 1994; Lages and Montgomery 2004).

Exporting is also very important for public policy makers and researchers. Export activity allows nations to accumulate foreign exchange reserves to finance their imports, to increase their productivity levels, and to create more job opportunities, hence fostering economic and social prosperity (Czinkota 1994; Czinkota and Ronkainen 1995). As a consequence of the importance both for firms and for nations, researchers view exporting as a challenging and promising area or theory development in international marketing (Zou and Stan 1998; Sousa, Martínez-López, and Coelho 2008). Accordingly, there have been numerous studies over the past decades on the predictors of individual businesses’ export performance (Chetty and Hamilton 1993; Leonidou, Katsikeas, and Samiee 2002; Sousa, Martínez-López, and Coelho 2008). Nevertheless, and despite notable advancements with regard to our understanding of the antecedents of export performance, knowledge on the matter still limited and the literature often yields inconsistent results (Sousa, Martínez-López, and Coelho 2008).

Scholars have researched the impact of a wide variety of factors on export performance, including industry factors (e.g. Das 1994; Ito and Pucik 1993), environmental predictors (e.g. Cavusgil and Zou 1994; Cadogan, Kuivalainen, and Sundqvist 2009), and organizational antecedents (e.g. Auquier 1980; Boso, Cadogan, and Story 2012; Morgan, Kaleka, and Katsikeas 2004). Among the factors just outlined, organizational predictors are the ones which have been more frequently investigated. Such may be explained by the fact that organizational predictors are more under the control of firms. Thus, organizational factors can potentially be utilized by firms to shape their levels of export performance. Organizational predictors examined by researchers as antecedents of export performance include managerial characteristics (e.g. Baldauf, Cravens, Wagner 2000; Katsikeas, Piercy, and
Ioannidis 1996), organizational structures (e.g. Auquier 1980; Wengel and Rodriguez 2006), organizational resources (e.g. Boso, Cadogan, and Story 2012; Cadogan, Kuivalainen, and Sundqvist 2009), organizational systems (e.g. Cadogan et al. 2005; Shoham, Evangelista, and Albaum 2002), and organizational strategies (e.g. Aulakh, Kotabe, and Teegen 2000; Cavusgil and Zou 1994; Hultman, Robson, and Katsikeas 2009). In this context, the export performance literature highlights a number of key areas of interest. These are discussed in the following.

Researchers seem to agree that export performance is multidimensional. Two key dimensions of the export performance construct are export sales performance and export profit performance (e.g. Cavusgil and Zou 1994; Cadogan, Kuivalainen, and Sundqvist 2009). Sales-based export performance assessments include measures such as export sales volume, export sales revenue, growth in export sales volume, growth in export sales revenue, export market share, ratio of exports sales revenue to total sales revenue, and ratio of export sales volume to total sales volume. Profit-based assessments of export performance account for costs and include measures such as export return on investment, absolute export profits, and export gross profit margin. The importance of sales and profit performance as two critical dimensions of export performance is in line with the idea that organizational success can be classified into measures that account for costs versus measures that place emphasis on revenues and that do not reflect costs (e.g. Homburg, Müller, and Klarmann 2011; Kirca, Jayachandran, and Bearden 2005; Osinga et al. 2011; Mantrala et al. 2007).

In terms of level of analysis, export performance researchers adopt essentially either the firm level of analysis or the single export venture level of analysis (Oliveira, Cadogan, and Souchon 2012). Firm level studies focus on the overall degree of export performance obtained by the exporting entity (e.g. Aulakh, Kotabe, and Teegen 2000; Brouthers and Xu 2002; Cadogan, Kuivalainen, and Sundqvist 2009; Calantone et al. 2006). Single export venture level studies (e.g. Cavusgil and Zou 1994; Kaleka 2012; Katsikeas, Samiee, and Theodosiou 2006; Hultman, Robson, and Katsikeas 2009)
examine performance attained in a single export venture within the firm, with an export venture being defined as a single product or product line exported by a company to a particular foreign market (Cavusgil and Zou 1994; Morgan, Kaleka, and Katsikeas 2004).

The firm and the single export venture levels of analysis are interconnected because firms (or, more precisely, firms’ export functions) can be thought of as portfolios composed of such firms’ multiple export ventures (Katsikeas, Leonidou, and Morgan 2000; Madsen 1998). One can, therefore, detect the presence of hierarchical ordering in exporting (and, thus, in export performance) with firms consisting of higher level units and firms’ export ventures corresponding to the lower level units which are nested within firms (Oliveira, Cadogan, and Souchon 2012). In this context, as shown in Table 1.1 (which is reproduced again now), export performance theories developed at different levels of analysis are useful for answering different types of research question (Oliveira, Cadogan, and Souchon 2012; Sousa, Martínez-López, and Coelho 2008).
Table 1.1 Levels of theory in export performance research.

<table>
<thead>
<tr>
<th>Phenomenon examined</th>
<th>Type of research question addressed</th>
<th>Usefulness</th>
<th>Covered by existing studies?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm level</td>
<td>Inter-firm variations in firm export performance</td>
<td>What variables determine how firm export performance varies across firms?</td>
<td>Yes - Many Studies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identification of variables that enhance the overall export performance of firms</td>
<td></td>
</tr>
<tr>
<td>Level of theory</td>
<td>Single export venture level</td>
<td>Inter-firm variations in performance with regard to a single export venture</td>
<td>Yes - Many Studies</td>
</tr>
<tr>
<td>Intra-firm export venture level</td>
<td>Intra-firm variations in performance across individual ventures within firms</td>
<td>What variables determine how the performance of individual export ventures varies within firms?</td>
<td>No - Research Gap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identification of variables that enhance individual venture performance across firms’ export ventures</td>
<td></td>
</tr>
</tbody>
</table>

Adapted from Oliveira, Cadogan, and Souchon (2012)
Theories constructed at the firm level (first row, Table 1.1) examine why some firms surpass others in terms of the degree of firm level export performance achieved. Firm level investigations have an external orientation, as they focus on export performance variations across firms (i.e. on inter-firm variations in firm export performance). Firm level investigations have direct and obvious value, as they result in the identification of the predictors that shape the overall export performance of firms (Oliveira, Cadogan, and Souchon 2012).

Theories developed at the single export venture level (second row, Table 1.1) investigate why the performance achieved in a single export venture within the firm varies across firms. Single export venture level studies also have an external orientation since they also analyze inter-firm variations in export performance (in this case, with regard to a single export venture within firms). Single export venture level studies may be useful for purposes of researching the export activities of firms which are starting export operations and operate in only one export venture (Oliveira, Cadogan, and Souchon 2012), or in situations where the single venture under investigation is highly important or influential for the firm.

Theories constructed at the intra-firm export venture level (third row, Table 1.1) analyze why, within the same firm, different export ventures exhibit different performance levels. Intra-firm export venture level studies have an internal orientation, as they examine performance variations within the firm. Intra-firm export venture level theories are important as they provide managers with insights into how to boost individual venture performance levels which, in turn, contributes to enhanced firm export performance (Oliveira, Cadogan, and Souchon 2012).

In this context, while there have been many studies undertaken at the firm and at the single export venture levels of analysis, there is a lack of intra-firm export venture level research. This is unfortunate, as it may be the case that there are variations in performance across different export ventures of the same firm (Cavusgil and Zou 1994). Also, it may be that the variables that
determine venture performance are different for different ventures of the same firm. Therefore, managers need to know whether there are factors that lead to variations in performance on an intra-firm venture basis, so that they can increase individual venture performance across their firm’s ventures. There is, thus, a need for models which examine whether performance variations occur at the intra-firm export venture level and, if such is the case, the variables that explain such variations.

As mentioned previously, organizational predictors of export performance are the ones which have been more frequently examined by researchers. In this context, the literature highlights export marketing adaptation as a crucial predictor of export performance (e.g. Sousa, Martínez-López, and Coelho 2008; Tan and Sousa 2011, 2013; Theodosiou and Leonidou 2003; Zou and Stan 1998). Researchers have provided different conceptualizations of the export marketing adaptation construct (Ryans, Griffith, and White 2003). However, at a broad level, export marketing adaptation can be defined as the adaptation of the firm’s marketing across international markets (e.g. Aulakh, Kotabe, and Teegen 2000). In this context, despite intense research efforts, empirical results on the marketing adaptation-performance relationship have been inconsistent and frequently contradictory (Sousa, Martínez-López, and Coelho 2008; Tan and Sousa 2013; Theodosiou and Leonidou 2003). This creates difficulties for academic researchers and for managers in terms of their attempts to advance theory and management practice in the field (Tan and Sousa 2013). One may argue, hence, that there is a need for a deeper investigation of the relationship between export marketing adaptation and export performance.

In this context, research has overlooked two critical research questions. The first relates to the issue of export marketing adaptation across ventures or, more precisely, to whether firms should vary the extent to which they adapt the marketing activities of a given product in different venture markets relative to a base market in order to increase venture performance. This corresponds to the issue of the ideal profile of marketing adaptation that firms ought to undertake across ventures so as to boost venture performance. Such issue is extremely
important for managers due to the considerable implications it may have for firms in terms of the performance levels they attain across individual ventures.

Pursuing different levels of marketing adaptation in different ventures may be beneficial for the firm, as it potentially allows enables the firm to meet the idiosyncratic characteristics of individual venture markets (for instance, in terms of customers’ tastes and preferences). However, undertaking different levels of adaptation across ventures may also entail disadvantages. For instance, it may increase the level of complexity of the firm’s export operations, thus enhancing the level of strain exerted over the firm’s management. Consequently, the quality of the marketing delivered in each venture market may be reduced, thereby harming individual venture performance levels. Also, varying the level of marketing adaptation across different markets may increase venture costs as it may, for instance, require the firm to carry-out additional investments in plants and other resources, as well as in terms of the marketing research activities undertaken in each market, or contribute to diminish the economies of scale and/or scope attained by the firm in its export operations. As such, undertaking different levels of marketing adaptation across ventures may result in an increase in the unit costs attained in each venture and, thus, in diminished venture performance.

The question of whether or not firms ought to vary the level of marketing adaptation across different ventures, i.e. the ideal profile of marketing adaptation that firms should to pursue across ventures is of extreme relevance for firms. It may be that, in order to enhance performance levels across ventures, marketing adaptation needs to be managed in a profile-like way, with some ventures having a great deal of marketing adaptation and others less. This issue remains uninspected in the literature, as existing venture level studies on the link between marketing adaptation and performance focus solely on a single export venture within firms. Hence, single venture level studies do not address the issue of the profile of adaptation firms need to pursue across ventures. Researchers have overlooked the question of whether adapting differently in different ventures is or not beneficial for venture performance due to the fact that inter-venture differences in performance
within firms are never examined. Hence, a first research gap consists of the need to investigate the link between export marketing adaptation and export performance at the intra-firm export venture level (i.e. across multiple export ventures of the same firm).

The second critical research question relates to the issue of the marketing adaptation quantity that firms ought to pursue in their export operations in order to boost export performance levels of their firms. Existing studies pursue a general approach to marketing adaptation, because firms are asked for their general stance in terms of marketing adaptation (i.e. “yes we do it/ no we do not do it”) and, so far, have not been asked about how much marketing adaptation they actually do across their export operations.

To illustrate the point just made, consider, for example, the case of two firms operating in a different number of ventures (“Firm A” and “Firm B”). “Firm A” operates in 2 ventures and carries-out an “X” amount of marketing adaptation in each of them. “Firm B” has 100 ventures and pursues the same amount of adaptation in each of its ventures as “Firm A” (i.e. “Firm B” also undertakes an “X” amount of adaptation in each of its ventures). While both firms exhibit the same general approach to (i.e. “X” much adaptation) it is evident that “Firm B” pursues much more marketing than “Firm A”. As the fictitious example just outlined demonstrates, different firms may have a general stance that is similar in terms of their approach to marketing adaptation, but carry-out different marketing adaptation quantities. However, existing studies on adaptation fail to tap into the differences in terms of marketing adaptation quantity undertaken by different firms.

The lack of research on the relationship between marketing adaptation quantity and firm export performance is troublesome since the adaptation quantities pursued by firms can have important implications in terms of the overall levels of export performance achieved. For instance, it is plausible to anticipate that ever-greater marketing adaptation quantity will not always be beneficial for firm export performance, especially if it implies a rise in the costs associated with coordinating the management of a more complex structure.
Such costs come in the form of, for example, greater managerial information-processing demands, higher levels of strain exerted over management, enhanced logistical costs, or greater error-related costs (e.g. Hitt, Hoskinson, and Kim 1997; Lu and Beamish 2004; Steenkamp 2014). Hence, it seems fundamental to answer the question of whether the relationship between marketing adaptation quantity and firm export performance changes as marketing adaptation quantity rises because, if that is the case, managers need to manage the marketing adaptation quantity pursued by their firms in order to make sure that it is not too high or too low.

Additionally, for example, venture level assessment might indicate that ever-increasing marketing adaptation always enhances venture success but, when assessed at the firm level, the implication is that costs which may not be at the venture level - or (apparently) remote from the ventures themselves – enhance as marketing adaptation quantity becomes greater, such that firm export success may suffer even though the ventures themselves appear to be performing well. The issue relating to the marketing adaptation quantity that firms ought to pursue is, therefore, of paramount relevance for managers. Hence, a second research gap consists of the need to investigate the relationship between marketing adaptation quantity and firm export performance.

An additional key area of interest concerns EMO. As Sousa, Martínez-López, and Coelho (2008) pinpoint in their literature review of the predictors of export performance, EMO has emerged as a critical export performance antecedent (e.g. Cadogan et al. 2002; Murray Gao, and Kotabe 2011). In this context, market orientation is best defined as the business unit level culture which most effectively and efficiently produces the necessary behaviors for the creation of superior value for buyers and, therefore, of continuous superior performance for the business (e.g. Kohli and Jaworski 1990; Narver and Slater 1990). Export market-oriented firms consistently identify and respond to customers’ current needs and preferences and are capable of anticipating future needs and preferences, thus being in a better position to satisfy
customers and perform well relative to competitors (Cadogan, Diamantopoulos and Siguaw 2002).

While existing EMO studies focus mostly on the direct link between EMO and export performance, there is a growing body of research indicating that EMO also plays a supporting role, leveraging the positive effect of other strategic predictors on export performance (i.e. positively moderating the link between other antecedents and export performance). For instance, Boso, Cadogan, and Story (2012, 2013) find that EMO acts as a facilitating mechanism of export entrepreneurial behavior, enhancing its relationship with firm export performance. In a similar vein, Cadogan et al. (2012) report a positive moderating effect of EMO on the link between strategic flexibilities and firm export performance. Nonetheless, research on the role of EMO as a facilitating mechanism of other strategic antecedents of export performance is still in its early stages. There is, thus, a need for further studies which broaden our knowledge in terms of the role of EMO as a moderator of the relationship between strategic predictors and export performance.

As outlined previously, undertaking different levels of marketing adaptation across ventures may be beneficial for individual venture level performance. Assuming that such is the case, a crucial question remains in terms of the kinds of supporting mechanisms that firms may call on to help them offer high quality marketing adaptation across venture markets. Drawing on a contingency approach to the resource-based view (RBV) of the firm (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hitt et al. 2001), a primary candidate as a supporting mechanism of adaptation is EMO. The underlying reasoning is that export market-oriented activity can be viewed as a business resource that helps firms in attaining positions of sustainable competitive advantage and, thus, superior business performance (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hult and Ketchen 2001; Hunt and Morgan 1995). EMO makes firms wiser with regard to their export efforts (e.g. Boso, Cadogan, and Story 2012) and, more specifically, with regard to their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014). More export market-oriented firms may be, thus, in a better position to
pursue the right kinds of marketing adaptations across ventures. Put differently, EMO may positively moderate the relationship between marketing adaptation and performance across multiple ventures of the same firm. A further research gap consists, hence, of the need to examine the potential moderating effect of EMO on the link between marketing adaptation and performance at the intra-firm export venture level.

A similar logic to the one just presented may apply to marketing adaptation quantity. In this context, a critical question remains regarding the kinds of supporting mechanisms that firms can use to assist them with regard to delivering high quality marketing adaptation. Adopting a contingency perspective to the RBV of the firm (e.g. Hitt et al. 2001), a key candidate as a supporting mechanism of marketing adaptation quantity is EMO. Since that EMO renders firms wiser in terms of their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014), firms exhibiting greater levels of EMO may be better positioned to adapt marketing more effectively and/or efficiently. In other words, it may be the case that EMO positively moderates the link between marketing adaptation quantity and firm export performance. An additional research gap consists, this, of the need to investigate the potential moderating role played by EMO on the relationship between marketing adaptation quantity and firm export performance.

A further key area of interest in the literature concerns the export environment. As defended previously, carrying-out different levels of marketing adaptation in different ventures may bring benefits for individual venture performance. In this context, a critical research question remains in terms of whether the usefulness of varying the level of marketing adaptation across different ventures depends on the environmental attributes of the venture markets served. Grounded on a contingency approach to business strategy (e.g. Venkatraman and Prescott 1990), a number of studies suggest that the export environment is a crucial moderator of the link between marketing adaptation and export performance (e.g. Chung, Wang, and Huang 2012; Li 2010). The underlying reasoning is that the suitability of a particular degree of export marketing adaptation in terms of maximizing export performance is
contingent upon the degree to which it fits the characteristics of the export environment.

In this context, it may be that the usefulness of pursuing different levels of adaptation across ventures in terms of optimizing individual venture performance levels is contingent upon the environmental attributes faced across venture markets. More precisely, one may argue that the benefits brought by adapting marketing are more observable in cases where venture markets differ in some ways (e.g. in cases where customers’ needs are not homogeneous across venture markets). The underlying reasoning is that, in such cases, it may be more important to adapt marketing across ventures so as to meet the idiosyncrasies of different venture markets. It may be, therefore, the case that the degree of environmental differences which the firm encounters across venture markets positively moderates the relationship between marketing adaptation across ventures and venture performance. A further research gap consists, thus, of the need to investigate the potential role played by export environmental differences in determining the need for marketing adaptation across ventures.

A similar logic to the one just presented may apply to marketing adaptation quantity. In this context, a critical research question remains regarding whether the usefulness of marketing adaptation quantity is contingent upon the environmental characteristics faced by the firm in its export operations. Adopting a contingency approach to business strategy (e.g. Zajac, Kraatz, and Bresser 2000), one may argue that the benefits resulting from marketing adaptation quantity are greater when the firm’s export markets are more heterogeneous with regard to their environments. The idea is that, in such circumstances, it may be more necessary for the firm to undertake greater marketing adaptation quantities in order to meet the environmental idiosyncrasies of its export markets. It may be, thus, that the overall degree of environmental differences the firm faces in its export operations moderates the relationship between marketing adaptation quantity and firm export performance. Thus, an additional research gap consists of the need to
examine the potential role played by firm export environmental differences in determining the need for marketing adaptation quantity.

Madsen (1987) argues that export sales and export profits are two crucial dimensions of export performance. Examples of sales-based assessments of export performance are export sales volume, export sales revenue, growth in export sales volume, growth in export sales revenue, export market share, ratio of exports sales revenue to total sales revenue, and ratio of export sales volume to total sales volume. Profit-based measurements account for costs and include measures such as export return on investment, absolute export profits, and export gross profit margin.

The majority of existing studies on the link between export marketing adaptation and export performance implicitly assume that such relationship is the same across all the dimensions of performance. The reason for this is that researchers frequently use broad assessments of export performance which encompass multiple dimensions of this construct. This is regrettable, as a number of studies indicate that the effect of a given export performance predictor on export performance may vary across sales performance and profit performance. For example, research shows that EMO behavior affects export sales performance and export profit performance differently (e.g. Cadogan, Cui, and Li 2003; Cadogan et al. 2002; French and Cadogan 2012).

In this context, it may be that undertaking different levels of adaptation across different ventures of the firm predicts venture sales performance and venture profit performance differently. Accordingly, varying the levels of marketing adaptation across ventures may be more or less beneficial for firms depending on which performance dimension the firm wants to maximize (sales performance or profit performance). Failure to analyze the impact of marketing adaptation across ventures separately for sales performance and for profit performance may, thus, produce less correct recommendations for managers regarding whether they should pursue different levels of marketing adaptation in different ventures. Therefore, a further research gap consists of the need to
examine the link between marketing adaptation across ventures and venture performance separately for sales performance and for profit performance.

A similar reasoning to the one just presented may apply to marketing adaptation quantity. It may be that the effect of marketing adaptation quantity on firm export performance varies across sales performance and profit performance. Thus, pursuing higher marketing adaptation quantities may be more or less beneficial for the firm, depending on whether the firm is seeking to maximize firm export sales performance or firm export profit performance. Accordingly, failure to examine the marketing adaptation quantity-firm export performance relationship separately for sales and for profit performance may lead firms to draw incorrect conclusions about the results that can be achieved by increasing marketing adaptation quantity. A further research gap consists, hence, of the need to investigate the impact of marketing adaptation quantity on firm level export performance separately for sales performance and for profit performance.

In this context, it may be that the impact of undertaking different levels of adaptation across ventures on venture performance varies across sales performance profit performance. Varying the levels of marketing adaptation across ventures may, therefore, be more or less beneficial for firms depending on which performance dimension the firm wants to maximize (sales performance or profit performance). Failure to examine the impact of marketing adaptation across ventures on venture performance separately for sales performance and for profit performance may, thus, produce less precise managerial recommendations in terms of whether firms ought to pursue different levels of marketing adaptation across ventures. Therefore, an additional research gap consists of the need to investigate the relationship between marketing adaptation across ventures and venture performance separately for sales performance and profit performance.

A similar logic may also apply to marketing adaptation quantity. It may be the case that the impact of marketing adaptation quantity on firm export performance is different for sales and for profit performance. Undertaking
greater marketing adaptation quantities may, therefore, be more or less beneficial for the firm depending on whether the firm aims at optimizing export sales performance or export profit performance. Hence, failure to investigate the marketing adaptation quantity-firm export performance relationship separately for sales and for profit performance can lead firms to draw inaccurate conclusions about the results that can be attained by raising marketing adaptation quantity. A further research gap consists, thus, of the need to investigate the effect of marketing adaptation quantity on firm export performance in a separate manner for sales performance and for profit performance.

The preceding discussion highlighted a number of important research gaps. These relate to the need for a deeper investigation of the link between export marketing adaptation and export performance. More specifically, it is necessary to study the link between export marketing adaptation and export performance at the intra-firm export venture level (i.e. across multiple export ventures of the same firm), and to examine the relationship between marketing adaptation quantity and firm export performance. Researchers also need to analyze the potential moderating roles of EMO and of the export environment on the two aforementioned relationships. It is also necessary that researchers examine the relationship between marketing adaptation across ventures and venture performance and the link between marketing adaptation quantity and firm export performance separately for sales and profit performance.

2.2 CHAPTER ORGANIZATION

In the remaining of the present chapter a review of the pertinent literature is undertaken. More specifically, section 2.3 presents a discussion of the conceptualization export performance. Section 2.4 discusses level of analysis issues. Sections 2.5 and 2.6 provide an overview of two key predictors of export performance, namely export marketing adaptation and
EMO. Section 2.7 demonstrates the existence of two critical research gaps in the literature. These concern the lack of research on the link between marketing adaptation across ventures and venture performance and on the relationship between marketing adaptation quantity and firm export performance. Section 2.7 provides a summary of the research gaps identified in section 2.6 and describes how the current study proposes to address them.

2.3 EXPORT PERFORMANCE

Scholars tend to agree that export performance is a multidimensional construct (e.g. Cadogan et al. 2005; Cavusgil and Zou 1994; Katsikeas, Leonidou, and Morgan 2000; Zou, Taylor, and Osland 1998). As illustrated in Table 2.1, two broad categories of export performance examined by researchers are export sales performance and export profit performance (Cadogan, Kuivalainen, and Sundqvist 2009; Kuivalainen, Sundqvist, and Servais 2007; Morgan, Katsikeas, and Vorhies 2012; Zou, Taylor, and Osland 1998). Sales-based assessments of export performance range across numerous outcomes, including export sales volume, export sales revenue, and export market share. Profit-based assessments take into consideration costs and range across differing outcomes such as export return on investment, export profit margin. As shown in Table 2.1 researchers have captured the sales/profit categories of export performance using a variety of indicators.
Table 2.1 Export performance measurement.

<table>
<thead>
<tr>
<th>Export Performance Category</th>
<th>Examples of indicators used</th>
<th>Illustrative studies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Growth in export sales revenue</td>
<td>Lages, Jap, and Griffith 2008; Morgan, Katsikeas, and Vorhies 2012</td>
</tr>
<tr>
<td></td>
<td>Percentage of export sales to total sales</td>
<td>Bonaccorsi 1992; Francis and Collins-Dodd 2000; Shoham 1998, 1999; Sousa and Bradley 2008; Sousa and Lengler 2009; Zou, Andrus, and Norvell 1997</td>
</tr>
<tr>
<td></td>
<td>Growth in percentage of export sales to total sales</td>
<td>Francis and Collins-Dodd 2000; Shoham 1998</td>
</tr>
<tr>
<td></td>
<td>Growth in export market share</td>
<td>Morgan, Katsikeas, and Vorhies 2012; Shoham 1998</td>
</tr>
<tr>
<td>Profit Performance</td>
<td>Return on investment</td>
<td>Hultman, Robson, and Katsikeas 2009; Katsikeas, Samiee, and Theodosiou 2006</td>
</tr>
<tr>
<td></td>
<td>Growth in export profit margin</td>
<td>Shoham 1998</td>
</tr>
</tbody>
</table>
The relevance of export sales performance and export profit performance as two crucial dimensions of export performance is in accordance with the notion that organizational success can be classified into measures that account for costs versus measures that emphasize revenues and that do not reflect costs (cf. Homburg, Müller, and Klarmann 2011; Mantrala et al. 2007).

### 2.4 LEVEL OF ANALYSIS

Researchers that examine the predictors of export performance from a business perspective typically use either the firm or the single export venture level of analysis (Oliveira, Cadogan, and Souchon 2012). Firm level investigations focus on the overall degree of export performance obtained by the exporting entity (e.g. Kuivalainen, Sundqvist, and Servais 2007; Brouthers and Xu 2002; Cadogan et al. 2012; Calantone et al. 2006; Souchon, Sy-Changco, and Dewsnap 2012). Single export venture level investigations (e.g. Cavusgil and Zou 1994; Kaleka 2012; Katsikeas, Samiee, and Theodosiou 2006; Morgan, Katsikeas, and Vorhies 2012) focus on the performance attained in a single export venture within the firm, with an export venture being defined as a single product or product line exported by a company to a particular foreign market (Cavusgil and Zou 1994; Morgan, Kaleka, and Katsikeas 2004).

The firm and the single export venture level of analysis are interconnected because firms can be thought of as portfolios composed of such firms’ various export ventures (Katsikeas, Leonidou, and Morgan 2000; Madsen 1998). One can, thus, verify the presence of hierarchical ordering in exporting (and, thus, in export performance), with firms corresponding to higher level units and firms’ export ventures being lower level units which are nested within the firms (Oliveira, Cadogan, and Souchon 2012). In their article of levels issues in export performance, Oliveira Cadogan, and Souchon (2012)
highlight that export performance theories developed at different levels of analysis are suitable for purposes of answering different types of research questions. See Table 2.2.
### Table 2.2 Levels of theory in export performance studies.

<table>
<thead>
<tr>
<th>Level of theory</th>
<th>Phenomenon examined</th>
<th>Type of research question addressed</th>
<th>Usefulness</th>
<th>Covered by existing studies?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Firm level</strong></td>
<td>Inter-firm variations in firm export performance</td>
<td>What variables determine how firm export performance varies across firms?</td>
<td>Identification of variables that enhance the overall export performance of firms</td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td><strong>Single export venture level</strong></td>
<td>Inter-firm variations in performance with regard to a single export venture</td>
<td>What variables determine how the performance of a single export venture varies across firms?</td>
<td>Identification of variables that lead to single venture success (useful for firms that only have one export venture)</td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td><strong>Intra-firm export venture level</strong></td>
<td>Intra-firm variations in performance across individual ventures within firms</td>
<td>What variables determine how the performance of individual export ventures varies within firms?</td>
<td>Identification of variables that enhance individual venture performance across firms’ export ventures</td>
<td><strong>No</strong></td>
</tr>
</tbody>
</table>

*Adapted from Oliveira, Cadogan, and Souchon (2012)*
Theories constructed at the firm level (first row, Table 2.2) investigate why some firms surpass others in terms of the degree of firm level export performance achieved. Firm level investigations have an external orientation because they focus on export performance variations across firms (i.e. on inter-firm variations in firm export performance). Firm level investigations have immediate and evident value, as they result in the identification of the factors that shape the overall export performance of firms (Oliveira, Cadogan, and Souchon 2012).

Theories constructed at the single export venture level (second row, Table 2.2) investigate why the performance attained in a single export venture within the firm varies across firms. Single export venture level studies also have an external orientation, because they also examine inter-firm variations in export performance (more specifically, with regard to a single export venture within firms). Single export venture level studies can be useful for purposes of analyzing the export activities of firms that are starting export operations, and have only one export venture (Oliveira, Cadogan, and Souchon 2012), or in cases where the single venture under study is very important or influential for the firm.

Theories developed at the intra-firm export venture level (third row, Table 2.2) examine why, within the same firm, different export ventures exhibit different levels of performance. Intra-firm export venture level investigations have an internal orientation, because they examine performance variations within the firm. Intra-firm export venture level theories are important since they provide managers with insights in terms of how to leverage venture performance levels across individual ventures which, in turn, contributes to enhanced firm export performance (Oliveira, Cadogan, and Souchon 2012).

As shown in Table 2.2, there have been numerous studies conducted at the firm level and at the single export venture level. However, there is a lack of research conducted at the intra-firm export venture level, i.e., there are no studies examining how the performance of individual export ventures varies within firms. This is regrettable, since it may be that there are variations in
performance across different export ventures of the same firm (Cavusgil and Zou 1994). Also, it may be the case that the variables that predict venture performance are different across the firm’s different ventures. Accordingly, it is imperative that managers know whether there are factors that lead to variations in performance on an intra-firm venture basis so that they can boost individual venture performance levels within firms. There is, thus, a need for models which analyze whether performance variations occur at the intra-firm export venture level and, if such is the case, the factors that explain such variations.

2.5 CORE DETERMINANTS OF EXPORT PERFORMANCE:
EXPORT MARKETING ADAPTATION

As highlighted in previous literature reviews and meta-analyses (e.g. Leonidou, Katsikeas, and Samiee 2002; Sousa, Martínez-López, and Coelho 2008; Tan and Sousa 2011, 2013; Theodosiou and Leonidou 2003; Zou and Stan 1998), export marketing adaptation constitutes a key predictor of export performance. The literature provides different conceptualizations of export marketing adaptation (Ryans, Griffith, and White 2003).

In the current literature, export marketing adaptation is usually viewed as variance in the marketing mix pursued in a particular export venture relative to a key benchmark market, typically the domestic market or a key export market (e.g. Chung 2003; Katsikeas, Samiee, and Theodosiou 2006). According to this perspective, export marketing adaptation is conceptualized as the extent to which the marketing mix of a specific product changes in a specific export venture market from how such product is marketed elsewhere (e.g. in the domestic market or in a key export market). Variance in the marketing mix pursued at the venture level can also be seen in a profile-like manner. More specifically, one can examine the extent of marketing mix adaptation pursued for a particular product across multiple venture markets of
the firm relative to a benchmark market (e.g. a key export market). For instance, it may be the case that the marketing mix of a particular product differs considerably in some of the firm’s ventures in comparison to how the product is marketed in a benchmark market, while in other venture markets the marketing mix pursued for the product is only moderately different than the marketing mix adopted in the benchmark. Alternatively, the firm may adopt a different profile of marketing adaptation and sell the product across different venture markets using a similar marketing mix to the one adopted in a benchmark market.

At the more holistic level of the entire firm, export marketing adaptation may take on a different meaning. Specifically, although it is possible to categorize firms according to some general stance they adopt in terms of adapting marketing to foreign markets (e.g. the firm might adopt a global marketing and maintain a relatively constant approach to its marketing across all its export markets) it is also possible to look at export marketing adaptation in a more quantitative light. That is, one can compare the total amount of export marketing adaptation that firms undertake. Specifically, even if two firms adopt identical stances in terms of a global marketing strategy (for instance, they both adapt some aspects of their marketing mix to the local conditions of their export markets, while keeping other marketing mix components standard globally), the firms will still vary in terms of the amount (i.e. quantity) of marketing adaptation they have to undertake, simply because of differences in their scales of operations. The firm with a greater scale of export operations will need to do more adaptation relative to the firm with a lesser scale of export operations.

To illustrate the point just made, consider, for instance, the case of two firms operating in a different number of ventures ("Firm A" and "Firm B"). "Firm A" operates in 2 ventures and carries-out an "X" amount of marketing adaptation in each of them. "Firm B" has 100 ventures and pursues the same amount of adaptation in each of its ventures as "Firm A" (i.e. "Firm B" also undertakes an "X" amount of adaptation in each of its ventures). While both firms adopt the same stance in terms of adapting marketing to foreign markets
(i.e. they pursue “X” much adaptation in their export operations) it is evident that marketing adaptation quantity varies across them. More specifically, “Firm B” pursues a much greater quantity of marketing than “Firm A”, simply because the scale of export operations of “Firm B” is much greater than the one of "Firm A" (more specifically, “Firm B” operates in 100 ventures, while “Firm A” only operates in 2 ventures). As demonstrated in the preceding discussion, export marketing adaptation can be conceptualized in different manners.

There are three competing views concerning the impact of export marketing adaptation on export performance. Those are the standardization approach, the adaptation perspective, and the contingency approach (Ryans, Griffith, and White 2003; Theodosiou and Leonidou 2003; Zou, Andrus, and Norvell 1997). Such perspectives are now discussed.

Supporters of the standardization perspective highlight the increased levels of convergence of consumer needs, tastes and preferences, and the greater levels of market similarity and technological uniformity which result from globalization (e.g. Levitt 1983; Ohmae 1985). Standardization of firms’ global strategies is further enabled by the growth of international communication channels, the emergence of global markets, and the widespread use of the Internet. Carrying-out a standardized global strategy can bring offer benefits to firms, including significant economies of scale across all value-adding activities, consistency in terms of corporate/brand image across countries, and diminished levels of managerial complexity, (Levitt 1983; Douglas and Craig 1986; Yip, Loewe, and Yoshino 1988).

Advocates of the adaptation perspective contend that, despite globalization trends, differences across countries in dimensions such as consumer needs, product usage conditions, purchasing power, commercial infrastructure, culture and traditions, and laws and regulations are still too great. Firms need, hence, to adjust their marketing to the idiosyncratic attributes of each foreign market (Terpstra and Sarathy 1994). Additionally, a firm’s ultimate goal is not cost reduction via standardization, but long-term profitability through higher sales. The latter result from a better exploitation of
the differences in consumer needs across countries (Onkvisit and Shaw 1990; Rosen 1990; Whitelock and Pimblett 1997).

Proponents of the contingency approach defend that standardization or adaptation should not to be seen in isolation from each other, but as two ends of the same continuum. The choice to standardize or adapt is a strategic decision that ought to depend on the situations firms face both internally and externally, and should be the result of an analysis and assessment of the relevant contingency factors which characterize each specific market at a particular moment in time. The appropriateness of a particular level of adaptation ought to be evaluated on the basis of its alignment or fit with internal and external environmental contingencies (Cavusgil and Zou 1994; Hultman, Robson, and Katsikeas 2009; Jain 1989; Katsikeas, Samiee, and Theodosiou 2006; Onkvisit and Shaw 1987; Quelch and Hoff 1986; Theodosiou and Leonidou 2003).

In spite of intense research efforts, empirical results on the relationship between marketing adaptation and export performance have been inconsistent and frequently contradictory (Sousa, Martínez-López, and Coelho 2008; Tan and Sousa 2013; Theodosiou and Leonidou 2003). This creates difficulties for academic researchers and for managers regarding their attempts to advance theory and management practice in the field (Tan and Sousa 2013). One may argue, hence, that there is a need for a more profound examination of the relationship.

2.6 CORE DETERMINANTS OF EXPORT PERFORMANCE: EMO

As highlighted by Sousa, Martínez-López, and Coelho (2008) in their literature review of the antecedents of export performance, EMO has emerged as a critical predictor of export performance (e.g. Akyol and Akehurst 2003; Boso, Cadogan and Story. 2012; Cadogan, Diamantopoulos, and Siguaw 2002;
Market orientation is best defined as the business unit level culture which most effectively and efficiently produces the necessary behaviors for the creation of superior value for buyers and, thus, of continuous superior performance for the business (e.g. Kohli and Jaworski 1990; Narver and Slater 1990). Export market-oriented firms consistently identify and respond to customers’ current needs and preferences and are capable of anticipating future needs and preferences, hence being better positioned to satisfy customers and perform well against competitors (Cadogan, Diamantopoulos, and Siguaw 2002). Accordingly, EMO can be considered as a business resource which assists firms in terms of attaining positions of sustainable competitive advantage and, thus, superior business performance (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hult and Ketchen 2001; Hunt and Morgan 1995).

Existing EMO research focuses mainly on the direct link between EMO and export performance (e.g. Akyol and Akehurst 2003; Cadogan, Diamantopoulos, and Siguaw 2002; Cadogan et al. 2002; Murray, Gao, and Kotabe 2011). There is, however, a growing body of evidence indicating that EMO also plays a supporting role, enhancing the positive effect of other strategic predictors on export performance. For instance, Boso, Cadogan, and Story (2012, 2013) find that EMO acts as a supporting mechanism of export entrepreneurial behavior, boosting its relationship with firm export performance. In a similar vein, Cadogan et al. (2012) report a positive moderating effect played by EMO on the link between strategic flexibilities and firm export performance. Research analyzing the role of EMO as a supporting mechanism of other strategic export performance predictors is, however, still in its early stages. Therefore, there is the need for further studies which expand our knowledge regarding the role of EMO as a moderator of the link between strategic antecedents and export performance.
2.7 RESEARCH GAPS

2.7.1 Introduction

This section provides a discussion of crucial research gaps in the export performance literature. Such gaps relate to the relationship between export marketing adaptation and export performance and concern of two main research questions. The first concerns the ideal profile of marketing adaptation to be pursued across ventures. More specifically, it relates to whether firms should vary the extent to which they adapt a given product in different venture markets relative to a base market in order to enhance venture performance, and whether the answer to such question is contingent upon internal firm resources which support adaptation (more specifically, EMO) and external environmental attributes. The second research question concerns how much marketing adaptation quantity firms should pursue in their export operations in order to boost their export performance, and whether the answer such question will also be dependent on the internal firm resources supporting adaptation (more specifically, EMO), and on the environments that firms encounter in their export operations.

In order to demonstrate that the research gaps which were just outlined do in fact exist, a review of the empirical studies on the link between export marketing adaptation and export performance was undertaken. Table 2.3 contains a summary of the main findings of such review.
### Table 2.3 Empirical studies on the link between export marketing adaptation and export performance.

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<tr>
<th>Author(s)</th>
<th>Theory</th>
<th>Level of analysis</th>
<th>How adaptation is conceptualized</th>
<th>Performance indicators</th>
<th>Results</th>
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<th>Export environmental differences examined as moderators of the link between marketing adaptation across ventures and venture performance?</th>
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79
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<td>Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014</td>
<td>Resource-based view; Structure–Conduct–Performance paradigm; Relational paradigm</td>
<td>Firm</td>
<td>Extent of adaptation</td>
<td>Export sales performance</td>
<td>Adaptation enhances performance; relationship is positively moderated by EMO</td>
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| | | | Type of variance in export performance examined | Marketing adaptation across ventures examined? | EMO examined as moderator of the link between marketing adaptation across ventures and venture performance? | Export environmental differences examined as moderators of the link between marketing adaptation across ventures and venture performance? | Marketing adaptation quantity examined? | EMO examined as moderator of marketing adaptation quantity-performance link? | Export environmental differences examined as moderators of marketing adaptation quantity-performance link? |
|-----------|--------|-------------------|---------------------------------|------------------------|---------|-----------------|-----------------|-----------------|-----------------|----------------|
| Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014 | Resource-based view; Structure–Conduct–Performance paradigm; Relational paradigm | Firm | Extent of adaptation | Export sales performance | Adaptation enhances performance; relationship is positively moderated by EMO | No | No | No | No | No | No |

87
2.7.2 Export marketing adaptation

Export markets tend to vary to some degree in terms of their environmental attributes (e.g. Boddewyn, Soehl, and Picard 1986; Douglas and Wind 1987). A number of studies suggest that, for a single export venture of the firm, superior venture performance is the result of the degree to which the marketing pursued in such venture fits (or is coaligned with) the environmental attributes of the venture market (e.g. Cavusgil and Zou 1994; Katsikeas, Samiee, and Theodosiou 2006). The implication of this finding for managerial practice is that, for a single export venture within the firm, marketing ought to be adapted so as to meet the environmental circumstances of the venture market. However, the literature does not answer two critical research questions. These are now discussed.

2.7.2.1 Marketing adaptation across ventures

The first research question concerns the issue of export marketing adaptation across ventures or, more precisely, whether firms should vary the extent to which they adapt the marketing activities of a particular product in different venture markets relative to a base market in order to boost venture performance. This corresponds to the issue of the ideal profile of marketing adaptation that firms ought to undertake pursue across ventures so as to maximize venture performance.

Pursuing different levels of marketing adaptation in different ventures may be beneficial for the firm, as it potentially allows the firm to meet the idiosyncratic characteristics of individual venture markets (for example, in terms of customers' tastes and preferences). Nonetheless, carrying-out different levels of adaptation across ventures may also entail disadvantages. For instance, it may enhance the level of complexity of the firm’s export operations, hence increasing the level of strain exerted over the firm’s management. Consequently, the quality of the marketing delivered in each
venture market may be diminished, thus harming individual venture performance levels. Also, varying the level of marketing adaptation across different markets may increase venture costs as it may, for example, require the firm to undertake additional investments in plants and other resources, as well as in terms of the marketing research activities undertaken in each market, or contribute to reduce the economies of scale and/or scope attained by the firm in its export operations. As such, undertaking different levels of marketing adaptation across ventures may result in a rise in the unit costs obtained in each venture and, hence, in diminished venture performance.

Thus, the issue of whether or not firms ought to vary the level of marketing adaptation across different ventures, i.e. the ideal profile of marketing adaptation that firms should to pursue across ventures is of extreme relevance for firms. It may be that, in order to enhance venture performance, marketing adaptation needs to be managed in a profile-like way, with some ventures having a great deal of marketing adaptation and others less. However, as shown in Table 2.3, the relationship between marketing adaptation across ventures and venture performance remains unexamined in the literature. This can be explained by the fact that, as depicted in Table 2.3, existing venture level studies on the link between marketing adaptation and performance focus on a single export venture within firms. The focus of existing venture level studies is, thus, on whether the level of marketing adaptation pursued by firms in a single export venture leads to inter-firm variations export performance with regard to that single export venture. Thus, single venture level studies do not address the issue of the profile of adaptation firms need to pursue across ventures, as inter-venture differences in performance within firms are never examined. Therefore, a first research gap consists of the need to investigate the link between export marketing adaptation and export performance at the intra-firm export venture level (i.e. across multiple export ventures of the same firm).

1 In their study of Spanish exporters Lado, Martínez-Ros, and Valenzuela (2004) analyze the marketing adaptation-performance link from an internal angle (i.e. within the firm). Nonetheless, their focus is on performance variations at the intra-firm export region of destination level (i.e. across the multiple regions to which the firm exports its products). While such study provides important insights, it does answer the question of whether firms ought to vary the level of marketing adaptation across different export ventures.
2.7.2.2 Marketing adaptation quantity

The second research question relates to the issue of the marketing adaptation quantity that firms ought to pursue in their export operations in order to maximize firm export performance. Existing investigations adopt a general approach to marketing adaptation, as firms are asked for their general stance in terms of marketing adaptation (i.e. “yes we do it/ no we do not do it”) and, so far, have not been asked about how much of it they actually undertake across their export operations.

To illustrate the point just made, consider, for example, the case of two firms operating in a different number of ventures (“Firm A” and “Firm B”). “Firm A” operates in 2 ventures and carries-out an “X” amount of marketing adaptation in each of them. “Firm B” has 100 ventures and pursues the same amount of adaptation in each of its ventures as “Firm A” (i.e. “Firm B” also undertakes an “X” amount of adaptation in each of its ventures). While both firms adopt the same stance in terms of adapting marketing to foreign markets (i.e. they pursue “X” much adaptation in their export operations) it is obvious that marketing adaptation quantity varies across them. More precisely, “Firm B” undertakes a much greater quantity of marketing adaptation than “Firm A” since the scale of export operations of “Firm B” is much greater than the one of “Firm A”.

The lack of research examining the relationship between marketing adaptation quantity and firm export performance is problematic as the adaptation quantities pursued by firms can have important implications in terms of firm export performance. For instance, it is plausible to expect that ever-greater marketing adaptation quantity will not always be beneficial for firm export performance, particularly if it implies a rise in the costs associated with coordinating the management of a more complex structure. Such costs come in the form of, for example, greater managerial information-processing demands, higher levels of strain exerted over management, enhanced logistical costs, or greater error-related costs (e.g. Hitt, Hoskinson, and Kim 1997; Lu and Beamish 2004; Steenkamp 2014). Accordingly, it seems
fundamental to answer the question of whether the link between marketing adaptation quantity and firm export performance changes as marketing adaptation quantity rises since, if that is the case, managers need to manage the marketing adaptation quantity undertaken by their firms in order to ensure that it is not too high or too low.

Furthermore, for example, venture level assessment might suggest that ever-increasing marketing adaptation always enhances venture success but, when assessed at the firm level, the implication is that costs which may be invisible at the venture level - or (seemingly) distant from the ventures themselves – raise as marketing adaptation quantity increases, such that firm export performance may suffer even though the ventures themselves seem to be performing well. The issue concerning the marketing adaptation quantity that firms ought to pursue is, thus, of extreme relevance for managers. However, as depicted in Table 2.3, existing studies on marketing adaptation have overlooked the link between marketing adaptation quantity and firm export performance. Hence, a second research gap consists of the need to study the link between marketing adaptation quantity and firm export performance.

2.7.3 EMO as a moderator

As discussed previously in this chapter, undertaking different levels of marketing adaptation in different ventures may be beneficial for venture performance. Assuming that such is the case, a crucial question remains regarding the kinds of supporting mechanisms that firms may call on to assist them in delivering high quality marketing adaptation across their ventures.

Drawing on a contingency approach to the RBV of the firm (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hitt et al. 2001), a primary candidate as a supporting mechanism of adaptation is EMO. The underlying logic is that export market-oriented activity can be seen as a business resource
that assists firms with regard to achieving positions of sustainable competitive advantage and, thus, superior business performance (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hult and Ketchen 2001; Hunt and Morgan 1995). EMO makes firms wiser in terms of their export efforts (e.g. Boso, Cadogan, and Story 2012) and, more precisely, in terms of their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014). More export market-oriented firms may be, thus, in a better position to pursue the right kinds of marketing adaptations across different export ventures. Put differently, it may be the case that EMO positively moderates the relationship between marketing adaptation across ventures and venture performance. Therefore, a further research gap consists of the need to investigate the potential moderating role of EMO on the relationship between marketing adaptation and performance at the intra-firm export venture level.

In this context, as shown in Table 2.3, researchers have yet to examine the potential moderating effect played by EMO on the link between marketing adaptation across ventures and venture performance. A further research gap consists, thus, of the need to study the possible role of EMO as a moderator of the relationship between marketing adaptation across ventures and venture performance.

A similar reasoning may apply to marketing adaptation quantity. As mentioned previously, a key question remains regarding the kinds of supporting mechanisms that firms can use to help them in terms of delivering high quality marketing adaptation. Adopting a contingency perspective to the RBV of the firm (e.g. Hitt et al. 2001), a key candidate as a supporting mechanism of marketing adaptation quantity is EMO. Given that EMO renders firms wiser in terms of their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014), more export market-oriented firms may be better positioned to adapt marketing more effectively and/or efficiently. In other words, it may be that EMO positively moderates the link between marketing adaptation quantity and firm export performance. In this context, as depicted in Table 2.3, researchers have yet to analyze the potential moderating effect of EMO on the relationship between marketing adaptation
quantity and firm export performance. An additional research gap consists, therefore, of the need to study the potential role of EMO as a moderator of the marketing adaptation quantity-firm export performance link.

2.7.4 Export environment as a moderator

As outlined previously, carrying-out different levels of marketing adaptation in different ventures may be beneficial for firms. In this context, a critical question remains regarding whether the usefulness of varying the level of marketing adaptation across ventures depends on the characteristics of the venture markets served. Underpinned by a contingency approach to business strategy (e.g. Venkatraman and Prescott 1990), a number of studies suggest that the export environment acts as a crucial moderator of the link between marketing adaptation and export performance across firms (e.g. Chung, Wang, and Huang 2012; Li 2010). The underlying logic is that the suitability of a particular degree of marketing adaptation is contingent upon the degree to which it fits the attributes of the export environment.

In this context, it may be that the usefulness of pursuing different levels of adaptation across ventures in terms of optimizing venture performance is contingent upon the environmental attributes faced across venture markets. More precisely, one may argue that the benefits brought by adapting marketing are more observable in cases where venture markets differ in some ways (e.g. in cases where customers’ needs are not homogeneous across markets).

The underlying logic is that, in such cases, it may be more important to adapt marketing across ventures in order to meet the idiosyncrasies of each venture market. It may be, therefore, the case that the degree of environmental differences which the firm encounters across venture markets positively moderates the link between marketing adaptation across ventures and venture performance. However, as shown in Table 2.3, researchers have yet to examine the potential moderating effect of export environmental differences on the of the relationship between marketing adaptation across ventures and
venture performance. A further research gap consists, therefore, of the need to investigate the possible role played by export environmental differences in determining the need for marketing adaptation across ventures.

A similar reasoning may apply to marketing adaptation quantity. Accordingly, a critical research question remains in terms of whether the usefulness of marketing adaptation quantity is contingent upon the environmental attributes faced by the firm in its export operations. Adopting a contingency approach to business strategy (e.g. Zajac, Kraatz, and Bresser 2000), one may argue that the benefits accrued from marketing adaptation quantity are higher when the firm’s export markets are more heterogeneous with regard to their environmental attributes. The idea is that, in such cases, it may be more necessary for the firm to pursue greater marketing adaptation quantities in order to meet the environmental idiosyncrasies of its export markets. It may be the case, therefore, that the overall degree of environmental differences the firm faces in its export operations moderates the marketing adaptation quantity-firm export performance link.

As shown in Table 2.3, the potential moderating effect of export environmental differences on the relationship between marketing adaptation quantity and firm export performance has not yet been inspected. A further research gap consists, hence, of the need to examine the potential role played by firm export environmental differences in determining the need for marketing adaptation quantity.

2.7.5 Export performance: sales and profits

Export sales performance and export profit performance are two crucial categories of export performance (e.g. Cadogan, Cui, and Li 2003; Cadogan et al. 2002; French and Cadogan 2012; Madsen 1987). As shown in Table 2.3, the majority of existing studies on the link between export marketing adaptation and export performance implicitly assume that such relationship is
identical across all performance categories. The reason for this is that researchers typically use broad assessments of export performance which encompass multiple categories of this construct. This is unfortunate, as some of the few studies which examine the export marketing adaptation-export performance link separately for sales and profits suggest that the impact of export marketing adaptation on export performance is different across sales performance and profit performance (e.g. Beamish, Craig, and McLellan 1993; Chung 2002).

In this context, it may be that undertaking different levels of adaptation across different ventures of the firm predicts venture sales performance and venture profit performance. Hence, varying the levels of marketing adaptation across ventures may be more or less beneficial for firms depending on which performance dimension the firm wants to optimize (sales performance or profit performance). Failure to analyze the impact of marketing adaptation across ventures on venture performance separately for sales performance and for profit performance may, thus, produce less accurate recommendations for managers regarding whether they ought to carry-out different levels of marketing adaptation in different ventures. A further research gap consists, hence, of the need to examine the link between marketing adaptation across ventures and venture performance separately for sales performance and for profit performance.

A similar logic may also hold in the case of marketing adaptation quantity. It may be that the impact of marketing adaptation quantity on firm export performance varies across sales performance and profit performance. Thus, practicing greater marketing adaptation quantities may be more or less beneficial for the firm, depending on whether the firm is seeking to optimize firm export sales performance or firm export profit performance. Hence, failure to examine the marketing adaptation quantity-firm export performance relationship separately for sales and for profit performance may lead firms to draw incorrect conclusions regarding the results that can be achieved by increasing marketing adaptation quantity. An additional research gap consists, hence, of the need to examine the effect of marketing adaptation quantity on
firm export performance separately for sales performance and for profit performance.

2.8 CHAPTER SUMMARY

This chapter provided a discussion of key topics of interest in export performance research. Export marketing adaptation has been identified by previous literature reviews and meta-analyses as a crucial predictor of export performance. Despite intense research efforts, empirical results on the relationship between marketing adaptation and export performance are inconsistent and often contradictory (Sousa, Martínez-López, and Coelho 2008; Tan and Sousa 2013; Theodosiou and Leonidou 2003). One may argue, therefore, that there is a need for a more profound investigation of the export marketing adaptation-export performance relationship. Accordingly, academic research should be directed to the examination of the export marketing adaptation-export performance link from additional angles to the ones provided in the literature.

In this context, the current chapter demonstrated the existence of a number of critical research gaps. These are:

- **Marketing adaptation across ventures**: we do not know whether firms ought to pursue heterogeneous levels of marketing adaptation across their export ventures in order to boost venture performance. In other words we do not know the ideal profile of marketing adaptation that firms ought to pursue across ventures. Furthermore, we do not know whether the answer to this question is contingent upon internal firm resources which support adaptation (namely EMO) and external environmental attributes. Obtaining answers to such questions is of extreme relevance for managers, as it may be the case that marketing
adaptation ought to be managed in a profile-like way (with some ventures having a great deal of marketing adaptation and others less), and that the ideal adaptation profile to be pursued across ventures depends on internal firm resources (namely, EMO) and on the environments faced by the firm across ventures.

- **Marketing adaptation quantity**: we do not know the amount of marketing adaptation that firms ought to undertake in their export operations in order to boost firm export performance. Furthermore, we do not know whether the answer to this question depends on internal firm resources supporting adaptation (more specifically, EMO) and on the environments that firms face in their export operations. Obtaining answers to such questions is very important for managers, as it could assist them in their task of ensuring that the marketing adaptation quantities undertaken by their firms are not too high or too low considering their firms’ internal resources (namely, EMO) and external export environments.

In the next chapter, the two conceptual models of this research are presented. The purpose of such models is to address the research gaps which were identified in the present chapter and in Chapter 1. The first model hypothesizes the existence of a non-linear relationship between pursuing different levels of marketing adaptation across ventures and export venture performance. Also, underpinned by a contingent approach to the RBV of the firm (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hitt et al. 2001), the model anticipates that EMO acts a supporting mechanism of marketing adaptation across ventures. The underlying reasoning is that EMO renders firms wiser in terms of their export efforts (e.g. Boso, Cadogan, and Story 2012) and, more precisely, in terms of their marketing adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014). As such, it is defended that firms exhibiting higher levels of EMO are in a better position to undertake the right kinds of marketing adaptation across export ventures. Accordingly, it
is hypothesized that EMO positively moderates the relationship between marketing adaptation across ventures and venture performance.

Additionally, grounded on a contingent approach to business strategy (e.g. Zajac, Kraatz, and Bresser 2000), it is argued that the levels of environmental differences the firm faces across ventures act as critical contingencies in the link between marketing adaptation across ventures and venture performance. More specifically, it is defended that the benefits which result from adapting marketing across ventures are more observable in circumstances where venture markets are different in some ways (e.g. in cases where customers’ needs are not homogeneous across markets). The underlying reasoning is that, in such cases, it is more important to adapt marketing across ventures so as to meet the idiosyncrasies of each venture market. Therefore, it is expected that the levels of export environmental differences the firm faces across ventures positively moderate the relationship between marketing adaptation across ventures and venture performance.

The second model predicts the existence of an inverted U-shaped relationship between marketing adaptation quantity and firm export performance. The underlying logic is that ever-greater marketing adaptation quantity will not always be good for firm export performance, as they will probably entail an escalation of the costs associated with coordinating the management of a more complex structure (e.g. logistical costs, error-related costs) (e.g. Hitt, Hoskinson, and Kim 1997; Lu and Beamish 2004; Steenkamp 2014). Therefore, it is expected that there are diminishing returns associated with marketing adaptation quantity. Beyond an optimal point, the costs associated with additional increments in marketing adaptation quantity outweigh the benefits brought by such increments. Therefore, beyond an optimal point, it is expected that increasing marketing adaptation quantity leads to a reduction in firm export performance.

Also, underpinned by a contingent approach to the RBV (e.g. Boso et al. 2013; Cadogan, Kuivalainen, and Sundqvist 2009) it is argued EMO acts as a supporting mechanism of marketing adaptation quantity. Given that EMO
renders firms wiser in terms of their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014), it is argued that firms displaying higher levels of EMO will be in a better position to adapt marketing more effectively and efficiently. Accordingly, the model anticipates that EMO plays a positive moderating role on the link between marketing adaptation quantity and firm export performance.

Additionally, based on a contingency approach to business strategy (e.g. Venkatraman and Prescott 1990), it is defended that the benefits accruing from marketing adaptation quantity are greater when the firm’s export markets are more heterogeneous with regard to their environmental attributes. The idea is that, in such cases, it will be more necessary for the firm to pursue higher marketing adaptation quantities so as to meet the environmental idiosyncrasies of its export markets. Thus, it is anticipated that the overall degree of environmental differences firms face in their export operations plays a positive moderating role on the relationship between marketing adaptation quantity and firm export performance.
CHAPTER 3: CONCEPTUAL FRAMEWORK

3.1 INTRODUCTION

As outlined in Chapter 1 and in Chapter 2, two main research questions have yet to be addressed. Such questions both relate to the relationship between export marketing adaptation and export performance, but are posed at two distinct levels of analysis. In this context, a fundamental principle of theory testing is that in order for research findings to be valid, there needs to be a match between the level of analysis at which a research question is posed and level of analysis of the model(s) which are used to address such question (e.g. Klein, Dansereau, and Hall 1994; Mossholder and Bedeian 1983).

The first key question concerns the issue of whether firms ought to pursue different levels of marketing adaptation in different ventures so as to boost venture performance. Such question focuses on why performance varies across multiple lower level units (the firm’s export ventures) which are nested within the same a higher level unit (the firm). In other words, the first key research question is posed at the intra-firm export venture level of analysis (Oliveira, Cadogan, and Souchon 2012). Accordingly, in order guarantee a match between the level of analysis at which the research question is posed and the level of analysis of the model used to test it, the link between marketing adaptation across ventures and venture performance needs to be examined using an intra-firm export venture level model. This requires that the researcher gathers data from multiple ventures within firms (Oliveira, Cadogan, and Souchon 2012).

The second crucial research question relates to the link between marketing adaptation quantity (a firm level variable) and firms’ export success. In order to ensure that there is a match between the level of analysis at which
the research question is formulated and the level of analysis of the model used to examine it, relationships need to be examined using a model developed at and data collected at the firm level of analysis (Oliveira, Cadogan, and Souchon 2012).

Therefore, the examination of this study’s two critical research questions requires the development of two distinct models at different levels of analysis. The question concerning the link between marketing adaptation across ventures and venture performance needs to be examined using a model developed at the intra-firm export venture level of analysis. The question relating to the relationship between marketing adaptation quantity and firm export performance needs to be analyzed using a model constructed at the firm level of analysis. The present chapter outlines in detail the development of the two conceptual models of this research. First, the theoretical framework which underpins the two models presented. Subsequently, the two conceptual models are presented and the corresponding hypotheses are developed.

3.2 THEORETICAL FRAMEWORK

This study is underpinned by a contingent approach to the study of business performance (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hitt et al. 2001; Venkatraman and Prescott 1990; Zajac, Kraatz, and Bresser 2000). Such an approach has been adopted in a vast number of studies which examine the antecedents of business success (e.g. Hughes and Morgan 2008; Lee and Miller 1996; Matsuno and Mentzer 2000; Olson, Slater, and Hult 2005; Rajagopalan 1996; Tan and Litsschert 1994; Vorhies and Morgan 2003; Zott and Amit 2008), including research which analyzes the antecedents of business’ export performance (e.g. Albaum and Tse 2001; Aulakh and Kotabe 1997; Cadogan, Kuivalainen, and Sundqvist 2009; Cavusgil and Zou 1994; Hultman, Robson, and Katsikeas 2009; Kasikeas, Samiee, and Theodosiou 2006; Sousa and Bradley 2008; Sousa and Lengler 2009).
According to the contingent approach, the degree to which a particular strategy leads to superior business performance depends on the extent to which the strategy fits the context in which it is pursued (e.g. Ginsberg and Venkatraman 1985; Venkatraman 1989; Venkatraman and Camillus 1984; Venkatraman and Prescott 1990; Zajac, Kraatz, and Bresser 2000). The current research follows the perspective of fit as moderation (cf. Venkatraman 1989), an approach that is increasingly used by export performance researchers, and which is based on the general axiom that no strategy is universally superior. Accordingly, the effect that the level of adoption of a given strategy (i.e. the predictor variable) has on business performance (i.e. the dependent variable) is dependent on the value of a third variable (i.e. the moderator variable). The degree of fit between the predictor variable (i.e. adoption of business strategy) and the moderator variable is the primary determinant of the dependent variable (i.e. business performance).

This research follows a contingent perspective to the RBV of the firm, according to which firm resources play a critical role in assisting firms in terms of attaining positions of sustainable competitive advantage and, hence, superior business performance (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hult and Ketchen 2001; Hunt and Morgan 1995). This study examines the role of EMO (i.e. a critical firm resource (Cadogan, Kuivalainen, and Sundqvist 2009)) as a key supporting mechanism of export marketing adaptation. More specifically, the first model of this research analyzes the potential moderating role of EMO on the link between marketing adaptation across ventures and venture performance. The second model investigates the potential moderating effect of EMO on the relationship between marketing adaptation quantity and firm export performance.

The contingent approach to the study of business success highlights that the appropriateness of a specific strategy is dependent on the degree to which it fits the characteristics of the external environment in which it is implemented (e.g. Cavusgil and Zou 1994; Hultman, Robson, and Katsikeas 2009; Cadogan, Kuivalainen, and Sundqvist 2009; Zajac, Kraatz, and Bresser 2000).
Thus, external environmental characteristics moderate the link between strategic predictors and performance outcomes (e.g. Boso, Cadogan, and Story 2012; Cadogan, Kuivalainen, and Sundqvist 2009). In this context, this study examines the potential moderating role of export environmental differences both on the relationship between marketing adaptation across ventures and venture performance, and on the link between marketing adaptation quantity and firm export performance.

3.3 CONCEPTUAL MODELS AND HYPOTHESES DEVELOPMENT

The present section outlines the development of the two conceptual models of this research. Both models examine the link between export marketing adaptation and export performance, although at different levels of analysis. As mentioned previously, the first conceptual model focuses on variations in the performance of individual export ventures which are nested within the same firm (i.e. on intra-firm variations on export venture performance). The second model concentrates on variations in firm export performance across firms (i.e. on inter-firm variations in firm export performance).

The literature offers different conceptualizations of export marketing adaptation (Ryans, Griffith, and White 2003). However, at a broadly generic level, export marketing adaptation can be defined as the adaptation of the firm’s marketing across international markets (e.g. Aulakh, Kotabe, and Teegen 2000). With regard to dependent variable, i.e. export performance, researchers seem to agree that such construct is multidimensional. Two broad categories of export performance are export sales performance and export profit performance (Cadogan, Kuivalainen, and Sundqvist 2009; Morgan, Katsikeas, and Vorhies 2012; Zou, Taylor, and Osland 1998). Sales-based
assessments of export performance range across numerous outcomes, including export sales volume, export sales revenue, growth in export sales volume, growth in export sales revenue, export market share, ratio of exports sales revenue to total sales revenue, and ratio of export sales volume to total sales volume. Profit-based assessments of export performance take into account costs and range across differing outcomes such as export return on investment, absolute export profits, and export gross profit margin. The importance of export sales performance and export profit performance as two critical categories of export performance corresponds to the idea that organizational success can be classified into outcomes that take account for costs versus outcomes that place emphasis on revenues and that do not reflect costs (cf. Homburg, Müller, and Klarmann 2011; Mantrala et al. 2007).

3.3.1 Conceptual Model I

The first conceptual model focuses on variations in the performance of individual export ventures which are nested within the same firm (i.e. on intra-firm variations on export venture performance). Put differently, the first model aims at explaining variance in performance across multiple ventures within the firm. More specifically, the first model examines the direct relationships between carrying-out different levels of marketing adaptation in different ventures and (a) venture sales performance and (b) venture profit performance. The model also examines the potential moderating roles played by the firm’s degree of EMO and by export environmental differences faced by the firm across individual ventures on the aforementioned relationships. See Figure 3.1.
Figure 3.1: Conceptual Model I.

3.3.1.1 Marketing adaptation across ventures-venture sales performance

Marketing adaptation across ventures refers to the degree to which the firm adapts the marketing mix of a given product in different venture markets relative to a key benchmark market. A number of single export venture level studies indicate that marketing adaptation has a positive impact on venture level sales performance. The underlying reasoning is that marketing adaptation can be seen as the way through which firms achieve fit between the marketing pursued and the characteristics of the venture environment (e.g. Cavusgil and Zou 1994; Zou, Andrus, and Norvell 1997).

In this context, there are a number of reasons to suggest that the positive relationship between marketing adaptation and sales performance found in single export venture level studies may also to hold across multiple export ventures within the same firm (i.e. at the intra-firm export venture level of analysis). More specifically, export markets tend to differ to some extent with
regard to their environmental characteristics (Boddewyn, Soehl, and Picard 1986; Douglas and Wind 1987). The needs and preferences of export customers are, thus, likely to vary across different ventures of the same firm. Accordingly, by adapting marketing in across different ventures the firm is likely to be in a better position to meet the requirements of different export markets. For instance, adapting marketing across different ventures enables the firm to sell products that are closer to export customers’ needs, to carry-out communications that more closely salient the firm’s products in export customers’ minds, to pursue distribution approaches which are more suitable in light of the type of infrastructures faced, and to adopt prices and pricing strategies that recognize heterogeneity in business practices across different markets. As a result, by adapting marketing across ventures, the firm is likely to obtain higher levels of sales across individual venture markets.

Thus, the following hypothesis is suggested:

\[ H_1: \text{Within firms, the greater the degree that a venture’s marketing is adapted, the greater the venture’s performance.} \]

However, there are a number of reasons to suggest that the positive link between marketing adaptation across ventures and venture sales performance may be weaker for high levels of marketing adaptation across ventures. In this context, it is likely to be the case that the firm needs to undertake some adaptations in the marketing mix delivered in a venture so as to meet the basic requirements in that product-market and, thus, attain higher sales success in the venture. Adaptations may include, for example, translating product labels and advertising campaigns to the local language, adapting prices to local currency, or adapting transportation methods to accommodate for the local infrastructures. Nonetheless, pursuing higher levels of marketing adaptation in different ventures may produce increasingly smaller venture sales performance returns.
On the one hand, carrying-out higher levels of marketing adaptation across ventures may be beneficial for venture sales performance as it enables the firm to tailor its offerings specifically for each venture market. On the other hand, pursuing a standardized marketing brings a number of benefits in terms of the venture sales levels attained. These include the higher perceptions of quality which are associated with global brands, the delivery of superior marketing programs across markets due to the pooling of the firm’s marketing resources across countries, and the achievement of a more rapid roll-out of the firm’s products across countries (Steenkamp 2014). In this context, the firm may be increasingly less able to reap such benefits as it moves to higher levels of marketing adaptation across ventures. Thus, as the firm practices higher levels of marketing adaptation across ventures, the advantages for venture sales which result from pursuing highly customized marketing mixes in different venture markets may be increasingly counterbalanced by the reductions in the sales benefits which are associated with carrying-out a more standardized marketing across ventures.

Therefore, it is possible that the venture sales benefits attained accrued from augmenting marketing adaptation across ventures are increasingly offset by the reductions in the venture sales benefits which are associated with adopting a more standardized marketing across ventures. Thus, venture level sales may not be as strongly positively affected by marketing adaptation as the firm pursues higher levels of marketing adaptation across ventures. See Figure 3.2.
Figure 3.2: Impact of marketing adaptation across ventures on venture sales performance.

Therefore, it is proposed that:

\( H_2: \) Within firms, the positive relationship between adapting marketing across ventures and venture sales performance becomes less positive under higher levels of adaptation.

3.3.1.2 Moderating effect of EMO on the link between marketing adaptation across ventures and venture sales performance

There are a number of arguments which suggest that EMO may act as a supporting mechanism of marketing adaptation across ventures with regard to venture level sales, i.e. that EMO may play a positive moderating role on the link between marketing adaptation across ventures and venture sales performance. EMO renders firms wiser with regard to their export efforts (e.g. Boso, Cadogan, and Story 2012), including their adaptation activities (Navarro-
Accordingly, export market-oriented firms are likely to be better able to adapt marketing across ventures more effectively, thereby attaining higher venture sales levels. For instance, firms exhibiting higher levels of EMO are more likely to offer products which more precisely meet the needs of customers across different venture markets, to undertake promotional activities which more accurately highlight firms’ products in customers’ minds across different markets, to pursue pricing strategies which more effectively account for the types of business practices the firm faces in different markets, and to carry-out distribution approaches which are more appropriate in light of the types of infrastructures of different venture markets. Thus, when firms have higher EMO levels, one expects to see adaptation increases in ventures translate into venture performance more strongly. See figure 3.3.

**Figure 3.3: Moderating role of EMO the link between marketing adaptation across ventures and venture sales performance.**

Hence, the following hypothesis is advanced:

**H₃:** Within firms, the positive relationship between adapting marketing across ventures and venture sales performance is stronger when the firm has a higher level of EMO.
3.3.1.3 Moderating effect of environmental differences on the link between marketing adaptation across ventures and venture sales performance

Environmental differences across ventures refers to the degree to which venture markets differ in terms of their environmental characteristics (namely, customer characteristics, market characteristics, type of competition, and degree of competitive intensity) relative to a key benchmark market. The contingent approach to the study of business success highlights that the appropriateness of a specific strategy is dependent on the degree to which it fits the characteristics of the external environment in which it is implemented (e.g. Cavusgil and Zou 1994; Hultman, Robson, and Katsikeas 2009; Cadogan, Kuivalainen, and Sundqvist 2009; Zajac, Kraatz, and Bresser 2000). Accordingly, external environmental characteristics moderate the link between strategic predictors and performance outcomes (e.g. Boso, Cadogan, and Story 2012; Cadogan, Kuivalainen, and Sundqvist 2009).

In this context, there are a number of arguments which suggest that the levels of environmental differences faced by the firm across venture markets may play a positive moderating role on the link between marketing adaptation across ventures and venture sales performance. More specifically, the more venture markets differ in terms of their environments the more it is necessary for the firm to adapt the marketing mixes delivered in different ventures so as to attain higher venture sales levels. For instance, the more venture markets differ in terms of customer characteristics, the more important it is to adapt the products sold and the promotional tools used in order to meet customers’ needs and preferences and to effectively communicate with customers in different venture markets. Also, for example, the more ventures differ in terms of market characteristics (for instance, market size or profit potential), business practices, and levels of competitive intensity the more relevant it is to adapt the distribution approaches and price levels pursued in different venture markets in order to attain higher venture sales levels. See Figure 3.4.
Figure 3.4: Moderating effect of environmental differences on the relationship between marketing adaptation across ventures and venture sales performance.

Thus, the following hypothesis is proposed:

\( H_4: \) Within firms, the positive relationship between adapting marketing across ventures and venture sales performance is stronger under higher levels of environmental differences across ventures.

3.3.1.4 Marketing adaptation across ventures-venture profit performance

There are a number of reasons to anticipate the existence of an inverted U-shaped relationship between adapting marketing across different ventures and venture profit performance. More specifically, up to an optimal point increasing the levels of marketing adaptation in different ventures is beneficial for venture profit levels attained. The underlying reasoning is that pursuing more adapted marketing in each venture enables the firm to better meet the specific requirements of each venture market. For instance, carrying-out higher levels of marketing adaptation across ventures enables the firm to sell products that more closely meet export customers’ needs, to undertake communications that more closely highlight the firm’s products in export.
customers’ minds, to carry-out distribution approaches which are more appropriate in light of the infrastructures of each market, or to adopt pricing strategies which are more in line with local business practices (e.g. Hultman, Robson, and Katsikeas 2009; Lages, Jap, and Griffith 2008). Hence, by pursuing higher levels of marketing adaptation in different ventures, the firm is more likely to convey higher levels of customer value across venture markets. Consequently, by adapting marketing across ventures the firm is in a better position to charge higher prices in each venture market, thereby enhancing the venture profit levels attained.

Nonetheless, it is reasonable to expect that pursuing ever greater levels of marketing adaptation in different ventures will not always be good for the venture profit levels attained. It can be argued that enhancing the levels of marketing adaptation across ventures is increasingly inefficient. The underlying logic is that enhancing the levels of marketing adaptation across markets is likely to entail a reduction in the economies of scale and/or scope attained in production and procurement, and in the and economies of scope achieved in R&D and marketing (Steenkamp 2014; Yip and Hult 2012). Also, raising the levels of adaptation pursued across ventures will probably imply an increase in the costs associated with coordinating the management of a more complex structure. Such costs come in the form of, for example, greater managerial information-processing demands, higher levels of strain exerted over management, higher error-related costs, or greater information-processing demands (Hitt, Hoskinson, and Kim 1997; Lu and Beamish 2004; Steenkamp 2014). Therefore, increasing the levels of marketing adaptation undertaken across ventures is likely to entail a rise in venture unit costs.

Critically, as the levels of marketing adaptation across individual ventures increase, the venture level profit benefits accrued from conveying greater levels of customer value across ventures are likely to be increasingly counterbalanced by greater venture level costs. Eventually, venture level profit gains resulting from increasing marketing adaptation across ventures may be surpassed by venture level costs. See Figure 3.5.
Hence, the following hypothesis is suggested:

\[ H_5: \text{Within firms, the relationship between adapting marketing across ventures and venture profit performance is inverted U-shaped.} \]

### 3.3.1.5 Moderating effect of EMO on the link between marketing adaptation across ventures and venture profit performance

EMO is likely to act as a supporting mechanism of marketing adaptation across ventures within firms with regard to venture profit performance. That is, it is plausible to expect EMO to play a positive moderating role on the link between marketing adaptation across ventures and venture profit performance. EMO renders firms wiser with regard to their export efforts (e.g. Boso, Cadogan, and Story 2012), including their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014). For instance, firms
exhibiting greater levels of EMO are more likely to offer products that more closely meet export customers’ needs, to undertake communications that more closely highlight the firm’s products in export customers’ minds, to carry-out distribution approaches which are more suitable in light of the characteristics of each venture market, or to pursue pricing strategies which are more aligned with the business practices of different venture markets.

Export market-oriented firms are, thus, better able to undertake the types of marketing adaptations which allow them to convey higher levels of customer value and, therefore, to charge higher prices and attain higher venture profits levels. Thus, when firms have higher EMO levels, one expects to see adaptation increases in ventures translate into venture profits more strongly. Hence, the upslope of the inverted U-shaped relationship between adaptation and profit should be steeper for more export market-oriented firms. However, the logic of H5 still remains, and at some stage the costs resulting from greater adaptation will exceed the profit gains, and so the downslope will also be observed, even under high EMO levels. See Figure 3.6.

**Figure 3.6: Moderating effect of EMO on the relationship between marketing adaptation across ventures and venture profit performance**

![Figure 3.6: Moderating effect of EMO on the relationship between marketing adaptation across ventures and venture profit performance](image)
Accordingly, the following hypothesis is suggested:

\[ H_6: \] The greater the firm’s EMO level, the stronger the upslope of the inverted U-shaped relationship between adapting marketing across ventures and venture profit performance.

3.3.1.6 Moderating effect of environmental differences across ventures on the link between marketing adaptation across ventures and venture profit performance

The contingent perspective to the study of business success defends that the appropriateness of a specific strategy is dependent on the degree to which it fits the attributes of the external environment in which it is implemented (e.g. Zajac, Kraatz, and Bresser 2000). External environmental characteristics moderate the relationship between strategic predictors and performance outcomes (e.g. Boso et al. 2013; Cadogan, Kuivalainen, and Sundqvist 2009). In this context, there are a number of arguments to suggest that the levels of environmental differences faced by the firm across venture markets may moderate the link between marketing adaptation across ventures and venture profit performance.

More precisely, the higher the levels of environmental differences across a firm’s venture markets the more necessary it may be for the firm to adapt marketing across different ventures in order to deliver higher levels of customer value and, thus, to be able to charge higher prices and attain higher venture profits. For example, in circumstances where venture markets are more heterogeneous in terms of customer characteristics, it may be more important for the firm to adapt the products sold and the communication strategies used so as to meet customers’ product needs and preferences and to successfully position the its products in customers’ minds. Also, for instance, the more venture markets vary in terms of competition-related attributes (e.g. type of business practices, level of competitive intensity) and of market-related
aspects (e.g. market size, rate of market growth), the more it may be necessary for the firm to adapt pricing strategies and distribution tactics across venture markets in order to be able to deliver greater customer value and, thus, charge higher prices and attain higher venture profits.

Thus, when environmental differences are high, one expects increases in levels of adaptation across ventures to more strongly result in increased profits. However, environmental differences do not eliminate the fact that adaptation increases costs, and so one expects to see a downslope, even under higher levels of environmental differences. See Figure 3.7.

**Figure 3.7: Moderating effect of environmental differences on the link between marketing adaptation across ventures and venture profit performance.**

![Diagram showing the relationship between environmental differences and venture profit performance](image)

Thus, the following hypothesis is suggested:

$H_7$: Within firms, the greater the extent of environmental differences across ventures, the stronger the upslope of the inverted U-shaped relationship between adapting marketing across ventures and venture profit performance.
3.3.2 Conceptual Model II

While the focus of the first conceptual model is on variance in export performance within firms, the second model has an external orientation as it investigates how firm export performance varies across firms. More precisely, the second model examines the impact of the total quantity of marketing adaptation pursued by firms on firm export sales and profit performance. The model also investigates the potential moderating roles played by EMO and by firm export environmental differences on the aforementioned relationships. See Figure 3.9.

Figure 3.8: Conceptual model II.

![Conceptual Model II Diagram]

3.3.2.1 Marketing adaptation quantity-firm export sales performance

Marketing adaptation quantity is defined as the total amount of marketing adaptation that the firm pursues across the entirety of its export
operations. To provide an illustration, consider, for instance, the case of two firms operating in a different number of ventures (“Firm A” and “Firm B”). “Firm A” operates in 2 ventures and carries-out an “X” amount of marketing adaptation in each of them. “Firm B” has 100 ventures and pursues the same amount of adaptation in each of its ventures as “Firm A” (i.e. “Firm B” also carries-out an “X” amount of adaptation in each of its ventures). While both firms adopt the same stance in terms of adapting marketing to foreign markets (i.e. they undertake “X” much adaptation in their export operations) it is evident that marketing adaptation quantity varies across them. More precisely, “Firm B” undertakes a much greater quantity of marketing adaptation than “Firm A”, simply due the fact that the scale of export operations of “Firm B” is much greater than the one of “Firm A”.

In this context, under low levels of marketing adaptation quantity, managing and controlling the adaptation task is not too difficult and brings sales benefits to the firm, as a result of a good targeting of export customers’ needs and wants. However, as marketing adaptation quantity increases, the task of managing the adaptation job and benefiting from it becomes increasingly harder because of the increased cost of coordinating such task (Steenkamp 2014). At least one problem is that costs associated with marketing multiple adapted products raise. For instance, if communications strategies, platforms, and messages differ across many ventures the firm loses economies of scale and scope. Also, resource pots that might be sufficient for communicating effectively in a standardized way across multiple markets may no longer be sufficient to communicate effectively in different ways across those markets. Thus, there is potential that at high marketing adaptation quantity levels marketing’s effectiveness may be reduced. Indeed, the coordination of more inefficient, more cumbersome, and slower responsiveness that higher quantities of marketing adaptation may bring about is likely to result in downward pressure on sales. Eventually, the sales benefits brought by increasing marketing adaptation quantity will likely be surpassed by the decreases in sales resulting from reductions in effectiveness levels. See Figure 3.9.
Figure 3.9: Impact of marketing adaptation quantity on firm export sales performance.

Therefore, the following hypothesis is proposed:

\[ H_8: \text{There is an inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance.} \]

3.3.2.2 EMO-firm export sales performance

EMO refers to the activities that firms undertake in their efforts to integrate the marketing concept in their export sales operations (e.g. Cadogan, Kuivalainen, and Sundqvist 2009). EMO research typically focuses on assessing whether the relationship between EMO and firm export performance is positive (Cadogan, Kuivalainen, and Sundqvist 2009). Export market-oriented firms identify and respond to export customers’ current needs and preferences in a consistent manner, and are able to anticipate their future needs and preferences. Therefore, more export market-oriented firms are in a
better position to meet customer requirements across export markets and, thus, to achieve superior firm export sales performance levels (e.g. Cadogan, Cui, and Li 2003; Cadogan, Diamantopoulos, and Siguaw 2002; Cadogan et al. 2002). See Figure 3.10.

**Figure 3.10: Direct impact of EMO on firm export sales performance.**

Accordingly, the following hypothesis is advanced:

\[ H_0: \text{There is a positive linear relationship between EMO and firm export sales performance.} \]

**3.3.2.3 Moderating effect of EMO on the marketing adaptation quantity-firm export sales performance link.**

EMO is likely to act as a supporting mechanism of marketing adaptation quantity with regard to sales performance. EMO makes firms wiser with regard to their export efforts (e.g. Boso, Cadogan, and Story 2012), including their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña...
2014). For example, firms displaying greater levels of EMO are more likely to offer products that more effectively meet export customers’ needs, to undertake communications that more closely highlight the firm’s products in export customers’ minds, to pursue distribution approaches which are more suitable in light of the characteristics of the firm’s export markets, or to undertake pricing strategies which are more aligned with the business practices of the firm’s export markets. Thus, when firms have higher EMO levels, one expects to see increases in marketing adaptation quantity translate into sales more strongly. Thus, the upslope of the inverted U-shaped relationship between adaptation and sales performance should be steeper for more export market-oriented firms. Nonetheless, the logic of H_8 still remains and at some point, the sales benefits brought by increasing marketing adaptation quantity will likely be exceeded by the decreases in sales resulting from reductions in effectiveness levels, and so the downslope will also be observed, even under high EMO levels. See figure 3.11.

**Figure 3.11: Moderating role of EMO on the link between marketing adaptation quantity and firm export sales performance.**
Thus, the following hypothesis is advanced:

\( H_{10} \): The greater the firm’s EMO level, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance.

### 3.3.2.4 Moderating effect of firm export environmental differences on the marketing adaptation quantity-firm export sales performance link

Environmental differences refers to the overall degree to which the firm’s venture markets differ in terms of their external environmental attributes (namely, customer characteristics, market characteristics, type of competition, and level of competitive intensity). The contingent perspective to the study of business success proposes that the appropriateness of a specific strategy is dependent on the extent to which it fits the attributes of the external environment in which it is implemented (e.g. Zajac, Kraatz, and Bresser 2000). External environmental characteristics moderate the link between strategic predictors and performance outcomes (e.g. Boso et al. 2013; Cadogan, Kuivalainen, and Sundqvist 2009). In this context, there are a number of arguments to indicate that the overall level of environmental differences faced by the firm in its export operations may moderate the marketing adaptation quantity-sales performance link.

More specifically, the higher the overall level of environmental differences faced by the firm in its export operations the more necessary it may be for the firm to pursue greater levels of marketing adaptation quantity in order to effectively target export customers’ needs and wants, and thus, attain higher sales across the firm’s markets. For instance, the more the firm’s markets differ in terms of customer attributes, the more important it is to adapt the products sold and the promotional tools used in order to meet customers’ needs and preferences and to effectively communicate with customers across the firm’s markets. Also, for example, the greater level of environmental
heterogeneity faced by the firm across its markets in terms of business practices, levels of competitive intensity, and market characteristics (for instance, market size or profit potential) the more pertinent it is to adapt the distribution approaches and price levels pursued in order to attain higher sales. Thus, when environmental differences are high, one expects increases in marketing adaptation quantity levels to more strongly result in increased sales. Accordingly, the upslope of the inverted U-shaped relationship between adaptation and sales performance should be steeper under greater levels of environmental differences. However, the logic of $H_8$ still holds and at some stage, the sales benefits brought by enhancing marketing adaptation quantity will likely be surpassed by the decreases in sales resulting from reductions in effectiveness levels, and so the downslope will also be observed, even under high levels of environmental differences. See Figure 3.12

**Figure 3.12: Moderating role of firm export environmental differences on the link between marketing adaptation quantity and firm export sales performance.**
Thus, the following hypothesis is proposed:

\( H_{11} \): The greater the environmental differences, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance.

### 3.3.2.5 Marketing adaptation quantity-firm export profit performance

Marketing adaptation quantity refers to the total amount of marketing adaptation that the firm undertakes across the entirety of its export operations. In this context, under low levels of marketing adaptation quantity, managing and controlling the adaptation task is not too cumbersome and brings profit benefits to the firm, due to good targeting of export customers’ needs and wants. Accordingly, it is likely that the firm will convey greater levels of customer value across its export markets, which allows the firm to charge higher prices and, hence, attain higher profits.

However, as marketing adaptation quantity rises, the task of managing the adaptation job and benefiting from it becomes increasingly difficult due to the enhanced cost of coordinating such task (Steenkamp 2014). One of the problems resulting from greater levels of marketing adaptation quantity is that costs associated with marketing multiple adapted products increase. For instance, if communications strategies, platforms, and messages differ across many ventures the firm loses economies of scale and scope. Also, by manufacturing multiple adapted products the firm also loses economies of scale and/or scope in production as there are smaller outputs associated with each adapted product, and in procurement due to lower levels of power which result from lower purchase volumes. Additionally, by manufacturing a greater number of adapted products, the firm faces greater operational costs (e.g. set-up costs, inventory costs) due to the spreading of production across a higher
number of different products (Lu and Beamish 2004; Hitt, Hoskinson, and Kim 1997; Steenkamp 2014; Yip and Hult 2012).

Hence, there is potential that at high marketing adaptation quantity levels marketing’s efficiency may be diminished due to enhanced cost levels. At some stage, the profit benefits brought by enhancing marketing adaptation quantity will likely be surpassed by increases in costs, which implies a reduction in export profits. See Figure 3.13.

**Figure 3.13: Impact of marketing adaptation quantity on firm export profit performance.**

Therefore, the following hypothesis is advanced:

$H_{12}$: There is an inverted U-shaped relationship between marketing adaptation quantity and firm export profit performance.
3.3.2.6 EMO-firm export profit performance

Export market-oriented firms identify and respond to export customers’ current needs and preferences in a consistent way, and are able to anticipate their future needs and preferences. Export market-oriented firms are, thus, capable of creating superior value for export customers (Cadogan, Diamantopoulos, and Siguaw 2002; Cadogan, Kuivalainen, and Sundqvist 2009). The ability of export market-oriented firms to create superior value for export customers enables them to charge higher prices across export markets and, thus, to enhanced firm export profits. See Figure 3.14.

Figure 3.14: Direct impact of EMO on firm export profit performance.

Hence, the following hypothesis is proposed:

H$_{13}$: There is a positive linear relationship between EMO and firm export profit performance.
3.3.2.7 Moderating effect of EMO on the marketing adaptation quantity-firm export profit performance link.

EMO is likely to act as a supporting mechanism of marketing adaptation quantity in terms of profit performance. EMO renders firms wiser in terms of their adaptation activities (Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014). Hence, firms displaying higher EMO levels are more likely to target export customers’ needs and wants more effectively and, thus, to deliver greater levels of customer value across markets. Thus, when firms have higher EMO levels, one expects to see enhancements in marketing adaptation quantity translate into profits more strongly. Hence, the upslope of the inverted U-shaped relationship between adaptation and profit performance ought to be steeper for more export market-oriented firms. However, the logic of H12 still remains and at some point, the profit benefits brought by enhancing marketing adaptation quantity will likely be exceeded by increases in costs, and so the downslope will also be observed even under greater EMO levels. See figure 3.15.

Figure 3.15: Moderating role of EMO on the link between marketing adaptation quantity and firm export profit performance.

![Diagram of the moderating role of EMO on the link between marketing adaptation quantity and firm export profit performance](image)

Low EMO

High EMO

Firm export profit performance

Marketing adaptation quantity

127
Thus, the following hypothesis is suggested:

\( H_{14} \): The greater the firm’s EMO level, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance.

3.3.2.8 Moderating effect of firm export environmental differences on the marketing adaptation quantity-firm export profit performance link

Environmental differences refers to the overall extent to which the firm’s export markets differ in terms of their external environmental attributes (customer characteristics, market characteristics, type of competition, and level of competitive intensity). The contingent approach to the study of business success proposes that the suitability of a specific strategy is dependent on the degree to which it fits the attributes of the external environment in which it is implemented (e.g. Zajac, Kraatz, and Bresser 2000). External environmental characteristics moderate the link between strategic predictors and performance outcomes (e.g. Boso et al. 2013; Cadogan, Kuivalainen, and Sundqvist 2009). In this context, the higher the overall level of environmental differences faced by the firm in its export operations the more necessary it may be for the firm to undertake greater levels of marketing adaptation quantity in order to effectively target export customers’ needs and wants, and thus, convey greater levels of customer value and attain higher profits. Thus, when environmental differences are high, one expects increases in marketing adaptation quantity levels to more strongly translate into enhanced profits. Hence, the upslope of the inverted U-shaped relationship between marketing adaptation quantity and profit performance should be steeper under higher levels of environmental differences. Nonetheless, the logic of \( H_{12} \) still remains and eventually the profit benefits brought by enhancing marketing adaptation quantity will likely be exceeded by increases in costs, and so the downslope will also be observed, even under high levels of environmental differences. See figure 3.16.
Figure 3.16: Moderating role of firm export environmental differences on the link between marketing adaptation quantity and firm export profit performance.

Thus, the following hypothesis is advanced:

H15: The greater the environmental differences, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export profit performance.

3.4 CHAPTER SUMMARY

This chapter provided a discussion of the two conceptual models and of their corresponding hypotheses. Underpinned by a contingent approach to the study of business success, the two models examine the link between export marketing adaptation and export performance, although at different levels of analysis. The first model concentrates on variations in the performance of individual export ventures within firms. More specifically, it is argued that adapting marketing in different ventures within firms has a positive impact on
venture sales performance. Nonetheless, such relationship becomes increasingly weaker for higher levels of marketing adaptation across ventures. It is also defended that the positive relationship between adapting marketing across ventures and venture sales performance is stronger when the firm has a higher level of EMO and when environmental differences across ventures are greater. Additionally, it is defended the relationship between adapting marketing across ventures within firms and venture profit performance is inverted U-shaped. It is also anticipated that the upslope of the inverted U-shaped relationship between marketing adaptation across ventures and venture profits becomes stronger the higher the firm’s level of EMO and the greater the environmental differences across ventures. The second model focuses on variations in firms’ export performance. It is argued that the relationships between marketing adaptation quantity and (a) export sales performance and (b) export profit performance are inverted U-shaped. The model also predicts that the upslope of those two relationships becomes stronger the higher the firm’s EMO level and the greater the overall degree of environmental differences faced by the firm in its export operations. In the next chapter, the methodology which was adopted for data collection is presented.
CHAPTER 4: METHODOLOGY

4.1 INTRODUCTION

The purpose of this chapter is to describe the methodology applied to collect data for purposes of testing the two theoretical models of this study. As mentioned previously, the first conceptual model focuses on variations in the performance of individual export ventures of the same firm. More precisely, the first model examines the direct relationships between carrying-out different levels of marketing adaptation in different ventures and (a) venture sales performance and (b) venture profit performance. The model also examines the potential moderating roles played by the firm’s degree of EMO and by export environmental differences faced by the firm across individual ventures on the aforementioned relationships. The second model analyzes how firms’ export performance levels vary across firms. More specifically, the second model investigates the impact of the total quantity of marketing adaptation pursued by firms on firms’ export success. The model also examines the potential moderating roles played by EMO and by firm export environmental differences on the aforementioned relationships.

The process adopted for data collection is now described in a detailed manner. The first section presents a discussion regarding general data collection issues. Following this, the development of the data collection instrument adopted is described. Subsequently, pilot study and main survey deployments are detailed. Finally, response analysis is outlined.
Chapter 4/Methodology

4.2 GENERAL DATA COLLECTION ISSUES

4.2.1 Cross-Sectional versus Longitudinal Design

Certain types of research design are better suited to some purposes than others. In this context, a basic research premise is that the design of a particular investigation should be guided by its specific research problem(s) (Iacobucci and Churchill 2010). The research hypotheses of the present study concern the combined impact of export marketing adaptation, the export environment, and EMO on export performance at different levels of analysis.

Two types of research design can be used to collect the data required to test such hypotheses. A longitudinal design provides information regarding the impact that export marketing adaptation, the export environment, and a firm’s degree of EMO at one point in time may have on export performance in subsequent period(s). A cross-sectional design provides a “snapshot” of different firms exhibiting different levels of export marketing adaptation, different types of export environment, different degrees of EMO, and different levels of export performance at one point in time. This latter type of data may be used to test associations between export marketing adaptation, export environment, EMO, and export performance.

Both longitudinal design and cross-sectional design have advantages and disadvantages. On the one hand, a longitudinal research design enables the researcher to test for causality empirically, since it provides temporal priority, which is a pre-requisite for testing for causality. In this context, the use of a longitudinal design would have entailed gathering data on export venture performance and on firm export performance at a later period(s) in time relative to the period when data on the antecedent factors were collected (Hult et al. 2008). Accordingly, the use of a longitudinal design would have required collecting data from each of the sampled firms at least at two points in time. Such necessity would have demanded the deployment an amount of
financial and time resources beyond what was available to the researcher. Furthermore, the use of panel data requires a high level of commitment by the part of respondents, which may result in a reduction in sample size due to respondent attrition (Rindfleisch et al. 2008). As such, adopting a longitudinal design in the present study would have likely reduced the sample size attained and, therefore, the power of the statistical tests used for hypotheses testing.

On the other hand, a cross-sectional design is also a suitable option for purposes of hypothesis testing. The use of a cross-sectional design does not allow, however, testing for causality empirically. Rather, it only enables the researcher to test for association among constructs. Causality is inferred theoretically from the associations found in the data. In this context, the direction of the causal linkages hypothesized in this research is in line with the dominant view on the relationship between marketing adaptation and export performance (e.g. Aulakh, Kotabe, and Teegen 2000; Brouthers, O’Donnell, and Keig 2013; Madsen 1989; Navarro et al. 2000; Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014). As such, it was decided that using a cross-sectional approach would also be an appropriate alternative for the present study.

Additionally, conducting a cross-sectional study requires much less financial and time resources than a longitudinal study. Therefore, given that there was a limitation in terms of time and resources available for this research, it was decided to adopt a cross-sectional design. This is in line with the overwhelming majority of existing export performance studies (Sousa, Martínez-López, and Coelho 2008). However, given that a longitudinal design was not used, the causal interpretations of this study need to be considered as tentative. Alternative interpretations of the empirical results obtained cannot, thus, be ruled-out (Cadogan et al. 2001).
4.2.2. Survey administration

Having opted for a cross-sectional design, the next step involved deciding which method to use to collect the information sought. A number of data collection methods were weighted in terms of their advantages and disadvantages, including face-to-face interviews, telephone interviews, postal surveys, and online surveys.

Face-to-face interviews were excluded given the fact that they would require a considerable amount of financial and time resources, which were not available for this research. Telephone interviews were also discarded, since the big length of the questionnaire (which resulted from the high number of constructs to be tested) would render them very impracticable.

It was also considered to collect data via a postal survey. The mail survey is the data collection instrument adopted by the great majority of export performance studies (Sousa, Martínez-López, and Coelho 2008; Zou and Stan 1998). Nonetheless, the type of data that needed to be collected rendered this method unfeasible. Specifically, the type of information sought required respondents to name multiple export ventures and to subsequently compare them in terms of several aspects. In such circumstances, the use of a paper survey would either require (a) a very big memory effort by the part of the respondents in terms of matching the questions which were being asked at a later stage in the survey with the ventures they had named at an earlier stage, and/or (b) a constant flicking thorough the questionnaire by the part of respondents for purposes of recalling which ventures the different survey questions referred to. These two factors would be likely to cause many respondents to abandon the survey. Additionally, respondents would probably be confused while responding to the survey, which could severely undermine the quality of the data obtained. Therefore, the postal survey method was ruled out.

It was finally decided to adopt an online survey. The main reason for choosing to carry-out an online survey had to do with the fact that this method
would make it feasible for respondents to make comparisons between export ventures which they defined in the beginning of the survey. This was due to a feature available in a few online survey software packages called “answer piping”. “Answer piping” allows the inclusion of the answer given to a question in a given page in the text of a question located in subsequent pages. Accordingly, the names of the export ventures given by the respondent in the beginning of the questionnaire automatically appeared in the text of questions that related to such ventures at a later stage of the survey. Thus, the “answer piping” feature made it possible for the respondent to provide data on multiple export ventures and to make comparisons among those ventures in a fairly straightforward manner.

4.2.3. Choice of Target Respondents

Identifying the right informants is a necessary condition to collect good quality data and, thus, a pre-requisite for obtaining accurate research findings. In order to test the research models included in this study it was necessary to obtain information both at the firm level of analysis (i.e. at the level of the overall export operations of the firm), and at the intra-firm export venture level of analysis (i.e. on multiple export ventures of the firm) (Oliveira, Cadogan, and Souchon 2012). Collecting data of this kind required targeting someone in the firm who possesses an in-depth knowledge of the firm’s export operations. Such person is typically the firm’s export manager.

Several researchers have raised their concerns regarding the issue of common method bias in cross-sectional studies that gather data from a single respondent within the firm using self-reported questionnaires (e.g. Avolio, Yammarino, Bass 1991; Chang, Witteloostuijn, and Eden 2010). Potential solutions for this problem include obtaining secondary data or primary data from a second respondent. Nonetheless, collecting secondary data was not a feasible option, since secondary data on firms’ export operations is typically not publicly available. Obtaining data from a second respondent also
presented disadvantages, including a potentially smaller sample size and an escalation of the costs associated with the study. Additionally, it could be the case that for some firms it would not be at all possible to collect data from a second knowledgeable respondent. For example, in some companies (especially smaller ones) there is only one person who deals with the firm’s exports and, thus, who is able to provide export data.

Thus, it was decided to collect data from a single respondent. This is in line with the overwhelming majority of export performance studies (Sousa, Martínez-López, and Coelho 2008). The respondent targeted was the firm’s export manager or, in the absence of an export manager, someone knowledgeable of and involved in the firm’s export sales operations.

4.3 QUESTIONNAIRE DESIGN

This section describes in detail the design of the online questionnaire which was used to collect data. Questionnaire design followed the procedures highlighted by Iacobucci and Churchill (2010). See figure 4.1.
4.3.1 Information Sought

Bearing in mind the information sought, the literature was examined for purposes of identifying suitable measures for the constructs of interest. The first model of this research analyses the combined impact of marketing adaptation across ventures, environmental differences across ventures, and EMO on venture sales performance and on venture profit performance. The second model investigates the joint impact of marketing adaptation quantity, EMO, and firm export environmental differences on firm export sales performance and on firm export profit performance.
Thus, it was necessary to collect information both at the firm and at the intra-firm export venture levels of analysis (i.e. across multiple export ventures within the firm). In this context, it was decided to collect data on up to four export ventures per firm. Such export ventures were defined by asking the respondent to name a product/product line exported by the firm (herein referred to as “Product α”) and up to three geographical markets to which the firm exports Product α.

Existing export performance studies indicate that firm export experience and firm export resources are important predictors of export performance (e.g. Morgan, Kaleka, and Katsikeas 2004). Accordingly, it was also necessary to collect data on such variables, so as to include them as export performance controls in the models. See figure 4.2.
### Figure 4.2: Information sought.

<table>
<thead>
<tr>
<th>Model 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Marketing adaptation (across multiple ventures of the same firm)</td>
</tr>
<tr>
<td>• Environmental differences (across multiple ventures of the same firm)</td>
</tr>
<tr>
<td>• EMO (firm level)</td>
</tr>
<tr>
<td>• Sales performance (across multiple ventures of the same firm)</td>
</tr>
<tr>
<td>• Profit performance (across multiple ventures of the same firm)</td>
</tr>
<tr>
<td>Model 2</td>
</tr>
<tr>
<td>• Marketing adaptation quantity (firm level)</td>
</tr>
<tr>
<td>• EMO (firm level)</td>
</tr>
<tr>
<td>• Export environmental differences (firm level)</td>
</tr>
<tr>
<td>• Export sales performance (firm level)</td>
</tr>
<tr>
<td>• Export profit performance (firm level)</td>
</tr>
<tr>
<td>Control variables (Model 1 and Model 2)</td>
</tr>
<tr>
<td>• Resources (firm level)</td>
</tr>
<tr>
<td>• Export experience (firm level)</td>
</tr>
<tr>
<td>Descriptives</td>
</tr>
<tr>
<td>• Export dependence (firm level)</td>
</tr>
<tr>
<td>• Countries exported (firm level)</td>
</tr>
</tbody>
</table>

As outlined above, respondents were requested to provide data on up to four export ventures. The first export venture (herein referred to as “Benchmark Venture”) served as reference for measuring marketing adaptation across ventures environmental differences across ventures. As will be described in detail later in this chapter, the Benchmark Venture was also used for purposes of computing the levels of export sales performance and export profit performance of the remaining ventures. These latter ventures (up to three per firm) are labelled in the following sections with the generic term “Market X”.

139
4.3.2 Marketing adaptation across ventures

Marketing adaptation across ventures refers to the extent to which the firm adapts the marketing mix of a given product in different venture markets relative to a key benchmark market. Respondents were asked respondents to compare the marketing mix adopted in each “Market X” (as mentioned previously, the term “Market X” is used here to name geographical markets to which the firm exports a product/product line – referred to in here generically as “Product α”) relative to a “Benchmark Venture” (as outlined previously, the “Benchmark Venture” also corresponds to a geographical market to which the firm exports the same product/line, i.e. “Product α”). A three-item reflective scale was used. While the scale is new, it was inspired by existing marketing adaptation scales (e.g. Aulakh, Kotabe, and Teegen 2000; Navarro et al. 2010). Furthermore, as discussed later in this chapter, questionnaire pre-testing (which included interviewing managers and academics possessing a high level of expertise in international marketing/international business) revealed that the present measure has face validity. All scales were 5-point scales, with scale points “identical”, “similar”, “different in many ways but share much in common”, “quite different”, and “completely different”. See Figure 4.3.

Figure 4.3: Scale items for marketing adaptation across ventures.

- Compare the marketing mixes your firm uses for selling Product α in Benchmark venture and Market X. They are…
- Compare your firm’s tactical marketing activities when selling Product α in Benchmark Venture and Market X. They are…
- Compare your firm’s overall approaches to marketing Product α to Benchmark Venture and to Market X. They are…

As shown in Figure 4.3, only the first item mentions the expression “marketing mix”. The two remaining items use the terms “tactical marketing
activities” and “overall approaches to marketing”. Such items were included, given that some managers may not be familiar with the term “marketing mix”.

4.3.3 Environmental differences across ventures

The degree of environmental differences across ventures was also assessed relative to the Benchmark Venture. Environmental differences across ventures is conceptualized in this investigation as a formative construct, composed of four first-order factors, differences in type of competition across ventures, differences in level of competitive intensity across ventures, differences in customer characteristics across ventures, and differences in market characteristics across ventures.

The measure used to assess differences in type of competition across ventures is new and consists of a two-item reflective scale. See Figure 4.4.

**Figure 4.4: Scale items for differences in type of competition across ventures.**

- Our competitors’ activities in the Product α markets in Market X and Benchmark Venture are…

- Our competitors’ strategies in the Product α markets in Market X and Benchmark Venture are…

Differences in level of competitive intensity across ventures was measured via a four-item reflective scale, which draws on Cavusgil and Zou’s (1994) and Hultman, Robson, and Katsikeas’s (2009) export market competitive competitiveness and competitive intensity scales. See Figure 4.5.
Figure 4.5: Scale items for differences in level of competitive intensity across ventures.

- The degree of hostility between competitors in the Product α markets in Market X and Benchmark Venture is...
- The level of competitive aggressiveness in the Product α markets in Market X and Benchmark Venture is...
- The degree of rivalry between competitors in the Product α markets in Market Y and Benchmark Venture is...
- The level of competitive intensity in the Product α markets in Market X and Benchmark Venture is...

A formative index comprising five items was used to assess the differences in customer characteristics across ventures construct. The items used in this index were taken from Katsikeas, Samiee, and Theodosiou’s (2006) customer characteristics scale. See Figure 4.6.

Figure 4.6: Scale items for differences in customer characteristics across ventures.

- How similar/different is Market X in comparison to Benchmark Venture with regard to customer requirements for Product α? (Note: “customer requirements for Product α here refers to aspects such as customers’ tastes and preferences with regard to Product α, the type of benefits customers seek in Product α …)
- How similar/different is Market X in comparison to Benchmark Venture with regard to the purchasing habits of Product α customers?
- How similar/different is Market X in comparison to Benchmark Venture with regard to the product evaluation criteria of Product α customers?
- How similar/different is Market X in comparison to Benchmark Venture with regard to the price sensitivity of Product α customers?
- The customer segments that together make up the Product α market in Market Y and the customer segments that together make up the Product α market in Benchmark Venture are…
A formative index composed of four items was adopted to measure differences in market characteristics across ventures. The items for such index based on Hultman, Robson, and Katsikeas’s (2009) market characteristics scale. See Figure 4.7.

Figure 4.7: Scale items for differences in market characteristics across ventures.

- How similar/different is Market X in comparison to Benchmark Venture with regard to the demand potential for Product α?
- How similar/different is Market X in comparison to Benchmark Venture with regard to the level of growth in the Product α market over the last three years? *(Note: This question refers to the level of growth in the whole industry for Product α in Market Y and Benchmark Venture, not to the level of growth in your firm’s sales of Product α in these markets)*
- How similar/different is Market X in comparison to Benchmark Venture with regard to the profit potential of the Product α market?
- How similar/different is Market X in comparison to Benchmark Venture with regard to the size of the Product α market? *(Note: This question refers to the size of the Product α market as a whole in Market X and in Benchmark Venture, not to your firm’s sales volume of Product α in these markets)*

All these scales were 5-point scales, with scale points “identical”, “similar”, “different in many ways but share much in common”, “quite different”, and “completely different”.

4.3.4 EMO

In line with existing EMO studies (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Cadogan et al. 2001), EMO is seen in this study as a formative construct. Specifically, in this research EMO is composed of two first-order factors, namely firm level export market intelligence generation and responsiveness. Intelligence generation and responsiveness were assessed
using Cadogan et al.’s (2001) generation and responsiveness scales. All items were measured via 7-point scales with scale points “strongly disagree”, “disagree”, “slightly disagree”, “neutral”, “slightly agree”, “agree”, and “strongly agree”. Figure 4.8 depicts the items used.

**Figure 4.8: Scale items for EMO.**

<table>
<thead>
<tr>
<th>Firm export market Intelligence generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>In this company, we generate a lot of information concerning trends (e.g. regulations, technological developments, political, economic) in our export markets.</td>
</tr>
<tr>
<td>We constantly monitor our level of commitment and orientation to servicing export customer needs.</td>
</tr>
<tr>
<td>We are fast to detect fundamental shifts in our export environment (e.g. regulation, technology, economy).</td>
</tr>
<tr>
<td>We periodically review the likely effect of changes in our export environment (e.g. regulation, technology).</td>
</tr>
<tr>
<td>We generate a lot of information in order to understand the forces which influence our overseas customers’ needs and preferences.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Firm export market intelligence responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a major competitor were to launch an intensive campaign targeted at our foreign customers, we would implement a response immediately.</td>
</tr>
<tr>
<td>We are quick to respond to significant changes in our competitors’ price structures in foreign markets.</td>
</tr>
<tr>
<td>We rapidly respond to competitive actions that threaten us in our export markets.</td>
</tr>
</tbody>
</table>

**4.3.5 Venture sales performance**

The degree of sales performance achieved in each the multiple export ventures excluding the Benchmark Venture (i.e. in the ventures so far referred to as “Market X”) was computed as follows:
Sales performance in Market X
\[ (1) \]

= Sales performance of Benchmark Venture + variation in sales performance in Market X relative to Benchmark Venture

Sales performance of the Benchmark Venture was assessed via a three-item reflective scale. Variation in sales performance relative to the Benchmark Venture was measured using a three-item reflective scale, comprising similar items to the ones used to assess sales performance of the Benchmark Venture. The formula used to compute “Sales Performance in Market X” (see equation (1)) was then applied separately to each of the three sales items.

Both the scale used to assess sales performance of the Benchmark Venture and the scale used to measure variation in sales performance relative to the Benchmark Venture were based on Cadogan et al.’s (2005) export sales performance scale. Figures 4.9 and 4.10 depict the items used to measure sales performance of the Benchmark Venture and variation in sales performance relative to the Benchmark Venture, respectively.

**Figure 4.9: Scale items for sales performance in Benchmark Venture.**

- Please rate your level of satisfaction with regard to the sales volume of Product α achieved by your firm in Benchmark Venture over the last 3 years. a

- How satisfied/dissatisfied are you with the export market share for Product α achieved by your firm in Benchmark Venture over the last 3 years? a

How do you think your average annual sales growth of Product α in Benchmark Venture compares to the industry’s average annual sales growth for Product α in Benchmark Venture? b

a. 10-point scale, 1 = “very dissatisfied,” and 10 = “very satisfied”.
b. 10-point scale, 1 = “poor in comparison to the industry’s average annual sales growth for Product α in Benchmark Venture”, and 10 = “outstanding in comparison to the industry’s average annual sales growth for Product α in Benchmark Venture”.

145
Figure 4.10: Scale items for variation in sales performance in Market X relative to Benchmark Venture.

- How would you compare your levels of satisfaction with the sales volume of Product α achieved by your firm in Market X and in Benchmark Venture over the last 3 years? a
- How satisfied are you with your firm’s market share in the Product α market in Market X in comparison to Benchmark Venture over the last 3 years? a
- How would you compare your firm’s sales growth for Product α in Market X and Benchmark Venture over the last financial year? b

a. 5-point scale with scale points “much less satisfied in Market X than in Benchmark Venture”, “less satisfied in Market X than in Benchmark Venture”, “same level of satisfaction in Market X and in Benchmark Venture”, “more satisfied in Market X than in Benchmark Venture”, and “much more satisfied in Market X than in Benchmark Venture”.

b. 5-point scale with scale points “growth was much more inferior in Market X than in Benchmark Venture”, “growth was inferior in Market X than in Benchmark Venture”, “growth was the same in Market X and in Benchmark Venture”, “growth was superior in Market X than in Benchmark Venture”, and “growth was much more superior in Market X than in Benchmark Venture”.

4.3.6 Venture profit performance

The level of profit performance attained in each of the multiple export ventures excluding the Benchmark Venture (i.e. the ventures so far referred to as “Market X”) was calculated in the following way:

\[
\text{Profit performance in Market X} = \text{Profit performance of Benchmark Venture} + \text{variation in profit performance in Market X relative to Benchmark Venture}
\]  

Profit performance of the Benchmark Venture was measured using a two-item reflective scale. Variation in profit performance relative to the Benchmark Venture was measured via a two-item reflective scale, consisting
of similar items to the ones adopted to measure profit performance of the Benchmark Venture. The formula used to compute for “Profit Performance in Market X” (see equation (2)) was then applied separately to each of the two profit items.

Both the scale utilized to measure profit performance of the Benchmark Venture and the one adopted to assess variation in profit performance relative to the Benchmark Venture draw on Cadogan et al.’s (2005) export profit scale. Figures 4.11 and 4.12 illustrate the items used to measure profit performance of the Benchmark Venture and variation in profit performance relative to the Benchmark Venture, respectively.

Figure 4.11: Scale items for profit performance in Benchmark Venture.

- How satisfied/dissatisfied are you with regard to the profit levels obtained by your firm in selling Product α in Benchmark Venture over the last 3 years? a
- How would you rate the level of profitability achieved by your firm in selling Product α to Benchmark Venture over the last financial year? b

a. 7-point scale with scale points “very dissatisfied”, “dissatisfied”, “somewhat dissatisfied”, “neither satisfied nor dissatisfied”, “somewhat satisfied”, “satisfied”, and “very satisfied”.

b. 6-point scale with scale points “very unprofitable”, “unprofitable”, “somewhat unprofitable”, “somewhat profitable”, “profitable”, and “very profitable”.

147
Figure 4.12: Scale items for variation in profit performance in Market X relative to Benchmark Venture.

- How would you compare your degree of satisfaction with the profit levels obtained by your firm in selling Product α in Market X and in Benchmark Venture over the last 3 years? a

- How would you compare the profits obtained by your firm in selling Product α in Market X and in Benchmark Venture over the last financial year? b

a. 5-point scale with scale points “much less satisfied in Market X than in Benchmark Venture”, “less satisfied in Market X than in Benchmark Venture”, “same level of satisfaction in Market X and in Benchmark Venture”, “more satisfied in Market X than in Benchmark Venture”, and “much more satisfied in Market X than in Benchmark Venture”.

b. 5-point scale with scale points “much lower profit obtained in Market X relative to Benchmark Venture”, “lower profit obtained in Market X relative to Benchmark Venture”, “the same profit obtained in Market X relative to Benchmark Venture”, “higher profit obtained in Market X relative to Benchmark Venture”, and “much higher profit obtained in Market X relative to Benchmark Venture”.

4.3.7 Marketing adaptation quantity

A firm’s marketing adaptation quantity was measured by computing the average score for “marketing adaptation pursued in “Market X” relative to the Benchmark Venture” across the multiple ventures on which data was provided (excluding the Benchmark Venture) and multiplying the figure obtained by the number of geographical markets to which the firm exports Product α (which was provided by respondents). See below.

\[
\text{Marketing adaptation quantity} = \text{Average score for marketing adaptation} \times \text{number of geographical markets to which firm exports Product } \alpha
\]
The final dataset included firms that provided data on the Benchmark Venture and on one additional venture, firms that reported information on the Benchmark Venture and on two additional ventures, and firms that provided data on the Benchmark Venture and on three additional export ventures. The dataset for this study comprised, thus, firms with up to three venture level measurements of marketing adaptation relative to the Benchmark Venture. Marketing adaptation quantity was only assessed for firms that provided data on three additional ventures in addition to the Benchmark Venture. This was done for purposes of enhancing the likelihood that the marketing adaptation quantity score obtained provides a fair representation of the firm’s export marketing adaptation activities. Such representativeness issue is discussed next.

The measure used in this research to assess marketing adaptation quantity is not free from problems. A first potential problem concerns the fact that the measure implicitly assumes that the three ventures on which respondents provided marketing adaptation data are representative of marketing adaptation activities at the firm level. This may not be necessarily the case, since firms which operate in more than four ventures (i.e. more than the Benchmark Venture plus the three additional ventures on which marketing adaptation data were collected) may exhibit different levels marketing adaptation in their remaining ventures. In such cases, the average score for marketing adaptation which was included in the present measure may not provide an accurate representation of marketing adaptation at the firm level.

The problem of lack of representativeness just outlined may be aggravated in circumstances where firms operate in a large number of ventures. In such cases, the likelihood that the three ventures on which respondents provided marketing adaptation data are not representative of marketing adaptation at the firm level may be greater. This is due to the fact that, for firms operating in a large number of ventures, the three ventures on which respondents provided marketing adaptation data may only represent only a small fraction of the firm’s total export activities.
An additional potential problem of the measure used to assess marketing adaptation quantity builds on the representativeness issue. As outlined previously, marketing adaptation quantity is conceptualized as the total amount of adaptation pursued by the firm. In this context, by computing marketing adaptation quantity by multiplying the average value of marketing adaptation across the three ventures by the number of geographical markets to which the firms exports Product α, one is implicitly assuming that firms operating in a greater number of ventures adapt more. Specifically, the current measure of marketing adaptation quantity assumes that, for any given average value of marketing adaptation across the three ventures reported by respondents, firms operating in a larger number of geographical markets undertake a greater marketing adaptation quantity than do firms which operate in a smaller number of geographical markets. Nonetheless, this may not be necessarily the case.

For example, a firm operating in a large number of ventures may pursue a high level of marketing adaptation in the three ventures reported in the study but carry-out a more standardized marketing in its remaining ventures. Conversely, a firm operating in a smaller number of ventures may pursue the same average level of adaptation in the three ventures as the firm operating in a larger number of ventures, but undertake a greater degree of adaptation in its remaining ventures. In such circumstances, although the firm operating in a smaller number of markets may pursue a greater total amount of marketing adaptation compared to the firm which operates in a larger number of markets, it will score less on the marketing adaptation quantity measure adopted in this study.

A third potential problem of the instrument adopted to measure marketing adaptation quantity concerns the number of products/product lines exported by the firm. As was outlined earlier in this chapter, venture level marketing adaptation data which were used to compute marketing adaptation quantity concerned the firm’s exports of one product/product line exported (Product α). As such, the measure used implicitly assumes that the firm’s marketing adaptation activities concerning Product α are a fair representation
of the firm’s total marketing adaptation activities (i.e. across the entire portfolio of products/product lines exported by the firm). Nonetheless, this may not necessarily be the case for firms which export multiple products/product lines. For instance, firms which export several products/product lines may pursue different quantities of marketing adaptation across those products/product lines. For such type of firms, the quantity of marketing adaptation pursued in Product α may not constitute a fair representation of the total quantity of adaptation undertaken at the firm level.

One of the ways to overcome the limitations of the measure of marketing adaptation quantity which were just discussed would be obtain venture level measurements of marketing adaptation for all the firm’s export ventures. However, in order to do so, the researcher would need to collect primary data by means of, for example a survey, since it is typically the case that there are no secondary data available concerning firms’ export activities. Furthermore, it is not unusual for small to medium-sized exporting firms to have dozens of export ventures, or even hundreds (Oliveira, Cadogan, and Souchon 2012). As such, gathering primary venture data on each of the firm’s ventures would probably compromise the feasibility of the study to a great extent.

A second alternative would be to measure marketing adaptation quantity directly at the firm level, by asking respondents the total amount of marketing adaptation pursued by their firms. Nonetheless, such procedure would likely produce a measure that would be too generic/abstract, as different respondents may have different perceptions regarding the meaning of “amount” (or “quantity”) of adaptation. In this context, by using marketing adaptation data relating to three specific export ventures of the firm, the present study circumvents such problem, since it produces specific (as opposed to generic) information concerning the firm’s export marketing adaptation activities.

A third alternative would be to collect adaptation data on one export venture per firm (e.g. Cavusgil and Zou 1994; Morgan, Kaleka, and Katsikeas 2004). Nonetheless, such procedure could possibly suffer from (or even
aggravate) the potential lack of representativeness of the measure of marketing adaptation quantity, since a single export venture is not necessarily representative of the firm’s overall export activities (cf. Oliveira, Cadogan, and Souchon 2012).

Therefore, it was concluded that the measure of marketing adaptation quantity was the most suitable among the alternatives available.

**4.3.8 Firm export environmental differences**

The firm export environmental differences construct was assessed by summatng the scores obtained for export venture level environmental differences across the multiple ventures on which data was provided (excluding the Benchmark Venture). As outlined earlier in this chapter, export venture level environmental differences construct is seen in this research as a formative construct made up of four first-order factors, namely venture level differences in type of competition, venture level differences in level of competitive intensity, venture level differences in customer characteristics, and venture level differences in market characteristics. The formula adopted to assess firm export environmental differences is shown below.

\[
\text{Firm export environmental differences} = \text{venture level environmental differences (venture 1)} + \text{venture level environmental differences (venture 2)} + \text{venture level environmental differences (venture 3)}
\]

The measure used to assess firm export environmental differences suffers from similar limitations as the instrument used to assess marketing adaptation quantity. Specifically, the measure used to assess firm export environmental differences only takes into account three of the firm’s venture markets corresponding to Product α. Accordingly, the measure implicitly
assumes that the average level of environmental differences faced by the firm across those three venture markets is representative of the overall degree of export environmental differences faced by the firm. It may be the case, however, that firms operating in more than four ventures (i.e. the Benchmark Venture plus the three additional ventures on which environmental data were collected) face different levels of export environmental differences in their remaining ventures in comparison to the levels encountered in the three ventures which were reported by respondents. In such cases, the measure adopted in the present study may not provide an accurate representation of the overall degree of export environmental differences faced by the firm.

A further limitation of the measure used to assess firm export environmental differences relates to the fact that the measure assumes that the firm’s export activities regarding Product α are representative of the firm’s overall export activities. However, this may not be the case for firms that export more than one product/product line. For example, in the case of firms which export multiple products/product lines, the degree of environmental differences faced may vary across the multiple products/product lines exported. In such cases, the levels of export environmental differences concerning firms’ exports of Product α may be representative of the firm-wide levels of export environmental differences faced by firms.

A possible way to overcome the limitations of the firm export environmental differences measure adopted in this study could consist of obtaining venture level measurements for export environmental differences for all the firm’s export ventures. However, this would typically involve collecting survey data on all the firm’s ventures. Such would probably be unfeasible, especially in the case of firms that have a large number of ventures.

Alternatively, one could measure firm export environmental differences by asking respondents questions directly at the firm level. Nonetheless, such procedure might produce a measure that would be too generic/abstract, thereby resulting in confounded findings (Cavusgil and Zou 1994). By using data relating to specific export ventures of the firm, the current study avoids
such problem as it produces specific (rather than generic) information regarding the environmental differences faced by the firm in its export markets.

A third alternative could involve collecting data on a single export venture within the firm. However, such approach could potentially suffer from (or even aggravate) the potential lack of representativeness of the measure for firm export environmental differences, as a single export venture does not necessarily provide a fair representation of the firm’s overall export activities.

Thus it was concluded that the measure of firm export environmental differences was the most suitable among the alternatives available.

### 4.3.9 Firm export sales performance

The measure for firm export sales performance adopted is based on Cadogan et al.’s (2005) export sales performance scale. Figure 4.13 depicts the items used.

**Figure 4.13: Scale items for firm export sales performance.**

- How would you rate your firm’s export sales volume during the last 3 years?  

- Overall, how would you rate your firm’s market share in its export markets during the last 3 years?

- How do you think your firm’s average annual export sales growth compares to the industry average?

a. 7-point scale, scale anchors 1 = “poor,” and 7 = “outstanding”.

b. 7-point scale with scale points 1 = “much worse than industry average”, 2 = “worse than industry average”, 3 = “slightly worse than industry average”, 4 = “as good as industry average”, 5 = “slightly better than industry average”, 6 = “better than industry average”, and 7 = “much better than industry average”.
4.3.10 Firm export profit performance

The measure adopted to assess firm export profit performance is based on Cadogan et al.’s (2005) export profit performance scale. Figure 4.14 depicts the items used.

Figure 4.14: Scale items for firm export profit performance.

- How would you rate the profit levels achieved by your firm in its export operations during the last 3 years?\(^a\)
- To what extent does the following statement reflect the situation in your company? ‘Overall, exporting has been very profitable for this firm over the last financial year.’\(^b\)

a. 7-point scale, scale anchors 1 = “poor,” and 7 = “outstanding”.
b. 7-point scale with scale points 1 = “not at all”, 2 = “to a very slight extent”, 3 = “to a small extent”, 4 = “to a moderate extent”, 5 = “to a considerable extent”, 6 = “to a great extent”, and 7 = “to an extreme extent”.

4.3.11 Firm resources

In line with extant export performance studies (e.g. Morgan, Kaleka, and Katsikeas 2004) the firm resources construct was measured by asking respondents to report the approximate number of full-time employees of the firm.

4.3.12 Firm export experience

Firm export experience was measured by asking respondents to indicate the approximate number of years the firm has been exporting. Such approach is in line with existing export performance studies (e.g. Morgan, Kaleka, and Katsikeas 2004).
4.3.11 Export dependence

Export dependence concerns the degree to which firms rely on exports for their sales and profits (cf. Cadogan, Diamantopoulos, and Siguaw 2002). A single item was used to measure export dependence. Specifically, respondents were asked to indicate the average percentage of the firm’s annual sales turnover generated by exports over the last three years.

4.3.12 Countries exported

In order to capture the level of diversity of the firm’s export operations, respondents were asked to provide the approximate number of countries to which their firms export. Respondents were also asked to indicate the number of geographically distinct regions to which their firms export from a list of nine regions. The list contained the following regions: EU, Eastern Europe, Mainland China, Middle East, Other Asian Countries, Australia/New Zealand, North America, South/Central America, and Africa.

4.3.13 Additional variables

Additional constructs were included for purposes that go beyond the scope of this research. These include leaders’ commitment to exporting, firm innovativeness, venture age, and venture level management commitment.

4.3.14 Response form

Two broad types of question formats that can be used in surveys are open-ended and closed-ended questions. The closed-ended question format includes different types of scales, such as nominal scales, ordinal scales, and ratio scales. The open-ended question format also contains different types of
scales, including numerical response open-ended questions, list-style open-ended questions, and descriptive open-ended questions. (cf. Dillman, Smith, and Christian 2009). In line with extant export performance research, the majority of questions included in the survey used in this research were close-ended Likert-type scales.

Questionnaire design took into consideration concerns relating to common method variance (CMV). According to Podsakoff et al. (2003) CMV is “variance that is attributable to the measurement method rather than to the constructs the measures represent” (p. 879). CMV originates erroneous internal consistency, i.e., an apparent correlation among variables which is generated by their common source (e.g. Chang, Witteloostuijn, and Eden 2010).

In this context, procedural remedies related to questionnaire design were used for purposes of avoiding or correcting CMV (Psodsakoff et al. 2003). More specifically, the scales used in the survey varied in terms of scale length, with the number of scale points ranging from 5 to 10. Also, in order to break monotony, a variety of answering formats were adopted. These included presenting scale points in a dropdown menu, as horizontal radio buttons, or as vertical radio buttons.

The measurement of firm resources, firm export experience, and number of countries to which the firm exports involved asking respondents to provide ratio-data using the open-ended response format. The question concerning the number of distinct geographical regions to which the firm exports was asked using the dichotomous questions technique.

4.3.15 Question sequence and visual characteristics

According to Iacobucci and Churchill (2010), the sequence in which questions are presented in a survey may be crucial to the success of the
research effort. Accordingly, the authors suggest a few general principles, such as using simple and interesting opening questions, adopting the funnel approach (by starting with broad questions and progressively narrowing the scope, and by avoiding sudden changes in topic), placing difficult or sensitive questions late in the questionnaire, and designing branching questions (i.e. questions that are used to direct the respondent to different places in the questionnaire, based on their specific response to the question at hand) with care.

The question sequence of the survey used in this research followed the principles which were just outlined. The questionnaire started with a welcoming page which explained the purpose of the research project and provided information on a number of pertinent issues, such as data protection matters and contact details of the research team. Subsequently, the respondent was asked to start filling in the survey, which was divided into five parts. In the first part the respondent was asked to name a product/product line which he/she was familiar with and which the company exported to several geographical markets (i.e. Product α). In this first part the respondent was also asked a few questions concerning Product α.

The second part of the survey started by asking the respondent to name, among the geographical markets to which the company exported Product α, the one in which performance was the strongest. By naming such market, the respondent defined the Benchmark Venture. The respondent was then requested to answer questions about the Benchmark Venture, including the level of sales performance and of profit performance achieved by the firm in such venture. Subsequently, the respondent was asked to name three additional geographical markets to which the firm exported Product α besides the Benchmark Venture. The remaining of the second part of the survey contained multiple questions about those three additional markets, such as type of distribution channel adopted in the market and level of familiarity with the market.
The third part of the questionnaire started by asking the respondent to compare the first additional market reported with the Benchmark Venture in terms of level of export marketing adaptation, degree of export environmental differences, and levels of sales and of profit performance attained. Subsequently, the respondent was requested to compare the second and the third additional markets (one at a time) with the Benchmark Venture with regard to the same variables.

The fourth section contained questions relating to firm level variables, including EMO, firm export sales performance, and firm export profit performance. This section also included questions relating to the control variables and to firm descriptives.

The fifth section included questions concerning the respondent’s profile.

As mentioned earlier in this chapter, the online survey asked respondents to provide data on the Benchmark Venture and on up to three additional export ventures. While some respondents only provided data on the Benchmark Venture and on one additional venture, others provided information on the Benchmark Venture and on two additional ventures, and others on the Benchmark Ventures and on three additional ventures. The design of the questionnaire accounted for such factor by redirecting respondents to different pages, depending on the number of ventures which they named at the beginning of the survey. For instance, respondents that only named the Benchmark Venture and one additional market were not presented with the survey pages which asked them to compare the second and the third additional market with the Benchmark Venture. Therefore, questionnaire length varied considerably depending on the number of additional markets named by the respondent at the beginning of the survey.

The visual design of a survey influences people when they are responding to survey questions (Dillman, Smith, and Christian 2009). As such, the design of the survey used in this study was guided by the need to present information in a clear manner and to make survey navigation by the part of
respondents easy. Following the guidelines provided by Dillman, Smith, and Christian (2009) several techniques were used, including establishing consistency in the visual presentation of questions, using alignment and vertical spacing in order to help respondents organize information, using color and contrast, and avoiding visual clutter.

Having designed the survey, it was then necessary to pre-test it. This is described in the next section.

4.4 PRE-TESTING

“Pretesting is [...] the point at which questionnaire design and survey implementation begin to intersect” (Dillman, Smith, and Christian 2009, p. 219-20). Following the recommendations provided by Dillman, Smith, and Christian (2009), questionnaire pretesting was divided into two stages. The first step consisted of personal interviews. The second phase was a pilot survey with a subsample of the population of interest (UK exporters).

4.4.1 Personal interviews

The personal interviewing phase of a pre-test involves consulting a variety of different people whose areas of expertise ought to be considerably different. For example, some people are capable of looking at questions and of providing feedback on whether these questions are measuring the constructs the researcher intends to measure. Others are able to look at a questionnaire and identify problems with its visual display, or unintended question order effects. Finally, others are capable of providing good evaluations with regard to question structure and of identifying response options which are inappropriate (Dillman, Smith, and Christian 2009).
The personal interview pre-test was divided in two stages. The purpose of the first stage was to detect major problems of the survey. The purpose of the second stage was to assess whether potential respondents understood the questions, and to detect if they had difficulties in navigating through the survey.

In the first stage, three colleagues doing doctoral research at the School of Business and Economics of Loughborough University were interviewed. The comments of such colleagues pertained essentially to issues such as grammar, typos, and formatting. This stage also involved obtaining feedback from two academic researchers in international marketing and business strategy, who provided feedback concerning the overall quality of the survey and served as expert judges to assess face validity of the questions. After incorporating the comments and suggestions made by the three doctoral candidates and the two academic researchers the second stage of the personal interview pre-test was carried-out.

The second stage of the personal interview pre-test involved interviewing four managers of exporting firms. Two types of interviews were conducted (cf. Dillman, Smith, and Christian 2009). In the first type, the respondents were requested to answer the survey in the presence of the researcher, who requested them to think out loud as they went through the survey. Accordingly, respondents were asked to tell the researcher what was being thought about the questions and how answers to such questions were being formed. The researcher then probed in order get an understanding of the manner in which each question was being interpreted and, thus, to assess whether his intent for each question was being achieved. The second type of interview with managers involved asking them to complete the questionnaire in silence, in the same manner as they might do if they were by themselves. The researcher observed the answering process, focusing particularly on whether mistakes were made. Such technique was used in order to determine if respondents were able to navigate through the questionnaire in an appropriate manner (Dillman, Smith, and Christian 2009).
As a result of the feedback obtained via the pre-test interviews carried out with managers a few changes were introduced in the survey. These changes are outlined next.

4.4.2 Questionnaire revision after personal interview pre-test

Some of the concepts included in the survey were not clear to managers. That was the case of, for example, differences in customer requirements for Product α in Market X in comparison to the Benchmark Venture, differences in terms of the size of the Product α in Market X in comparison to the Benchmark Venture, and differences in terms of level of market growth in the Product α market in Market X in comparison to the Benchmark Venture. In order to address this issue, explanatory notes containing definitions of such concepts were introduced next to the corresponding questions.

Additional changes concerned rendering the structure and flow of the survey clearer for respondents. In this context, the pre-test interviews emphasized the need to have a structure which clearly identified sections that concerned different topics. Accordingly, page titles providing such information were placed on top of each page. Typical titles include “Market X vs. Benchmark Venture” or “About your firm”. Furthermore, introductory pages were included before the start of each section. Such introductory pages included sentences such as “(1 of 3) “Market X vs. Benchmark Venture”, or “I would now like to ask you to answer some questions relating to your firm’s export activities in general”.

A frequent comment made by managers in the pre-test interviews concerned questionnaire length. Managers stressed the fact that the questionnaire was too long and that such big length could negatively affect the response rate obtained in the study. Nonetheless, it was not possible to shorten the questionnaire without compromising the research objectives of the
study and the quality of the data being collected. Accordingly, other techniques were employed in order to enhance response rate, so as to mitigate the potential effects of having a long survey. Such techniques included the possibility of respondents to fill in the survey in multiple instalments – in order to resume the survey at any given point, the respondent just needed to re-click on the survey link included in the survey email invitation (or copy-paste it into the browser) and re-insert the login details, which were also included in the survey email invitation -, the inclusion of pages towards the end of the survey which contained phrases that aimed at avoiding survey abandonment by the part of respondents, such as “I greatly appreciate your cooperation, which is vital for the success of this research. Please proceed to the next page” or “You are now approaching the end of this survey...”. Respondents were also offered the chance to be provided with a free report containing the main findings of the study and the chance to win a voucher for a two-night getaway break for two people, redeemable in a choice of hotels across several locations UK wide.

4.4.3 Pilot study

The purpose of the pilot study was threefold. First, it served to detect problems in terms of survey administration and of survey navigation. If such problems could be identified in advance, it would be possible to fix them before launching the main survey. Second, it assisted in providing an indication of the response rate for the main survey. In this context, three different company contact strategies were used in the pilot study, so as to evaluate which of them would be likely to provide the highest response rate in the main survey. Third, the pilot study served the purpose of providing the researcher with an insight in terms of the distribution of values across the different constructs which could be expected for the main survey.

The population of interest for this study was British exporting companies. The sampling frame adopted was the British Exporters Database. As mentioned previously, three different company contact strategies were used in
the pilot study, so as to evaluate which of them would be likely to provide a higher response rate in the main survey. Accordingly, the set of firms used in the pilot study was divided into three groups, and a different contact strategy was used for each of those groups.

For the first group of firms a pure email contact strategy was used. In other words, such firms were not pre-notified by telephone prior to receiving an email with a survey invitation. The email address used was the one provided by the British Exporters Database. Survey invitation emails were addressed to managers listed in the database. Following the first email contact, multiple email reminders were sent to firms in which the manager had not filled in the survey. Email reminders were sent with at least one week of interval.

The second contact strategy consisted of contacting firms by telephone prior to sending the survey email invitation. The purpose of the telephone contact was to pre-notify the firm of the research project and to identify an appropriate key informant for the study (e.g. Morgan, Kaleka, and Katsikeas 2004). After the first email contact, multiple email reminders were sent to firms in which the manager had not filled in the questionnaire. Reminders were sent with at least one week of interval.

The third contact strategy was a mix of the two contact strategies which were just described. Firms were initially sent a survey email invitation without telephone pre-notification. Subsequently, firms in which the manager had not filled in the questionnaire were contacted by telephone. Following this, further email survey invitations were sent.

Survey email invitations (and reminders) contained information about the project, the link to the survey, and respondent login details. Appendix A 4.1 contains an illustration of the survey email invitations sent for the pilot study.
4.4.3 Sample frame selection

As outlined earlier in this chapter, the population of interest of this study was British exporting firms. The sample frame selection process was based on two main criteria. First, the sampling frame would need to be broad enough, so as to guarantee that it constituted a fair representation of British exporting firms. Second, the database had to contain accurate and up-to-date information in terms of company name, telephone number, and key respondent, in order to allow the researcher to contact the firm by telephone and/or to send the survey to the right individual in the right firm.

There are many business directories and market research agencies that provide company listings which satisfy the above mentioned criteria, such as Dun & Bradstreet, British Exporters, and Kompass. In the end, the British Exporters Database was selected. Such choice was made essentially for practical reasons. Specifically, the British Exporters database was made available for this research by a colleague who was going to acquire the same database for a similar project. The database included 14,270 companies, which were split equally among the two research projects using a random sampling technique. Thus, 7135 companies of the database were attributed to the present study.

4.4.4 Response rate

One of the purposes of the pilot study was to get an insight in terms of the distribution of values across the variables of interest of the study. It was determined that it was necessary to obtain a minimum of 30 observations, so as to have any confidence in the results attained. Thus, the pilot study lasted until a minimum of 30 fully completed responses were obtained. In total, 809 firms were randomly sampled from the British Exporters Database.

725 of the 809 firms randomly selected for the pilot study were contacted using the first contact strategy, i.e. they were sent the survey without
prior telephone pre-notification. Of those firms, 20 returned usable questionnaires, 25 explicitly refused to participate in the survey, 42 did not export, 69 could not be contacted (the email was returned to the sender as “undeliverable”), and 5 were duplicates. Thus, the effective response rate associated with the first contact strategy was \[\frac{20}{(725-42-69-5)} \times 100 = 3.3\%\].

23 of the 809 firms were contacted using the second contact strategy, i.e. they were pre-notified by telephone before being sent the survey for the first time. Of those 23 firms, 2 returned usable questionnaires and 2 emailed the researcher back after being sent the survey explicitly refusing to participate in the study. The effective response rate associated with this contact strategy was, therefore, \((2/23) \times 100 = 8.7\%\).

The remaining 61 of the 809 firms used in the pilot were contacted using the third contact strategy. Accordingly, such firms were initially sent a survey email invitation with no telephone pre-notification. Afterwards, firms in which the manager had not filled in the survey were contacted by telephone. Following this, additional email survey invitations were sent. Of those 61 firms 7 returned usable questionnaires and 5 sent an email back in which they explicitly refused to participate in the study. The effective response rate associated with the third contact strategy was, thus, \((7/61) \times 100 = 11.5\%\).

Table 4.1 illustrates the computation of the effective response rate for each of the three contact strategies used in the pilot study.
Table 4.1: Effective response rate for different contact strategies used in the pilot study.

<table>
<thead>
<tr>
<th></th>
<th>Contact strategy 1 (pure email strategy)</th>
<th>Contact strategy 2 (pre-notification by telephone)</th>
<th>Contact strategy 3 (emails followed by telephone contacts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number sent</td>
<td>725</td>
<td>23</td>
<td>61</td>
</tr>
<tr>
<td>Undeliverable</td>
<td>69</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Refused to participate</td>
<td>25</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Does not export</td>
<td>42</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Duplicate</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Usable responses</td>
<td>20</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Effective response rate</td>
<td>[\frac{f}{(a - b - d - e)}] * 100</td>
<td>3.3%</td>
<td>8.7%</td>
</tr>
</tbody>
</table>
As can be concluded by inspecting Table 4.1, contact strategy 3 was the one that produced the highest response rate. In the next section, the deployment of the main survey is described.

4.5 MAIN SURVEY

The pilot study provided valuable feedback in terms of further changes that needed to be made in the questionnaire and with regard to the contact strategy to be adopted in the main survey. These issues are discussed next.

4.5.1 Final questionnaire revision

Only minor revisions were made to the questionnaire at this stage. One of the changes concerned the formatting of the question which asked respondents to name the Benchmark Venture. The pre-test revealed that, when first asked to name a geographical market to which the firm exports Product α, a few respondents overlooked the word “geographical” and, thus, named other types of market, such as a business segment (e.g. “retail”, “healthcare”). This type of answers rendered an entire questionnaire unusable. In order to prevent this from happening in the main survey, the word “geographical” appeared underlined in the main survey.

Also, one of the instructions included in the questionnaire contained a typo which had not been detected during the personal interviews stage of the pre-test. Such typo was detected by one of the respondents of the pilot study, who kindly informed the researcher of its existence. Appendix A 4.3 contains screenshots of the final questionnaire.
4.5.2 Sample frame selection and sample administration

The sampling frame adopted for the main survey was the same used for the pilot study, namely the British Exporters Database. Taking into consideration the complexity of the models to be tested in this study, the need to obtain sufficient statistical power, and the literature recommendations it was decided that at least 100 cases would be necessary for model testing.

As discussed earlier in this chapter, contact strategy 3 (i.e. sending survey invitation emails without prior telephone pre-notification and subsequently contacting firms in which the manager had not completed the survey by telephone prior to sending the survey again) was the one that produced the highest response rate in the pilot study (11.5%).

In order to obtain at least 100 usable responses, and given that the pilot study produced 29 usable responses, it would be necessary to attain 71 usable responses in the main survey\(^3\). Assuming that using contact strategy 3 would produce exactly the same response rate in the main survey as the one obtained in the pre-test (i.e. 11.5%), obtaining 71 usable responses would require contacting at least 619 firms by telephone. Given that making such a high number of phone calls would require a too great investment of time resources, it was decided to use a combination of contact strategies for the main study. Specifically, it was decided to initially use a pure email contact strategy. Subsequently, for the firms in which the manager had not responded to the survey, telephone contacts would be made to as many firms as possible, bearing in mind the time limitations of the project.

From the original 7,135 companies available for this study, 809 had already been used in the pilot. The British Exporters Database only provided an email address for 3,986 of the 6,326 remaining companies. 2,500 companies were randomly sampled out of those 3,986 firms. A survey email invitation was sent to each of those 2,500 companies. Following this, four

---

\(^3\) The responses obtained in the pilot study were used for purposes of model testing since no changes were made in the scales after the pilot.
reminder emails were sent to firms in which the manager had not responded to the survey. Such reminders were sent with at least one week of interval between them. Appendix A 4.2 contains an illustration of the survey email invitations sent for the main survey.

A number of firms in which the manager did not respond to the survey after those three reminders were sent were subsequently contacted by telephone by the researcher (i.e. contact strategy 3 was used for those firms). Similarly to the pilot study, the purpose of the telephone contact was to pre-notify the firm of the research project and to identify an appropriate key informant. After the telephone contact, managers that agreed to participate were sent an email containing information about the project, the link to the survey, and login details. Subsequently, four reminder emails were sent to managers who had not yet completed the survey. Such reminders were sent with at least one week of interval between them.

1,927 of the 2,500 firms sampled for the main survey were sent the survey without telephone pre-notification (i.e. using contact strategy 1). Of those firms, 31 returned usable questionnaires, 337 explicitly refused to participate in the study, 253 did not export, 458 could not be contacted by email (the email was returned to the sender as “undeliverable”), and 17 were duplicates. The effective response rate associated with this contact strategy was, thus, \[ \frac{31}{(1927-253-458-17)} \times 100 = 2.6\% . \] The remaining 573 firms were sent the survey after a mix of email and telephone contacts (i.e. using contact strategy 3). Of those firms, 71 returned usable questionnaires, 27 explicitly refused to participate in the study, 5 could not be contacted by email (the email was returned to the sender as “undeliverable”), and 13 did not export. Therefore, the effective response rate associated with this contact strategy was \[ \frac{71}{(573-5-13)} \times 100 = 12.8\% . \] Table 4.2 exhibits the computation of the effective response rate for the two contact strategies adopted in the main survey.
Table 4.2: Effective response rate for the two contact strategies used in the main survey.

<table>
<thead>
<tr>
<th></th>
<th>Contact strategy 1 (pure email strategy)</th>
<th>Contact strategy 3 (emails followed by telephone contacts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number sent</td>
<td>1927</td>
<td>573</td>
</tr>
<tr>
<td>Undeliverable</td>
<td>458</td>
<td>5</td>
</tr>
<tr>
<td>Refused to participate</td>
<td>337</td>
<td>27</td>
</tr>
<tr>
<td>Does not export</td>
<td>253</td>
<td>13</td>
</tr>
<tr>
<td>Duplicate</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Usable responses</td>
<td>31</td>
<td>71</td>
</tr>
<tr>
<td>Effective response rate</td>
<td>[(f / (a - b - d - e)] * 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.6%</td>
<td>12.8%</td>
</tr>
</tbody>
</table>

The following section outlines the response analysis process.

4.6 RESPONSE

4.6.1 Follow-up sample on eligibility

The response rate obtained in this research was estimated from the subsample of 573 firms (i.e. firms on which contact strategy 3 was used). The reason to compute the response rate from such subsample has to do with the fact that a sizeable proportion of export performance researchers do contact firms by phone within the context of quantitative data collection. Accordingly, estimating the response rate of the study from the subsample of firms for which telephone contacts were made enhances the comparability of this research with other export performance studies in terms of the response rate obtained.
In this context, it is fundamental to be able to compare the response rate attained in a particular investigation with the typical responses rates obtained in similar studies, since the response rate can be a good indicator of the quality of a questionnaire.

A random sample of 100 non-respondent firms was drawn from the subsample of 573 contacts. These firms were then contacted by telephone for purposes of assessing reasons for non-participation. See Table 4.3.

**Table 4.3: Non-response analysis.**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Number of firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to assess reasons for non-response</td>
<td>56</td>
</tr>
<tr>
<td>Company does not export</td>
<td>6</td>
</tr>
<tr>
<td>Lack of time</td>
<td>17</td>
</tr>
<tr>
<td>Respondent did not receive survey</td>
<td>15</td>
</tr>
<tr>
<td>Respondent forgot to answer survey</td>
<td>1</td>
</tr>
<tr>
<td>Company policy not to take part in surveys</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

As shown in Table 4.3, 6% of the firms in the subsample were ineligible and 15% of the respondents did not receive the survey. The latter figure is not surprising, since the survey invitation emails contained words such as “survey” and “prize”. The use of such words significantly enhanced the likelihood that survey invitation emails were filtered as spam, especially given the powerful spam filters which most email systems possess nowadays (Dillman, Smyth, and Christian 2009). In this context, when an email message is filtered as spam by the recipient’s email system, the sender does not receive a message
saying that the message was undelivered. Thus, the researcher only became aware of messages that were probably filtered as spam during the telephone follow-up contacts.

The number of non-respondents from contact strategy 3 adjusted for undeliverables and ineligibles (i.e. firms that do not export) was 573-71-5-13=484 (see Table 4.2). Also, as shown in Table 4.3, follow-up telephone contacts with a random sample of 100 non-respondents revealed that 6% of those firms were ineligible and 15% did not receive the survey. Thus, for purposes of estimating a 95% confidence interval for the firms that were ineligible plus firms that did not receive the survey in the population of non-respondents, the following formula was used (cf. Diamantopoulos and Schlegelmilch 2000):

\[
p \pm z \cdot \sqrt{\frac{p(1-p)}{n}} \cdot \sqrt{\frac{N-n}{N-1}}
\]

Where:

\[
p = \text{observed sample proportion of ineligible firms plus undeliverables}
\]
\[
z = \text{number of standard errors corresponding to the desired confidence interval}
\]
\[
n = \text{size of the observed sub-sample of non-respondents}
\]
\[
N = \text{total number of non-respondents}
\]

Therefore, between 14% and 28% of non-respondent firms either did not receive the survey or were ineligible. In other words, between 67 and 136 firms either did not receive the questionnaire or were ineligible. If one summates the undeliverables and ineligibles obtained from survey deployment with the ones of the follow-up contact, the total number of undeliverables plus ineligibles rises to a number which is between 88 and 157.
Thus, when adjusting for undeliverability and ineligibility, the minimum and maximum values for the effective response rate of the study are estimated to be between $\frac{71}{(573-106)} = 15\%$ and $\frac{71}{(573-175)} = 17\%$. The average response rate for this study is, thus, 16\%. Such value is in line with the figures obtained in other export performance studies (cf. Sousa, Martínez-López, and Coelho 2008). The response rate attained was, therefore, deemed to be satisfactory.

### 4.6.2 Non-response bias

Non-response bias occurs when the eligible non-respondents differ substantially from the respondents in terms of the variables of interest (Armstrong and Overton 1977). Non-response bias is quite problematic, since it means that the sample of a given study is not representative of its sampling frame, which implies that the results obtained are not generalizable. The method typically used by researchers to assess for non-response bias consists of making a comparison between respondents and non-respondents with regard to the variables of interest.

According to Armstrong and Overton (1977), people who respond to later waves (a “wave” here means the response generated by a stimulus, e.g. a follow up email – cf. Armstrong and Overton 1977) are expected to be similar to non-respondents, since they only responded to the survey because of an increased stimulus. Bearing in mind such guideline, a series of independent t-tests were carried out to assess whether early respondents differed substantially from late respondents with regard to the measures used in this study.

In order to determine early versus late respondents, the number of working days between the first email contact and the day in which respondents completed the survey was computed. –such variable was labelled as “RESPDAYS”. Descriptive statistics were then computed on the “RESPDAYS”
variable. Early respondents were defined as those firms pertaining to the first quartile of the distribution of “RESPDAYS”. Late respondents were defined as the firms belonging to the last quartile of such distribution. The results of the independent t-tests carried out are displayed in Table 4.4.

Table 4.4: Comparison between early and late respondents.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean Early Respondents (N=29)</th>
<th>Mean Late Respondents (N=31)</th>
<th>Sig. of t-value (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptation &quot;a&quot;</td>
<td>2.920</td>
<td>2.729</td>
<td>0.382</td>
</tr>
<tr>
<td>Generation</td>
<td>4.507</td>
<td>4.569</td>
<td>0.864</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>4.977</td>
<td>4.634</td>
<td>0.349</td>
</tr>
<tr>
<td>EMO</td>
<td>4.742</td>
<td>4.602</td>
<td>0.646</td>
</tr>
<tr>
<td>Differences in type of competition &quot;a&quot;</td>
<td>2.876</td>
<td>2.766</td>
<td>0.499</td>
</tr>
<tr>
<td>Differences in competitive intensity &quot;a&quot;</td>
<td>2.669</td>
<td>2.186</td>
<td>0.449</td>
</tr>
<tr>
<td>Differences in customer characteristics &quot;a&quot;</td>
<td>2.808</td>
<td>2.676</td>
<td>0.460</td>
</tr>
<tr>
<td>Differences in market characteristics &quot;a&quot;</td>
<td>3.125</td>
<td>3.245</td>
<td>0.496</td>
</tr>
<tr>
<td>Environmental differences &quot;a&quot;</td>
<td>2.870</td>
<td>2.876</td>
<td>0.965</td>
</tr>
<tr>
<td>Export sales performance (firm level)</td>
<td>5.000</td>
<td>4.923</td>
<td>0.812</td>
</tr>
<tr>
<td>Export profit performance (firm level)</td>
<td>4.759</td>
<td>4.919</td>
<td>0.576</td>
</tr>
<tr>
<td>Export sales performance (export venture level) &quot;a&quot;</td>
<td>5.956</td>
<td>5.667</td>
<td>0.531</td>
</tr>
<tr>
<td>Export profit performance (export venture level) &quot;a&quot;</td>
<td>4.716</td>
<td>4.852</td>
<td>0.562</td>
</tr>
</tbody>
</table>

"a" Average score across the firm’s ventures.

As can be seen by inspecting Table 4.4, no significant differences (at the 5% level of significance) were found between early and late respondents in terms of their response patterns. Thus, it can be concluded that non-response bias is not likely to be a problem in this study.
4.7 CHAPTER SUMMARY

This chapter outlined and justified the steps undertaken to collect the data which were necessary to test the two theoretical models presented in Chapter 3. First, general data collection issues were considered. In this context, the reasons to opt for an online survey were presented. Subsequently, the design and implementation of the online survey were described. Following this, the effective response rate was computed and the potential impact of non-response bias was assessed. The next chapter describes issues pertaining to the processing of the data collected prior to hypothesis testing, and provides descriptive statistics of the sample.
CHAPTER 5: DATA PROCESSING AND PROFILING

5.1 INTRODUCTION

The previous chapter outlined the methodology adopted for purposes of data collection. The next three chapters are devoted to data analysis and presentation of research findings. Data analysis is divided into three parts, namely data processing and profiling, measure development and assessment, and hypothesis-testing. Each of those three parts is addressed by a different chapter.

The present chapter concerns data processing and profiling. Specifically, data coding and cleaning processes are delineated, the procedure adopted for imputing missing values is outlined, and the profile of respondents is described. In this context, the researcher ought to see the time, effort and resources devoted to a preliminary data examination as an investment which guarantees that the results obtained in multivariate analysis are truly valid and accurate (Hair et al. 2010). Accordingly, a preliminary data examination process was carried-out in the present research. Such process followed the guidelines provided by Hair et al. (2010) and is described in the next two sections.

5.2 DATA CODING AND CLEANING

The first step of the preliminary data analysis process concerned data coding. The data were collected via an online survey. The online survey software adopted allowed the researcher to export the responses directly to an excel spreadsheet/SPSS file. Many of the Likert-type scales adopted used labels rather than numbers as scale points. Accordingly, a request was made to the survey software provider to assign numbers to those labels for purposes
of exporting the data from the software. Such process was performed manually by the survey software provider and was, thus, subject to human error. Therefore, the researcher carried out a process of double-checking if the responses were coded correctly.

A second step of the preliminary data analysis process consisted of checking for outliers and atypical cases in the numerical response open-ended questions (which were used to measure, for example, firm resources and firm export experience).

A third step consisted of performing a graphical examination of the data. Such step is of extreme importance, as it assists the researcher in gaining a more complete understanding of the basic characteristics of the data by displaying, among other aspects, the basic characteristics of individual variables in a simple “picture” (Hair et al. 2010).

5.3 MISSING VALUES

Incomplete data is a frequent problem that occurs with many types of datasets, including survey-based data, and which results in the reduction of the sample size available for data analysis (Hair et al 2010; Olinsky, Chen, and Harlow 2003). Given the length of the questionnaire, a number of cases in the sample had missing data. The proportion of missing data for each item included in the study was quite low (it was typically lower than 5%). Nonetheless, the combined effect of missing data across cases would have resulted in a severe reduction of the effective sample size, in case it had been decided to discard cases based on the existence of missing data on any item. It can also be argued that deleting entire cases based on the existence of missing data on any item is not philosophically compelling (Little 1992). Thus, following the guidelines provided by Hair et al. (2010) cases were deleted on the basis of the existence of missing data in the dependent variables of the
study. Also, individual cases with more than 10% of missing data were not considered for further analysis.

Following the recommendations provided in the literature (e.g. Hair et al. 2010; Kim and Curry 1977; Olinsky, Chen, and Harlow 2003), missing values were imputed using the Expectation Maximization (EM) method. Such method was used for the overwhelming majority of variables of the study. Hot deck imputation and mean/median substitution were also used, although to a much lesser extent.

5.4 RESPONDENTS’ PROFILE

This section outlines the characteristics of firms contained in the sample, as well as of the individuals who answered the survey.

5.4.1 Firm resources

Firm resources have been found to play an important role in predicting export performance (e.g. Morgan, Kaleka, and Katsikeas 2004). Firm resources have been investigated in many export performance studies, either as an antecedent of export performance (e.g. Bonaccorsi 1992, Katsikeas, Piercy, and Ioannidis 1996; Samiee and Walters 1990; Verwaal and Donkers 2002, Wolff and Pett 2000) or as a control variable (e.g. Boso, Cadogan, and Story 2012; Cadogan et al. 2005). Accordingly, firm resources were included as a control variable in this research.

Different indicators have been used to measure firm resources, including sales revenue and number of employees (Zou and Stan 1998). In line with many export studies, firm resources were measured through the firm’s
number of full-time employees (e.g. Cadogan et al. 2005; Hart, Webb, and Jones 1994).

The distribution of the firm resources variable (measured by the firm’s number of full-time employees) was positively skewed and covered a wide range of values, with a minimum of 1 and a maximum of 4,000. The mean and median values were 190.1 and 36.5, respectively. Multiple modes existed, namely 2, 15, and 120. See Figure 5.1.

**Figure 5.1: Firm resources (number of full-time employees).**
5.4.2 Firm export experience

Research findings indicate that firm export experience has an impact on the levels of export performance achieved by firms (e.g. Cadogan, Diamantopoulos, and Siguaw 2002; Cavusgil and Zou 1994; Morgan, Kaleka, and Katsikeas 2004). Accordingly, firm export experience was included as a control variable in the present research. Such variable was measured via the number of years the firm has been exporting (e.g. Morgan, Kaleka, and Katsikeas 2004).

The distribution of the firm export experience variable (assessed by the number of years the firm has been exporting) covered a comprehensive range of values, with a minimum of 2 and a maximum of 150. The mean, median, and mode values were 30.6, 30, and 30, respectively. See Figure 5.2.
Figure 5.2: Firm export experience (number of years exporting).

5.4.3 Business experience

Business experience was assessed via the number of years the firm has been in business. The distribution of the number of years in business of the sampled firms ranged between 2 and 200. Mean and median values were 52.9 and 40, respectively. Multiple modes existed, namely 30 and 40 years. See Figure 5.3.
5.4.4 Export dependence

Export dependence (often referred to in the literature as “export intensity”) concerns the degree to which firms rely on exports for their export sales and profits (Cadogan, Diamantopoulos, and Siguaw 2002). In line with other export performance studies (e.g. Cadogan et al. 2006; Cadogan, Diamantopoulos and Siguaw 2002), export dependence was assessed through the ratio of exports to total sales.

The distribution of the scores for export dependence across the sampled firms included a comprehensive range of values, with a minimum of 1% and a maximum of 100%. The mean and median values were 45.5% and 45%, respectively. Multiple modes existed, namely 20% and 60%. See Figure 5.4.
5.4.5 Countries exported

The number of countries to which the firm exports can be considered as an indicator of the level of diversity of the firm’s export operations (Dhanaraj and Beamish 2003). Accordingly, such indicator was used in the current study in order to obtain a snapshot of the level of diversity of the firm’s export operations.

The distribution of values of such indicator across the sampled firms varied between 2 and 150. The mean, median and mode values were 30, 25, and 20, respectively. See Figure 5.5.
5.4.6 Geographical markets exported: Product α

As described in Chapter 3, data were collected on multiple export ventures per firm. Export ventures were defined via asking respondents to name a product/product line exported by the firm (generically referred to as Product α in previous chapters) and multiple geographical markets to which the firm exports such product.

The distribution of the number of geographical regions to which firms export Product α varied between 1 and 150 in the sample. The mean, median, and mode values were 22.2, 14.5, and 3, respectively. See Figure 5.6.
Figure 5.6: Geographical regions exported - Product α (number of geographical markets to which the firm exports Product α).

5.4.7 Firm industry

The sample contains firms operating in a wide variety of industries including, but not limited to, the following: scientific instruments, footwear, aerospace, aviation, engineering, steel, fast moving consumer goods, fashion, food, packaging, music/broadcast, wholesale, pharmaceutical, oil and gas, petrochemical, textiles, engineering, giftware, drinks, electronics, transport, fire and safety, industrial equipment, recycling, and construction.
5.4.8 Respondents’ employment role

The distribution of respondents’ employment role across the sampled firms is depicted in Figure 5.7.

Table 4.5: Respondents’ employment role within the firm - Summary statistics.

<table>
<thead>
<tr>
<th>Employment Role</th>
<th>Frequency (N = 124)</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner / Managing Director (or CEO) / Director</td>
<td>48</td>
<td>38.7</td>
<td>38.7</td>
</tr>
<tr>
<td>Senior Manager</td>
<td>32</td>
<td>25.8</td>
<td>64.5</td>
</tr>
<tr>
<td>Middle Manager</td>
<td>32</td>
<td>25.8</td>
<td>90.3</td>
</tr>
<tr>
<td>Junior Manager</td>
<td>9</td>
<td>7.3</td>
<td>97.6</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>2.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As can be seen by inspecting Table 4.5, approximately two thirds of respondents within the sample occupied a senior position within the firm - they were either Owners/Managing Directors (or CEOs)/Directors, or Senior Managers -, while approximately one third were either Middle Managers or Junior Managers.

5.5 CHAPTER SUMMARY

This was the first of three chapters concerning data analysis. In the present chapter data processing and profiling were described. Specifically, data coding and cleaning processes were outlined, data imputation procedures were described, and the profile of respondents was established. The next chapter concerns the development and assessment of the measures used in this research.
CHAPTER 6: MEASURE DEVELOPMENT AND ASSESSMENT

6.1 OBJECTIVE

The purpose of this chapter is to provide an overview of the development of all the measures used in the two models comprised in this study and to assess them in terms of unidimensionality, validity, and reliability. Such assessment adopts established procedures developed in the measure development literature (e.g. Bagozzi, Yi, and Phillips 1991; Fornell and Larcker 1981; Gerbing and Anderson 1988).

6.2 MEASURE EVALUATION CRITERIA

Three key criteria to assess the measures adopted in a particular study concern their unidimensionality, validity and reliability. These criteria are discussed next.

6.2.1 Measure unidimensionality

Measure unidimensionality concerns the extent to which there is a single trait or construct which underlies a set of measures (Gerbing and Anderson 1988; Hattie 1985). Confirmatory factor analysis (CFA) provides a stricter interpretation regarding the unidimensionality of a certain measure in comparison to other methods, such as coefficient alpha or item-total correlations (Gerbing and Anderson 1988). Hence, confirmatory factor
analyses were performed in order to determine the unidimensionality of the measures adopted in this research.

6.2.2 Measure validity

Unidimensionality is a necessary but not sufficient condition for the quality of a measure. A good measure also needs to be valid. Validity can be defined generally as the degree to which a measurement scale measures the concept is intended to measure (e.g. Bagozzi, Yi, and Phillips 1991; Peter 1979). Three key components of measure validity are convergent validity, discriminant validity, and face validity (Hair et al. 2010).

Face validity of the measures used in this study was assessed during the pre-test of the online survey. As mentioned in Chapter 4, such pre-test included interviewing a variety of different people with considerably different areas of expertise, including managers of exporting firms and academics possessing high levels of expertise in international marketing/international business. Accordingly, all the issues and difficulties expressed by such individuals concerning specific questions were resolved before deploying the survey, so as to guarantee that the measures included in the final version of the questionnaire had face validity.

Convergent and discriminant validity can be evaluated via CFA. Convergent validity concerns the extent to which the items used to measure a certain construct converge or share a high proportion of variance in common (Hair et al. 2010). Three indicators of construct validity are the size and statistical significance of factor loadings, variance extracted, and reliability. Discriminant validity consists of the extent to which a construct is strictly distinct from other constructs (Hair et al. 2010). A commonly used method to assess the discriminant validity of a measure consists of comparing its average variance extracted (AVE) with the squared correlations between the variable and other constructs (Fornell and Larcker 1981).
6.2.3 Measure reliability

Unidimensionality is a necessary but not sufficient attribute for a measurement scale to be useful. More specifically, “the reliability of the composite score should be assessed after unidimensionality has been acceptably established” (Gerbing and Anderson 1988, p. 190). Measure reliability concerns “the degree to which measures are free from error and therefore yield consistent results (Peter 1979, p. 6). Accordingly, confirmatory factor analysis was used so as to determine the reliability of the measures adopted in this study.

6.3 ASSESSMENT STRATEGY

As defended by Churchill (1979), although exploratory factor analysis may be satisfactory at early stages of research on a given construct, it is more suitable to use factor analysis in a confirmatory fashion at later phases. Accordingly, and given that the overwhelming majority of the constructs used in this research has been adopted in previous export performance investigations (e.g. Cadogan et al. 2005; Hultman, Robson, and Katsikeas 2009; Katsikeas, Samiee, and Theodosiou 2006), CFA was adopted to assess the measurements used in this study.

As outlined earlier, both models of this research examine the link between export marketing adaptation and export performance, although at different levels of analysis. While the first model analyses the marketing adaptation-performance relationship at the intra-firm export venture level of analysis (i.e. across ventures within firms), the second model examines such link at the firm level of analysis (i.e. across firms). Accordingly, while the key variables under examination – namely, export marketing adaptation and export performance – are similar across the two models, the locus of their measurement is different.
The two models also share similarities with regard to their moderators. The export environmental differences variable is included as moderator in both models, though at different levels of analysis. In the first model, the export environmental differences construct is defined and measured at the intra-firm export venture level of analysis. In the second model such construct is conceptualized and assessed at the firm level of analysis. Thus, the construct used in the two models is the same, the only difference being the locus of its measurement. The second moderator (i.e. EMO) is defined and measured at the firm level of analysis in both models. The measure used to assess such construct is identical across the two models.

Given that the two models used similar constructs, the CFAs performed on them were guided not only by the need to have valid and reliable measurements of the constructs of interest, but also by the aim of obtaining final measures that could be comparable across the two models.

6.4 CONFIRMATORY FACTOR ANALYSIS

6.4.1 Conceptual Model I

The first model of this study comprises variables at two distinct levels of analysis, namely the venture level of analysis and the firm level of analysis. Accordingly, in line with existing research which investigates relationships spanning multiple levels of analysis (e.g. Wieseke, Homburg, and Lee 2008) it was decided to perform two separate CFA’s, one at each level of analysis.

6.4.1.1 Venture level

The venture level variables included in the first model were marketing adaptation across ventures, environmental differences across ventures,
venture sales performance and venture profit performance. Marketing adaptation across ventures was measured via a three-item reflective scale. Environmental differences across ventures was conceptualized as a formative construct, composed of four first-order factors, differences in type of competition across ventures, differences in level of competitive intensity across ventures, differences in customer characteristics across ventures, and differences in market characteristics across ventures. The differences in type of competition across ventures construct was measured using a two-item reflective scale. The differences in level of competitive intensity across ventures variable was measured via a four-item reflective scale. A formative index containing five items was adopted to assess differences in customer characteristics across ventures. The differences in market characteristics across ventures construct was measured via a formative index composed of four items. Venture sales performance and venture profit performance were measured using reflective scales, consisting of three and two items, respectively.

6.4.1.2 Firm level

The firm level part of the first model comprised EMO. Similarly to other investigations (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Cadogan et al. 2012), EMO is seen in this study as a formative construct. More specifically, in this research EMO is composed of two first-order factors, namely firm export market intelligence generation and responsiveness. Firm export market intelligence generation was assessed through a five-item reflective scale. Firm export market intelligence responsiveness was measured via a three-item reflective scale.
6.4.1.3 Procedure

As outlined earlier in this chapter, it was decided to perform two separate CFAs to assess the measures included in the first model, one for each level of analysis. The dataset used to perform the two CFAs consisted of 131 firms and comprised two parts, which corresponded to two separate SPSS files. The first part of the dataset was used to perform the CFA on the intra-firm export venture level measures of the model and contained data from multiple export ventures across the 131 firms. The second part of the dataset was used to perform CFA on the firm level part of the model and comprised the measurements of firm export market intelligence generation and firm export market intelligence responsiveness for the same 131 firms.

With regard to the part of the dataset utilized to perform the CFA on the intra-firm export venture level measures of the model, it was decided to average the item responses provided to each of the firm’s ventures to the group level (i.e. to compute the average score for the item for each firm), and then to perform CFA on the averaged items. This is in line with previous studies that perform CFA on multilevel data structures (Dyer, Hanges, and Hall 2005). Such procedure allowed having a single score per item for each of the firms in the sample. It was not necessary to perform the procedure just described for the part of the dataset used to assess the firm level measures, since each firm only reported one value per item across such measures.

Both CFAs were undertaken using the LISREL 8.80 software package (Jöreskog and Sörbom, 2007). Both formative and reflective measures were included in the CFA’s. For the formative constructs which comprised multiple first-order factors, such first-order factors were included as separate constructs in the CFAs. Accordingly, the first-order factors that form environmental differences across ventures (namely differences in type of competition across ventures, differences in level of competitive intensity across ventures, differences in customer characteristics across ventures, and differences in market characteristics across ventures), were entered as separate constructs in the CFA which was performed at the intra firm export venture level of
analysis. Similarly, the first-order factors that formed EMO (namely firm export market intelligence generation and firm market intelligence responsiveness) were entered as separate constructs in the CFA performed at the firm level of analysis.

All the items of the reflective measures were included in the CFAs. With regard to the formative measures, they were included in the CFA’s as single item scales, which were computed by averaging the items that formed them. Taking into account the guidelines provided by Anderson and Gerbing (1988), it was decided to set the error term of the single-item measures corresponding to the formative constructs at 0.1. With regard to estimation technique, maximum likelihood was selected for both CFAs, as this is the estimation method most commonly employed in confirmatory factor analysis (Beauducel, and Herzberg 2006). Model assessment was performed using goodness of fit statistics, path estimates, standardized residuals, as well as validity and reliability indicators provided by the measurement literature (e.g. Diamantopoulos and Siguaw 2009). Model purification was carried-out by identifying poorly performing items and subsequently deleting them and/or re-specifying the models (cf. Hair et al. 2010).

6.4.1.4 Assessment of venture-level measurement model

The specification of the intra-firm export venture level measurement model was guided by theory. Table 6.1 provides the fit statistics for the initial and for the purified measurement models.
Table 6.1: Statistics and indices for venture level measurement models.

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$ (d.f.)</th>
<th>p-Value</th>
<th>$\Delta\chi^2$ ((\Delta)d.f.)</th>
<th>RMSEA</th>
<th>CFI</th>
<th>NNFI</th>
<th>GFI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Model:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptation (3 items);</td>
<td>153.092 (86)</td>
<td>0.000</td>
<td>-</td>
<td>0.0775</td>
<td>0.964</td>
<td>0.950</td>
<td>0.872</td>
</tr>
<tr>
<td>Type of competition (2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>items); Competitive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>intensity (4 items);</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer characteristics (1 item); Market characteristics (1 item); Sales performance (3 items); Profit performance (2 items)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Purified Model:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptation (2 items);</td>
<td>28.805 (26)</td>
<td>0.320</td>
<td>-124.287 (−60)</td>
<td>0.029</td>
<td>0.998</td>
<td>0.996</td>
<td>0.961</td>
</tr>
</tbody>
</table>
As can be seen by inspecting Table 6.1, the initial model had quite a poor fit with the data, as illustrated by the significant chi-square statistic and by the fact that GFI is lower than 0.9. Consequently, poorly performing items were deleted and the model was re-specified. One of the items of marketing adaptation was deleted. Two items of differences in competitive intensity and two items of sales performance and were also dropped.

As a result of measurement model re-specification, sales performance became a single-item scale. Accordingly, taking into account the recommendations of Anderson and Gerbing (1988), the error term of this measure was set at 0.1. As can be seen by looking at the bottom row of Table 6.1, the purified model represents a good fit with the data, a fact which is demonstrated by the non-significant chi-square. The goodness of fit statistics of the purified model are within the recommended thresholds suggested by the measurement literature (e.g. Diamantopoulos and Siguaw 2009), which also suggests good fit with the data.

6.4.1.5 Assessment of firm level measurement model

The specification of the firm level measurement model was also guided by theory. Table 6.2 provides the fit statistics for the original and for the purified measurement models.
Table 6.2: Statistics and indices for firm level measurement models.

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$ (d.f.)</th>
<th>p-Value</th>
<th>$\Delta\chi^2$ (d.f.)</th>
<th>RMSEA</th>
<th>CFI</th>
<th>NNFI</th>
<th>GFI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Model:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligence generation (5 items); Intelligence responsiveness (3 items)</td>
<td>29.773 (19)</td>
<td>0.055</td>
<td>-</td>
<td>0.066</td>
<td>0.984</td>
<td>0.976</td>
<td>0.946</td>
</tr>
<tr>
<td><strong>Purified Model:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligence generation (4 items); Intelligence responsiveness (3 items)</td>
<td>21.493 (13)</td>
<td>0.064</td>
<td>-8.280 (-6)</td>
<td>0.071</td>
<td>0.983</td>
<td>0.973</td>
<td>0.955</td>
</tr>
</tbody>
</table>
As can be seen by inspecting Table 6.2, the original model had quite a good fit with the data, as indicated by a non-significant chi-square. The goodness of fit statistics of the original model were also within the recommended thresholds suggested by the measurement literature, which further suggests that the model fits the data. Nonetheless, as shown later in this chapter, the purified measurement for firm export market intelligence generation only comprised four items (instead of the original five) in the case of the second conceptual model of this research. Accordingly, for purposes of comparability between the two conceptual models, it was decided to drop one item from the firm export market intelligence generation construct in the first model, so as to obtain identical measurements for this construct in the two conceptual models. The bottom row of Table 6.2 shows that the purified model represents a good fit with the data, as illustrated by the non-significant chi-square. The goodness of fit statistics of the purified model are also within the recommended thresholds suggested by the measurement literature, which also suggests good fit with the data.

6.4.1.6 Reliability and validity: Venture level variables

According to Hair et al. (2010), valid measures should exhibit standardized loading estimates of 0.5 or higher. Furthermore, variance extracted should be at least 0.5 to suggest adequate convergent validity, and construct reliability should be 0.7, so as to indicate sufficient internal consistency. Finally, the variance extracted estimates for any two factors should be higher than the squared correlation between them, in order to give evidence of discriminant validity (Hair et al. 2010). Table 6.3 provides the loadings and associated t-statistics for the intra-firm export venture level variables.
Table 6.3: Factor matrix for export venture level measurement model.

<table>
<thead>
<tr>
<th>Items</th>
<th>Adaptation</th>
<th>Type of competition</th>
<th>Competitive intensity</th>
<th>Customer characteristics</th>
<th>Market characteristics</th>
<th>Sales performance</th>
<th>Profit performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RADAP1AV</td>
<td>0.985 (fixed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADAP2AV</td>
<td>0.896 (15.454)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPCP1AV</td>
<td>0.924 (fixed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPCP2AV</td>
<td>0.942 (15.041)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMPINTA1</td>
<td>0.895 (fixed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMPINTA2</td>
<td>0.990 (16.002)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CUSTOTAV</td>
<td>0.885 (fixed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MKTTOTAV</td>
<td>0.887 (fixed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAL1AVCP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.986 (fixed)</td>
<td></td>
</tr>
<tr>
<td>PRF1AVCP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.775 (fixed)</td>
<td></td>
</tr>
<tr>
<td>PRF2AVCP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.634 (3.250)</td>
<td></td>
</tr>
</tbody>
</table>
As can be seen by inspecting Table 6.3, all standardized loading estimates exceed 0.5 and are statistically significant. Table 6.4 provides summary statistics as well as correlations for the intra-firm export venture level variables. As can be seen in Table 6.4, all the variables display AVEs in excess of 0.5, suggesting adequate convergent validity, and composite reliabilities higher than 0.7, indicating satisfactory internal consistency. Also, the variance extracted estimates for any two factors are higher than the squared correlation between them, indicating that the measures exhibit discriminant validity.
Table 6.4: Summary statistics and correlations for venture level measures.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correlations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Adaptation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Differences in type of competition</td>
<td>.414**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Differences in level of competitive intensity</td>
<td>.380**</td>
<td>.635**</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Differences in customer characteristics</td>
<td>.663**</td>
<td>.579**</td>
<td>.549**</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Differences in market characteristics</td>
<td>.535**</td>
<td>.476**</td>
<td>.520**</td>
<td>.628**</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Environmental differences a</td>
<td>.602**</td>
<td>.819**</td>
<td>.834**</td>
<td>.834**</td>
<td>.795**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Sales performance</td>
<td>.103</td>
<td>-.029</td>
<td>.129</td>
<td>.000</td>
<td>.008</td>
<td>.036</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8. Profit performance</td>
<td>.024</td>
<td>-.018</td>
<td>.000</td>
<td>-.036</td>
<td>-.044</td>
<td>-.029</td>
<td>.338**</td>
<td>1</td>
</tr>
<tr>
<td><strong>Summary Statistics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.839</td>
<td>2.849</td>
<td>2.705</td>
<td>2.711</td>
<td>3.226</td>
<td>2.873</td>
<td>5.900</td>
<td>4.772</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.839</td>
<td>0.689</td>
<td>0.759</td>
<td>0.679</td>
<td>0.686</td>
<td>0.577</td>
<td>1.893</td>
<td>0.989</td>
</tr>
<tr>
<td>Composite Reliability</td>
<td>0.940</td>
<td>0.931</td>
<td>0.942</td>
<td>N.A. b</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>0.666</td>
</tr>
<tr>
<td>Average Variance Extracted</td>
<td>0.887</td>
<td>0.871</td>
<td>0.890</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>0.501</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).

a Environmental difference score is the average for differences in type of competition, differences in level of competitive intensity, differences in customer characteristics, and differences in market characteristics scores.

b Because these are single-item measures, composite reliability and average variance extracted are not meaningful.
6.4.1.7 Reliability and validity: Firm level variables

Table 6.5 illustrates the standardized loadings and corresponding t-statistics for the firm level variables of the model.

Table 6.5: Factor matrix for firm level measurement model.

<table>
<thead>
<tr>
<th>Items</th>
<th>Standardized Factor Loading (t-value)</th>
<th>Intelligence generation</th>
<th>Intelligence responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTLGNR1</td>
<td>0.733 (fixed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTLGNR3</td>
<td>0.801 (8.665)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTLGNR4</td>
<td>0.806 (8.719)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTLGNR5</td>
<td>0.832 (8.965)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTLRSP1</td>
<td>0.690 (fixed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTLRSP2</td>
<td>0.800 (8.530)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTLRSP3</td>
<td>0.964 (8.956)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 6.5 all standardized loading estimates are statistically significant and surpass the 0.5 threshold. Table 6.6 contains summary statistics as well as correlations for the firm level variables. By inspecting Table 6.6 one can see that all firm level variables have AVEs higher of 0.5, which indicates satisfactory convergent validity. Also, all composite reliabilities exceed 0.7, indicating adequate internal consistency. Finally, the variance extracted estimates for any two factors is greater than the squared correlation between them, which suggests that the measures display discriminant validity.
Table 6.6: Summary statistics and correlations for firm level measures.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correlations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Generation</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Responsiveness</td>
<td>.494*</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. EMO(^a)</td>
<td>.865**</td>
<td>.864**</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Resources</td>
<td>0.151</td>
<td>-0.022</td>
<td>0.075</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>5. Experience</td>
<td>0.039</td>
<td>-0.053</td>
<td>-0.008</td>
<td>0.087</td>
<td>1.000</td>
</tr>
<tr>
<td><strong>Summary Statistics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.707</td>
<td>4.858</td>
<td>4.782</td>
<td>190.053</td>
<td>30.626</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.312</td>
<td>1.306</td>
<td>1.131</td>
<td>576.143</td>
<td>22.413</td>
</tr>
<tr>
<td>Composite Reliability</td>
<td>0.872</td>
<td>0.863</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Average Variance Extracted</td>
<td>0.630</td>
<td>0.682</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

\(^a\) EMO is the average for firm export market intelligence generation and firm export market intelligence responsiveness scores.

\(^b\) Because this measure is formative, composite reliability and average variance extracted are not meaningful.
6.4.2 Conceptual Model II

The second model of this research comprises variables from a single level of analysis, namely the firm level. Accordingly, only one CFA was performed.

6.4.2.1 Firm level variables

The model includes the following constructs: marketing adaptation quantity, firm export environmental differences, EMO, firm export sales performance, and firm export profit performance. In a similar fashion to the first model of this study, firm export environmental differences is seen as a formative construct comprised of four first-order factors, namely firm export environmental differences in type of competition, firm export environmental differences in level of competitive intensity, firm export environmental differences in customer characteristics, and firm export environmental differences in market characteristics.

A firm’s marketing adaptation quantity was measured by calculating the average score for “marketing adaptation pursued in “Market X” relative to the Benchmark Venture” across the multiple ventures on which data was provided (excluding the Benchmark Venture) and multiplying the value obtained by the number of geographical markets to which the firm exports Product α (which was provided by respondents). The firm export environmental differences construct was assessed by summing the values obtained for export venture level environmental differences across the multiple ventures on which data was provided (excluding the Benchmark Venture). The measure for EMO was identical to the one used in the first conceptual model. Firm export sales performance and firm export profit performance were measured using reflective scales, consisting of three and two items, respectively.
6.4.2.2 Procedure

The dataset used to undertake the CFA of the second model corresponded to the same 131 firms used in the CFAs of the first model. As outlined earlier, the measures used to assess marketing adaptation quantity and firm export environmental differences were based on an aggregation of the scores obtained by the firm across ventures with regards to the same variables. As such, and for purposes of facilitating comparability between the two models of this research, an identical procedure to the one adopted in the first model was followed for CFA purposes. Specifically, the item responses provided to each of the firm’s ventures were averaged to the group level (i.e. to compute the average score for the item for each firm). The averaged items were then entered in CFA.

With regard to the measures used to assess firm export market intelligence generation and firm export market intelligence responsiveness, firm export sales performance, and firm export profit performance, there was no need to perform any aggregation across the firm’s ventures, since such constructs were assessed directly at the firm level.

CFA was carried out using the LISREL 8.80 software package (Jöreskog and Sörbom, 2007). Both formative and reflective measures were included in the CFA. In a similar fashion to the CFAs of the first model of this study, the first-order factors that composed formative constructs were defined as separate constructs in the CFAs. Thus, firm export environmental differences in type of competition, firm export environmental differences in level of competitive intensity, firm export environmental differences in customer characteristics, firm export environmental differences in market characteristics, firm export market intelligence generation, and firm export market intelligence responsiveness were entered as separate constructs in the CFA. Formative scales were defined as single-item scales, which were computed by averaging the items comprised in them. Considering the guidelines offered by Anderson and Gerbing (1988), the error term of the single-item measures corresponding to the formative constructs was set at 0.1. Maximum likelihood was selected as
the estimation technique. Model assessment was carried-out using goodness of fit statistics, path estimates, standardized residuals, and validity and reliability indicators provided by the measurement literature. Model purification was conducted by identifying poorly performing items and subsequently deleting them and/or re-specifying the model (cf. Hair et al. 2010).

6.4.2.3 Assessment

The specification of the measurement model was underpinned by theory. Table 6.7 provides the fit statistics for the initial and final measurement models.
Table 6.7: Statistics and indices for measurement models.

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$ (d.f.)</th>
<th>p-Value</th>
<th>$\Delta\chi^2$ (Δd.f.)</th>
<th>RMSEA</th>
<th>CFI</th>
<th>NNFI</th>
<th>GFI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Model:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligence generation (5 items); Intelligence responsiveness (3 items); Adaptation (3 items); Type of competition (2 items); Competitive intensity (4 items); Customer characteristics (1 item); Market characteristics (1 item); Sales performance (3 items); Profit performance (2 items)</td>
<td>322.551 (218)</td>
<td>0.000</td>
<td>-</td>
<td>0.061</td>
<td>0.963</td>
<td>0.953</td>
<td>0.829</td>
</tr>
<tr>
<td><strong>Purified Model:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligence generation (4 items); Intelligence responsiveness (3 items); Adaptation (2 items); Type of competition (2 items); Competitive intensity (2 items); Customer characteristics (1 item); Market characteristics (1 item); Sales performance (1 item); Profit performance (2 items)</td>
<td>118.691 (102)</td>
<td>0.124</td>
<td>-203.86 (-116)</td>
<td>0.036</td>
<td>0.985</td>
<td>0.978</td>
<td>0.908</td>
</tr>
</tbody>
</table>
As can be concluded from inspecting Table 6.7, the original model had quite a poor fit with the data, as indicated by a significant chi-square and by the poor value for the GFI index. Consequently, poorly performing items were deleted and the model was re-specified. Specifically, one item of firm export market intelligence generation, one item of marketing adaptation quantity, two items of firm export environmental differences in level of competitive intensity, and two items of firm export sales performance were dropped. As a result of deleting two items of the scale used to assess firm export sales performance, its purified version consisted of a single-item scale. Accordingly, the error term of this measure was set at 0.1 (Anderson and Gerbing 1988).

As shown in the bottom row of Table 6.7, the re-specified model had a good fit with the data. This is demonstrated by the non-significant chi-square. Also, the goodness of fit statistics of the purified model are within the recommended thresholds proposed by the measurement literature, further suggesting good model fit.

6.4.2.4 Reliability and Validity

Table 6.8 provides the standardized loadings and corresponding t-statistics for the measures adopted in the second model of this study.
### Table 6.8: Factor matrix for measurement model.

<table>
<thead>
<tr>
<th>Items</th>
<th>Standardized Factor Loading (t-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intelligence generation</td>
</tr>
<tr>
<td>INTLGNR1</td>
<td>0.725 (fixed)</td>
</tr>
<tr>
<td>INTLGNR3</td>
<td>0.812 (8.693)</td>
</tr>
<tr>
<td>INTLGNR4</td>
<td>0.816 (8.729)</td>
</tr>
<tr>
<td>INTLGNR5</td>
<td>0.817 (8.737)</td>
</tr>
<tr>
<td>INTLRSP1</td>
<td>0.687 (fixed)</td>
</tr>
<tr>
<td>INTLRSP2</td>
<td>0.797 (8.492)</td>
</tr>
<tr>
<td>INTLRSP3</td>
<td>0.969 (8.989)</td>
</tr>
<tr>
<td>RADAP1AV</td>
<td>0.985 (fixed)</td>
</tr>
<tr>
<td>RADAP2AV</td>
<td>0.896 (15.354)</td>
</tr>
<tr>
<td>TYPCP1AV</td>
<td>0.919 (fixed)</td>
</tr>
<tr>
<td>TYPCP2AV</td>
<td>0.947 (15.622)</td>
</tr>
<tr>
<td>CMPINTA1</td>
<td>0.891 (fixed)</td>
</tr>
<tr>
<td>CMPINTA2</td>
<td>0.994 (15.938)</td>
</tr>
<tr>
<td>CUSTOTAV</td>
<td>0.885 (fixed)</td>
</tr>
<tr>
<td>MKTTOTAV</td>
<td></td>
</tr>
<tr>
<td>SAL1AVCP</td>
<td></td>
</tr>
<tr>
<td>PRF1AVCP</td>
<td></td>
</tr>
<tr>
<td>PRF2AVCP</td>
<td></td>
</tr>
</tbody>
</table>
As Table 6.8 demonstrates all standardized loading estimates are statistically significant and surpass the 0.5 threshold. Table 6.9 contains summary statistics as well as correlations for the variables included in the second model of this research. As shown in Table 6.9, all variables have AVEs greater than 0.5, which indicates that they have convergent validity. Additionally, all composite reliabilities are in excess of 0.7, suggesting adequate internal consistency. Finally, the variance extracted estimates for any two factors is higher than the squared correlation between them, which indicates that the measures have discriminant validity.
Table 6.9: Summary statistics and correlations for measures.

<table>
<thead>
<tr>
<th>Correlations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adaptation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Generation</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Responsiveness</td>
<td>0.063</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. EMO (^a)</td>
<td>0.040</td>
<td>.494**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Differences in type of competition</td>
<td>.059</td>
<td>.865**</td>
<td>.864**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Differences in competitive intensity</td>
<td>.414**</td>
<td>-0.041</td>
<td>0.047</td>
<td>0.004</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Differences in customer characteristics</td>
<td>.380**</td>
<td>0.025</td>
<td>-0.027</td>
<td>-0.001</td>
<td>.635**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Differences in market characteristics</td>
<td>.663**</td>
<td>-0.007</td>
<td>0.019</td>
<td>0.007</td>
<td>.579**</td>
<td>.549**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Environmental differences (^b)</td>
<td>.535**</td>
<td>0.074</td>
<td>0.091</td>
<td>0.096</td>
<td>.476**</td>
<td>.520**</td>
<td>.628**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Sales Performance</td>
<td>.375**</td>
<td>0.016</td>
<td>0.038</td>
<td>0.031</td>
<td>.819**</td>
<td>.834**</td>
<td>.834**</td>
<td>.795**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Profit Performance</td>
<td>0.100</td>
<td>.502**</td>
<td>.172</td>
<td>.263**</td>
<td>-0.156</td>
<td>0.023</td>
<td>-0.056</td>
<td>-0.069</td>
<td>-0.076</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Resources</td>
<td>0.100</td>
<td>.450**</td>
<td>.134</td>
<td>.207**</td>
<td>0.027</td>
<td>0.062</td>
<td>-0.036</td>
<td>-0.021</td>
<td>0.011</td>
<td>.597**</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Experience</td>
<td>0.087</td>
<td>0.039</td>
<td>0.053</td>
<td>0.008</td>
<td>-0.109</td>
<td>0.105</td>
<td>-0.078</td>
<td>0.024</td>
<td>-0.083</td>
<td>-0.076</td>
<td>-0.075</td>
<td>0.087</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Summary Statistics

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Deviation</td>
<td>0.839</td>
<td>1.312</td>
<td>1.306</td>
<td>1.131</td>
<td>0.689</td>
<td>0.759</td>
<td>0.679</td>
<td>0.686</td>
<td>0.577</td>
<td>1.306</td>
<td>1.037</td>
<td>576.143</td>
<td>22.413</td>
</tr>
<tr>
<td>Composite Reliability</td>
<td>0.939</td>
<td>0.871</td>
<td>0.863</td>
<td>N.A.(^c)</td>
<td>0.931</td>
<td>0.942</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>0.789</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Average Variance Extracted</td>
<td>0.886</td>
<td>0.630</td>
<td>0.682</td>
<td>N.A.</td>
<td>0.871</td>
<td>0.891</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>0.651</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).
\(^a\) EMO is the average for firm export market intelligence generation and firm export market intelligence responsiveness scores.
\(^b\) Environmental differences score is the average for differences in type of competition, differences in competitive intensity, differences in customer characteristics, and differences in market characteristics scores.
\(^c\) Because these are single-item measures, composite reliability and average variance extracted are not meaningful.
6.5 CHAPTER SUMMARY

This chapter started by providing an overview of the main criteria used for purposes of measure assessment. Subsequently, the measures used in the two conceptual models of this research were evaluated in terms of their unidimensionality, validity, and reliability. Measure assessment strategies were described, and the results of confirmatory factor analyses were presented. The final measurement models present good fit with the data, as demonstrated by non-significant chi-square estimates obtained and by the fact that fit indices are within recommended thresholds. Furthermore, all measures exhibit adequate validity and reliability. Thus, it was concluded that the measures exhibit sufficient unidimensionality, validity, and reliability for purposes hypothesis testing. In the next chapter the hypotheses of the two models of this research are tested empirically.
CHAPTER 7: MODEL TESTING

7.1 INTRODUCTION

The previous chapter provided an assessment of the measures adopted to test the two conceptual models of this study. The current chapter is the last of the three chapters devoted to data analysis. In this chapter the hypotheses developed in Chapter 3 are tested. First, the analysis strategy adopted to test the first conceptual model is presented. This is followed by an assessment of the structural model used to test the model hypotheses. The hypotheses of the model are then tested. Subsequently, the analysis strategy used to test the second model is described. The structural model used to test the model hypotheses is then assessed. The hypotheses of the model are then tested. The chapter ends with a summary of the findings obtained.

7.2 ANALYSIS STRATEGY: MODEL I

7.2.1 Choice of technique

Structural Equation Modelling (SEM) is the preferred method used by researchers for hypotheses testing when the model(s) to be tested include latent constructs. In this context, SEM using a single level of analysis is the typical analysis technique adopted in studies which investigate the link between export marketing adaptation and export performance (e.g. Cavusgil and Zou 1994; Hultman, Robson, and Katsikeas 2009; Katsikeas, Samiee, and Theodosiou 2006; Sousa and Bradley 2008).
The suitability of the adoption of single level SEM for purposes of testing the hypotheses of a particular study is contingent upon a number of assumptions being met, including normally distributed data, continuous data, linearity, and independence of observations. The first conceptual model of this includes multiple constructs, namely marketing adaptation across ventures, environmental differences across ventures, EMO, venture sales performance, venture profit performance, firm export experience, and firm resources. In this context, inspection of the distribution of values across the data regarding such constructs did not raise concerns with regard to deviations from normality.

It is also assumed that the data used in the first model are continuous. With regard to the Likert-type scales used to assess the model predictors of the model (namely, marketing adaptation across ventures, environmental differences across ventures, and EMO) and the dependent variables (namely, venture sales performance and venture profit performance), it is reasonable to assume that a continuous variable underlies each of such scales. Such assumption is in line with a vast amount of export performance research that uses similar constructs and measurement scales (e.g. Aulakh, Kotabe, and Teegen 2000; Cadogan, Diamantopoulos, and Siguaw 2002; Cadogan et al. 2001; Hultman, Robson, and Katsikeas 2009; Katsikeas, Samiee, and Theodosiou 2006). The export performance controls used (namely, firm export experience and firm resources) were assessed via ratio scales. Hence, it is reasonable to assume that the data corresponding to the measurements of such constructs is continuous.

In terms of linearity, as outlined in Chapter 3, the first model of this study specifies linear relationships, non-linear relationships, and moderating effects. With regard to non-linear relationships and moderating effects, appropriate methods were used so as to resolve concerns relating to linearity. Such procedures are detailed later in this chapter.
The assumption of independence of observations is not met in the data used to test the first model. In this context, by using an online survey as data collection instrument, communication among respondents was believed to have been minimized. The use of random sampling also contributed for the independence of observations. Nonetheless, the data used to test the model had a nested structure, as it contained information on multiple export ventures per firm. Multiple ventures of a particular firm may not provide independent observations. It may be the case that ventures which are nested within the same firm are more similar to one another than to ventures nested within other firms and may not, thus, provide independent observations (cf. Hofmann 1997). Accordingly, it may be the case that multiple ventures within the firm are partially interdependent.

Given that the assumption of independence of observations was not met, single level SEM analysis was deemed not to be suitable to test the first conceptual model. The data analysis technique to be used needed to explicitly account for the partial interdependence among export ventures nested within the same firm. Certain multilevel modelling analysis techniques can fit such a purpose (e.g. Snijders and Bosker 1999). In this context, Hierarchical Linear Modelling (HLM) (e.g. Hofmann 1997; Raudenbush and Bryk 2002) is a technique commonly used by researchers for purposes of analyzing nested data structures (e.g. Krasnikov and Jayachandran 2008; Homburg, Wieseke, and Kuehnl 1999; Misangyi et al. 2006). Accordingly, using HLM to test the first conceptual model of this study would explicitly account for the fact that multiple ventures nested within the same firm may be partially independent.

Furthermore, Hierarchical Linear Modelling is found by many researchers as the most suitable technique for purposes of analyzing multilevel data structures when compared to other techniques available, such as Multilevel Structural Equation Modelling. The main drawback of HLM is that such technique is more suitable to assess relationships involving observed variables, rather than latent constructs. This may be problematic since, with the exception of the export performance controls, all other variables included in the first conceptual model are latent constructs. A procedure that may be
adopted to deal with such drawback of HLM is to assess the measures included in the model via Confirmatory Factor Analysis (CFA) prior to using HLM for purposes of hypotheses testing (e.g. Wieseke, Homburg, and Lee 2008). Accordingly, if CFA shows that the measures are unidimensional, valid, and reliable, the researcher can proceed to hypotheses testing using HLM. As outlined in Chapter 6, the CFAs conducted on the scales used to measure the variables of the first model revealed that they were unidimensional, valid, and reliable. Accordingly, it was deemed suitable to proceed to the use of HLM for purposes of hypotheses testing. The HLM 7 software (Raudenbush et al. 2011) was adopted for such purpose.

7.2.2 Sample size

As highlighted in Chapter 6, the sample used to perform measure assessment included 131 firms, each of them comprising between 1 and 3 export ventures. The measurement scale used for marketing adaptation across ventures assessed the degree of adaptation carried out in individual ventures relative to the “Benchmark Venture”, and comprised the scale points “identical”, “similar”, “different in many ways but share much in common”, “quite different”, and “completely different”, which were coded as 1,2,3,4, and 5, respectively. Nonetheless, the option “identical” (which was coded as 1) implies that no marketing adaptation was carried-out in a particular venture. Given that the first conceptual model of this study tests the direct and moderated impacts of marketing adaptation across ventures on venture performance, keeping ventures scoring “identical” in the marketing adaptation scale would potentially undermine the ability of the statistical tests used for hypotheses testing to detect significant relationships between marketing adaptation and performance. Accordingly, for purposes of testing the first model of this research, only export ventures scoring at least 2 in the marketing adaptation scale were considered. Thus, the sample used for model testing was reduced from 131 to 126 firms, each of them comprising between 1 and 3 export ventures.
Multilevel researchers suggest that, with regards to obtaining enough statistical power, having a sample comprising a large number of higher level units can be more important than having a sample containing a high number of lower level units per higher level unit sampled (e.g. Snijders and Bosker 1993; Maas and Hox 2005). Furthermore, samples with more than 100 higher level units are considered to be more than satisfactory in order to provide relatively accurate estimates (e.g. Maas and Hox 2005). Therefore, the sample size used to test the first conceptual model of this research - 126 firms (i.e. 126 higher level units), each comprising 1 to 3 export ventures (i.e. 1 to 3 lower level units) – was deemed adequate.

7.4.4 Non-linear relationships and multicollinearity

As described in Chapter 3, the first model of this study hypothesizes, among other aspects, the existence of non-linear relationships regarding the impact of marketing adaptation across ventures on venture sales and profit performance. It is possible to model non-linear relationships using linear analysis techniques, provided that the suitable transformation is carried out (Little, Bovaird, and Widaman 2006; Ping 1995). Thus, based on the guidelines provided in the literature, marketing adaptation across ventures was squared so as to model its non-linear relationship with venture sales performance and with venture profit performance.

In this context, as highlighted by Little, Bovaird, and Widaman (2006), the simultaneous use of a powered term and of the first-order construct from which such powered term derives creates a problem of collinearity, which causes problems in terms of model estimation. Given that marketing adaptation across ventures and its squared term were used simultaneously to test the first model of this research, it was necessary to address the issue of collinearity between such terms. The residual centering approach (Lance 1988) was adopted for such purpose. Hence, marketing adaptation across ventures
squared was regressed onto marketing adaptation across ventures. The residuals were subsequently used to represent the quadratic term.

7.2.3 Moderation and multicollinearity

The relationships between marketing adaptation across ventures and (a) venture sales performance and (b) venture profit performance, were hypothesized to be moderated by EMO and by environmental differences across ventures. Also, as outlined earlier in present chapter the data concerning the measurements of the constructs used in the model were assumed to be continuous.

In this context, a moderator effect can be modelled via multi-group analysis or through continuous variable interaction (Hair et al. 2010). The continuous variable interaction approach has the advantage of maintaining the integrity of the sample (cf. Sharma, Durand, and Gur-Arie 1981). For such reason, it was decided to carry-out moderator analysis using the continuous variable interaction approach. This is in line with current export performance studies (e.g. Boso, Cadogan, and Story 2012; Cadogan, Kuivalainen, and Sundqvist 2009). The multiplicative interaction term approach was used to compute moderating effects. Such approach computes a moderating effect by multiplying the first-order constructs from which it is derived (cf. Little, Bovaird, and Widaman 2006).

As highlighted by Little, Bovaird, and Widaman (2006), one of the problems with using multiplicative interactive terms is that the resulting product term can be highly correlated with the first-order constructs from which such product term is computed. Accordingly, when both the product term and the first-order constructs are used together as predictors of an outcome variable, their collinearity raises problems in terms of model estimation.
In this context, the first model of this research hypothesizes four moderating effects, namely (1) the moderating effect of environmental differences across ventures on the link between marketing adaptation across ventures and venture sales performance, (2) the moderating effect of environmental differences across ventures on the relationship between marketing adaptation across ventures and venture profit performance, (3) the moderating effect of EMO on the relationship between marketing adaptation across ventures and venture sales performance, and (4) the moderating effect of EMO on the link between marketing adaptation across ventures and venture profit performance.

The first two of the four effects just outlined correspond to the moderating role played by a variable residing at a lower level of analysis (the venture level) on relationships between variables which also reside at that lower level of analysis. In order to resolve the issue of collinearity between the product terms and first-order constructs corresponding to these two moderating effects the residual centering approach (Lance 1988) was followed. Residual centering, often referred to as orthogonalizing, consists of regressing a product term onto its corresponding first-order variables. The residuals which result from the regression are subsequently used to represent the interaction effect. As such, residual centering guarantees full orthogonality between a product term and the first-order variables from which such product term is derived (Lance 1988; Little, Bovaird, and Widaman 2006), thereby resolving the issue of collinearity. The computation of the product terms corresponding to first two moderating effects (of the four moderating effects described in the preceding paragraph), as well as the corresponding orthogonalizations were performed manually by the researcher.

The last two of the four effects correspond to moderating impacts of a variable residing at a higher level of analysis (the firm level) on relationships between variables which belong to a lower level of analysis (the venture level). HLM 7 automatically computes the product terms between variables residing at different levels of analysis. It is not feasible, however, to orthogonalize the product terms corresponding to such type of interactions, since multilevel
datasets comprise multiple lower level observations per higher level unit sampled. Thus, it was not possible to adopt the residual centering approach to address the issue of collinearity corresponding in the case of the latter two moderating effects.

HLM 7 automatically computes the product terms between variables residing at different levels of analysis (in this case, at the venture level and at the firm levels of analysis). In this context, grand-mean centering reduces collinearity issues between the product terms which result from the multiplication of lower level variables with higher level variables and the first-order variables from which such product terms are derived (Hofmann and Gavin 1998). Grand-mean centering of a higher level variable corresponds to centering (i.e. scaling) the higher level variable (i.e. the firm level variable, in the case of this research) around the mean value attained for such variable in the sample or, put differently, to subtracting the mean value for the higher level predictor attained across the sample from each case. Additionally, as highlighted by Raudenbush & Bryk (2002) “it is often convenient to center all the level-2 predictors around their corresponding grand means” (p. 35). Therefore, it was decided to adopt grand-mean centering for all the variables of the model residing at the firm level. Grand-mean centering was performed automatically in HLM 7, by selecting the corresponding option in the menu.

7.3.4 Model specification

As mentioned in the previous section, the HLM 7 software (Raudenbush et al. 2011) was utilized to test the first model of this research. The model included variables residing at two levels of analysis, namely the firm level and the export venture level. Accordingly, it was decided to select the “HLM2” type of model in HLM 7. In such type of model, level-1 corresponds to the lower level of analysis and level-2 to the higher level of analysis. Thus, in the case of this research, level-1 corresponds to the export venture level and level-2 corresponds to the firm level.
Two estimation techniques were available in HLM7, namely Restricted Maximum Likelihood and Full Maximum Likelihood. According to Hox and Kreft (1994) Restricted Maximum Likelihood should produce less biased estimates than Full Maximum Likelihood. It was, thus, decided to opt for the use of Restricted Maximum Likelihood, so as to enhance the statistical precision of the statistical results obtained.

In Hierarchical Linear Models, the centering (i.e. scaling) of the predictor variables which reside at different levels of analysis constitutes a key decision in terms of model specification (cf. Hofmann and Gavin 1998; Park 2008). Raudensbush and Bryk (2002) defend that in a Hierarchical Linear Model, the centering of level-1 predictors is a crucial decision, as it will affect the meaning of the coefficients obtained. Furthermore, Hofmann and Gavin (1998) contend that the choice of the centering method used for the centering of level-1 predictors should be guided by the theoretical paradigm which underpins the model which is being tested. According to the authors, in circumstances where researcher uses the moderational paradigm (i.e. fit as moderation), group-mean centering should be adopted for purposes of scaling level-1 predictors. In group-mean centering, the mean value for a particular level-1 predictor across all the level level-1 units nested in each level-2 unit (or “group”) is subtracted from each case (Hofmann and Gavin 1998).

Accordingly, given that the theoretical paradigm which underpins the conceptual model of this research is fit as moderation, it was decided to carry out group-mean centering for all the level-1 (i.e. venture level) predictors of the model (namely, marketing adaptation across ventures, environmental differences across ventures, the moderating effect of environmental differences across ventures on the relationship between marketing adaptation across ventures and venture sales performance, and the moderating effect of environmental differences across ventures on the relationship between marketing adaptation across ventures and venture profit performance.

As defended by Raudensbush and Bryk (2002) the choice of centering approach for level-2 predictors is not as crucial as for the level-1 ones. The
reason is that the resulting coefficients can be easily interpreted whatever the approach followed. However, it is often convenient to adopt grand-mean centering, since, as mentioned previously, such approach reduces collinearity issues (Raudensbush and Bryk 2002). Therefore, as outlined earlier in this section, the predictors residing at level-2 (i.e. at the firm level) namely, EMO, firm resources, and firm export experience, were centered around their corresponding grand-means.

As described in Chapter 3, the first conceptual model of this study comprises two dependent variables, namely venture sales performance and venture profit performance. HLM7 only allows for one dependent variable per analysis run. Therefore, two models were run separately, one for venture sales performance and one for venture profit performance.

The first conceptual model of this study model comprises linear and non-linear relationships, as well as moderating effects. With regard to linear relationships, H1 predicts a positive linear relationship between marketing adaptation across ventures and venture sales performance. In terms of non-linear relationships, H2 proposes that the positive relationship between adapting marketing across ventures and venture sales performance becomes less positive under higher levels of adaptation. Furthermore, H5 predicts that there is an inverted U-shaped relationship between marketing adaptation across ventures and venture profit performance.

As far as moderating effects are concerned, the model predicts that EMO plays a positive moderating role on the link between marketing adaptation across ventures and venture sales performance (H3) and on the upslope of the inverted-U-shaped relationship between marketing adaptation across ventures and venture profit performance (H6). The model also anticipates that environmental differences across ventures moderates the relationship between marketing adaptation across ventures and venture sales performance (H4) and the upslope of the inverted U-shaped relationship between marketing adaptation across ventures and venture profit performance (H7).
As described previously in the present chapter, product term analysis was used to test the hypotheses corresponding to moderating effects (i.e. H₃, H₄, H₆, and H₇). Accordingly, a series of multiplicative product terms were entered in the regressions (manually by the researcher in the case of the moderating roles of environmental differences across ventures, and automatically by HLM 7 in the case of the moderating effects of EMO). Furthermore, all first-order constructs from which product terms were derived were included in the regressions as controls, in addition to the performance controls described in Chapter 3. Finally, in accordance with existing export performance investigations (e.g. Cadogan Cui, and Li 2003) sales performance was incorporated as a performance control in the equation for export profit performance.

As outlined earlier in this section, HLM7 only allows for one dependent variable per analysis run. Accordingly, two models were run separately, one for venture sales performance and one for venture profit performance. Hierarchical Linear Models estimate an equation (or set of equations) for each level of analysis included in the model (Raudenbush and Bryk 2002).

Also, the analyses carried-out using HLM concerns the total variance in the dependent variable at level-1 (i.e. the total variance in sales performance of single ventures within firms and the total variance in profit performance of single ventures within firms). HLM partitions such variances into two separate components. The first component corresponds to variance in the dependent variable which occurs across higher level units. The second component relates to variance in the dependent variable which occurs across lower level units nested within higher level units (Hofmann 1997; Raudenbush and Bryk 2002). Accordingly In the case of the present research, HLM partitions variance in venture sales performance into variance in venture sales (profit) performance which occurs across firms and variance in venture sales (profit) performance which occurs across ventures nested within firms. The latter component of variance – variance sales (profit) performance across multiple ventures within firms - is the relevant one for purposes of testing the hypotheses of the first model of the present research.
Furthermore, given that the model predicts direct impacts and moderated relationships, the appropriate hierarchical linear models to be used (one for sales and one for profits) was the Intercepts- and Slopes- as-Outcomes model (Hofmann 1997; Raudenbush and Bryk 2002). In an Intercepts- and Slopes- as-Outcomes model with two levels of analysis the level-1 equation is estimated separately for each higher level unit. Thus, in the present study, the equations developed at the venture level were estimated separately for each firm. The equations corresponding to the first model of this research are presented next.

7.3.4.1 Sales performance

The equations corresponding to the sales performance part of the model were specified as follows:

Level-1:

\[ \text{SALPERF}_{ij} = \beta_{0j} + \beta_{1j} \times \text{ADAPT}_{ij} + \beta_{2j} \times \text{ENV}_{ij} + \beta_{3j} \times (\text{ADAPT}_{ij} \times \text{ENV}_{ij}) + \beta_{4j} \times (\text{ADAPT}_{ij})^2 + \beta_{5j} \times ((\text{ADAPT}_{ij})^2 \times \text{ENV}_{ij}) + r_{ij} \]  

(1)

Where:

- \( \text{SALPERF}_{ij} \) = Export sales performance in venture \( i \) of firm \( j \)
- \( \beta_{0j} \) = Intercept firm \( j \)
- \( \text{ADAPT}_{ij} \) = Marketing adaptation in venture \( i \) of firm \( j \)
- \( (\text{ADAPT}_{ij})^2 \) = Marketing adaptation in venture \( i \) of firm \( j \) - squared
- \( \text{ENV}_{ij} \) = Environmental differences in venture \( i \) of firm \( j \)
- \( \beta_{1j} \) = Slope for firm \( j \) corresponding to the effect of \( \text{ADAPT}_{ij} \) on \( \text{SALPERF}_{ij} \)
- \( \beta_{2j} \) = Slope for firm \( j \) corresponding to the effect of \( \text{ENV}_{ij} \) on \( \text{SALPERF}_{ij} \)
- \( \beta_{3j} \) = Slope for firm \( j \) corresponding to the effect of the interaction of \( \text{ADAPT}_{ij} \) and \( \text{ENV}_{ij} \) on \( \text{SALPERF}_{ij} \)
- \( \beta_{4j} \) = Slope for firm \( j \) corresponding to the effect of \( (\text{ADAPT}_{ij})^2 \) on \( \text{SALPERF}_{ij} \)
$\beta_{5j} =$ Slope for firm j corresponding to the effect of the interaction of $(\text{ADAPT}_{ij})^2$

and $\text{ENV}_{ij}$ on $\text{SALPERF}_{ij}$

$r_{ij} =$ residual for venture i of firm j

In the two-level Intercepts- and Slopes- as-Outcomes model, the analysis at level-2 (i.e. at the firm level) utilizes the intercepts and slopes from the level-1 analysis as dependent variables (Hofmann 1997, p. 728). Accordingly, the level-2 equations were specified as follows:

**Level-2:**

1. $\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{EMO}_j) + \gamma_{02}(\text{RESOURCE}_j) + \gamma_{03}(\text{EXPER}_j) + u_{0j}$ (2)
2. $\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{EMO}_j)$ (3)
3. $\beta_{2j} = \gamma_{20}$ (4)
4. $\beta_{3j} = \gamma_{30}$ (5)
5. $\beta_{4j} = \gamma_{40} + \gamma_{41}(\text{EMO}_j)$ (6)
6. $\beta_{5j} = \gamma_{50}$ (7)

Where:

- $\text{EMO}_j =$ Market orientation of firm j
- $\text{RESOURCE}_j =$ Resources of firm j
- $\text{EXPER}_j =$ Experience of firm j
- $\gamma_{00}, \gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{40}, \gamma_{50} =$ Intercepts (level-2)
- $\gamma_{01} =$ Intercept relating $\text{EMO}_j$ to the intercept term of the level-1 equation (i.e. to $\beta_{0j}$)
- $\gamma_{02} =$ Intercept relating $\text{RESOURCE}_j$ to the intercept term of the level-1 equation (i.e. to $\beta_{0j}$)
- $\gamma_{03} =$ Intercept relating $\text{EXPER}_j$ to the intercept term of the level-1 equation (i.e. to $\beta_{0j}$)
$\gamma_{11} =$ Slope relating $EMO_j$ to $\beta_{1j}$ (from equation (1))

$\gamma_{41} =$ Slope relating $EMO_j$ to $\beta_{4j}$ (from equation (1))

$u_{0j} =$ residual (firm level)

As can be seen via inspecting equations (1) and (2), the intercept for $SALPERF_{ij}$ ($\beta_{0j}$) is a function of the grand mean in venture level sales performance ($\gamma_{00}$, which is computed as an average across firms of the mean values in export venture sales performance), of $EMO_j$, of $RESOURCE_j$, of $EXPER_j$, and of $u_{0j}$. Accordingly, the degree of statistical significance of the coefficients $\gamma_{01}$, $\gamma_{02}$, and $\gamma_{03}$ is a test for the direct impact of $EMO_j$, $RESOURCE_j$, and $EXPER_j$ on variance in export venture sales performance across firms.

As demonstrated in the model equations, the intercept term $\gamma_{10}$ consists of the direct impact of $ADAPT_{ij}$ on $SALPERF_{ij}$. Thus, the level of statistical significance of $\gamma_{10}$ is a test for $H_{1a}$, which anticipates that marketing adaptation across ventures has a positive impact on venture sales performance. $\gamma_{11}$, i.e. the slope relating $EMO_j$ to $\beta_{1j}$ corresponds to the impact of the interaction between $ADAPT_{ij}$ and $EMO_j$ on $SALPERF_{ij}$. In other words, $\gamma_{11}$ corresponds to the moderating impact of $EMO_j$ on the relationship between $ADAPT_{ij}$ and $SALPERF_{ij}$. In line with the recommendations provided in the literature such effect was included as a control in the model.

$\gamma_{40}$ corresponds to the direct impact of $(ADAPT_{ij})^2$ on $SALPERF_{ij}$. The level of statistical significance of $\gamma_{40}$ is, therefore, a test for $H_2$, which specifies a non-linear relationship between marketing adaptation across ventures and venture sales performance. $\gamma_{41}$, i.e. the slope relating $EMO_j$ to $\beta_{4j}$ corresponds to the impact of the interaction between $(ADAPT_{ij})^2$ and $EMO_j$ on $SALPERF_{ij}$. In other words, $\gamma_{41}$ corresponds to the moderating impact of $EMO_j$ on the relationship between $(ADAPT_{ij})^2$ and $SALPERF_{ij}$. The level of statistical significance of $\gamma_{41}$ is, therefore, a test for $H_3$, which specifies that the non-linear
relationship between marketing adaptation across ventures and venture sales performance is positively moderated by EMO.

As shown in equation (4), the slope term $\beta_{2j}$ of equation (1), which corresponds to the direct impact of $ENV_{ij}$ on $SALPERF_{ij}$, is a function of an intercept term ($\gamma_{10}$). The slope term $\beta_{3j}$ of equation (1) corresponds to the effect of the interaction between $ADAPT_{ij}$ and $ENV_{ij}$ on $SALPERF_{ij}$ or, in other words, to the moderating effect of environmental differences across ventures on the link between marketing adaptation across ventures and venture sales performance. $\beta_{3j}$ is a function of an intercept term ($\gamma_{30}$, equation (5)). The significance of $\gamma_{30}$ is a test for the positive moderating role of environmental differences across ventures on the link between marketing adaptation across ventures and venture sales performance. Following the recommendations offered in the literature, the latter two effects were included as controls in the model.

$\beta_{5j}$ corresponds to the impact of the interaction between $(ADAPT_{ij})^2$ and $ENV_{ij}$ on $SALPERF_{ij}$ or, in other words, to the moderating effect of environmental differences across ventures on the link between marketing adaptation across ventures squared and venture sales performance. $\beta_{5j}$ is a function of an intercept term ($\gamma_{50}$, equation (7)). The significance of $\gamma_{50}$ is a test for the positive moderating role of environmental differences across ventures on the link between marketing adaptation squared and venture sales performance, i.e., $\gamma_{50}$ is a test for $H_4$.

By combining level-1 and level-2 equations (i.e. equations (1) to (7)), the mixed model is obtained. The mixed model is specified as follows:
**Mixed Model:**

\[
\text{SALPERF}_{ij} = \gamma_{00} + \gamma_{01} * \text{EMO}_j + \gamma_{02} * \text{RESOURCE}_j + \gamma_{03} * \text{EXPER}_j \\
+ \gamma_{10} * \text{ADAPT}_{ij} + \gamma_{11} * \text{EMO}_j * \text{ADAPT}_{ij} + \gamma_{20} * \text{ENV}_{ij} + \gamma_{30} * \text{ADAPT} * \text{ENV}_{ij} \\
+ \gamma_{40} * (\text{ADAPT}_{ij})^2 + \gamma_{41} * (\text{ADAPT}_{ij})^2 * \text{EMO}_j + \gamma_{50} * (\text{ADAPT}_{ij})^2 * \text{ENV}_{ij} + u_{0j} + r_{ij}
\]  

(8)

7.3.4.2 Profit performance

The equations relating to the profit performance part of the model were specified as follows:

**Level-1:**

\[
\text{PROFPERF}_{ij} = \beta_{0j} + \beta_{1j} * (\text{SALPERF}_{ij}) + \beta_{2j} * (\text{ADAPT}_{ij}) + \beta_{3j} * (\text{ENV}_{ij}) + \beta_{4j} * (\text{ADAPT}_{ij} * \text{ENV}_{ij}) + \beta_{5j} * (\text{ADAPT}_{ij})^2 + \beta_{6j} * ((\text{ADAPT}_{ij})^2 * \text{ENV}_{ij}) + r_{ij}
\]  

(9)

Where:

\[
\text{PROFPERF}_{ij} = \text{Export profit performance in venture i of firm j}
\]

\[
\text{SALPERF}_{ij} = \text{Export sales performance in venture i of firm j}
\]

\[
\beta_{0j} = \text{Intercept firm j}
\]

\[
\text{ADAPT}_{ij} = \text{Marketing adaptation in venture i of firm j}
\]

\[
(\text{ADAPT}_{ij})^2 = \text{Marketing adaptation in venture i of firm j - squared}
\]

\[
\text{ENV}_{ij} = \text{Environmental differences in venture i of firm j}
\]

\[
\beta_{1j} = \text{Slope for firm j corresponding to the effect of SALPERF}_{ij} \text{ on PROFPERF}_{ij}
\]

\[
\beta_{2j} = \text{Slope for firm j corresponding to the effect of ADAPT}_{ij} \text{ on PROFPERF}_{ij}
\]

\[
\beta_{3j} = \text{Slope for firm j corresponding to the effect of ENV}_{ij} \text{ on PROFPERF}_{ij}
\]

\[
\beta_{4j} = \text{Slope for firm j corresponding to the effect of the interaction of ADAPT}_{ij} \text{ and ENV}_{ij} \text{ on PROFPERF}_{ij}
\]

\[
\beta_{5j} = \text{Slope for firm j corresponding to the effect of (ADAPT}_{ij})^2 \text{ on PROFPERF}_{ij}
\]

\[
\beta_{6j} = \text{Slope for firm j corresponding to the effect of the interaction of (ADAPT}_{ij})^2 \text{ and ENV}_{ij} \text{ on PROFPERF}_{ij}
\]

\[
r_{ij} = \text{residual for venture i of firm j}
\]
As outlined previously, in the two-level Intercepts- and Slopes- as-Outcomes model, the analysis at level-2 (i.e. at the firm level) uses the intercepts and slopes from the level-1 analysis as dependent variables (Hofmann 1997, p. 728). The level-2 equations were, thus, specified as follows:

**Level-2:**

\[
\begin{align*}
\beta_{0j} &= \gamma_{00} + \gamma_{01}(EMO_j) + \gamma_{02}(RESOURCE_j) + \gamma_{03}(EXPER_j) + u_{0j} \\
\beta_{1j} &= \gamma_{10} \\
\beta_{2j} &= \gamma_{20} + \gamma_{21}(EMO_j) \\
\beta_{3j} &= \gamma_{30} \\
\beta_{4j} &= \gamma_{40} \\
\beta_{5j} &= \gamma_{50} + \gamma_{51}(EMO_j) \\
\beta_{6j} &= \gamma_{60}
\end{align*}
\]

(10) (11) (12) (13) (14) (15) (16)

Where:

- \( EMO_j \) = Market orientation of firm \( j \)
- \( RESOURCE_j \) = Resources of firm \( j \)
- \( EXPER_j \) = Experience of firm \( j \)
- \( \gamma_{00}, \gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{40}, \gamma_{50}, \gamma_{60} \) = Intercepts (level-2)
- \( \gamma_{01} \) = Intercept relating \( EMO_j \) to the intercept term of the level-1 equation (i.e. to \( \beta_{0j} \))
- \( \gamma_{02} \) = Intercept relating \( RESOURCE_j \) to the intercept term of the level-1 equation (i.e. to \( \beta_{0j} \))
- \( \gamma_{03} \) = Intercept relating \( EXPER_j \) to the intercept term of the level-1 equation (i.e. to \( \beta_{0j} \))
- \( \gamma_{21} \) = Slope relating \( EMO_j \) to \( \beta_{1j} \) (from equation (1))
- \( \gamma_{51} \) = Slope relating \( EMO_j \) to \( \beta_{5j} \) (from equation (1))
- \( u_{0j} \) = residual (firm level)
As shown in equations (10) and (11), the intercept for PROFPERF$_{ij}$ ($\beta_{0j}$) is a function of the grand mean in venture level profit performance ($\gamma_{00}$, which is computed as an average across firms of the mean values in export venture profit performance), of EMO$_j$, of RESOURCE$_j$, of EXPER$_j$, and of $u_{0j}$.

Accordingly, the degree of statistical significance of the coefficients $\gamma_{01}$, $\gamma_{02}$, and $\gamma_{03}$ is a test for the direct effect of EMO$_j$, RESOURCE$_j$, and EXPER$_j$ on variance in venture profit performance across firms.

As exhibited in the model equations, $\gamma_{20}$ corresponds to the direct impact of SALPERF$_{ij}$ on PROFPERF$_{ij}$. In line with existing export performance studies (e.g. Cadogan Cui, and Li 2003), such term was included in the model as a control. $\gamma_{20}$ relates to the direct impact of ADAPT$_{ij}$ on PROFPERF$_{ij}$. $\gamma_{21}$, i.e. the slope relating EMO$_j$ to $\beta_{2j}$ corresponds to the impact of the interaction between ADAPT$_{ij}$ and EMO$_j$ on PROFPERF$_{ij}$. In other words, $\gamma_{21}$ corresponds to the moderating impact of EMO$_j$ on the relationship between ADAPT$_{ij}$ and PROFPERF$_{ij}$. In line with the recommendations provided in the literature, the two effects just described were as controls in the model.

$\gamma_{50}$ corresponds to the direct impact of $(ADAPT_{ij})^2$ on PROFPERF$_{ij}$. The degree of statistical significance of $\gamma_{50}$ is, hence, a test for $H_5$, which anticipates the existence of an inverted U-shaped relationship between marketing adaptation across ventures and venture profit performance. $\gamma_{51}$, i.e. the slope relating EMO$_j$ to $\beta_{5j}$ corresponds to the effect of the interaction between $(ADAPT_{ij})^2$ and EMO$_j$ on PROFPERF$_{ij}$. Put differently, $\gamma_{51}$ corresponds to the moderating effect of EMO$_j$ on the link between $(ADAPT_{ij})^2$ and PROFPERF$_{ij}$. The level of statistical significance of $\gamma_{51}$ is, thus, a test for $H_6$, which predicts EMO positively moderates the upslope of the inverted U-shaped relationship between marketing adaptation across ventures and venture profit profit performance.
As presented in equation (13), the slope term $\beta_{3j}$ of equation (9), which corresponds to the direct impact of $\text{ENV}_{ij}$ on $\text{PROFPERF}_{ij}$ is a function of an intercept term ($\gamma_{30}$). $\beta_{3j}$ equation (9) corresponds to the effect of the interaction between $\text{ADAPT}_{ij}$ and $\text{ENV}_{ij}$ on $\text{PROFPERF}_{ij}$ or, in put differently, to the moderating effect of environmental differences across ventures on the relationship between marketing adaptation across ventures and venture profit performance. $\beta_{3j}$ is a function of an intercept term ($\gamma_{40}$, equation (14)). The significance of $\gamma_{40}$ is a test for the positive moderating role of environmental differences across ventures on the link between marketing adaptation across ventures and venture profit performance. In line with the recommendations provided in the literature, the latter two effects were included as controls.

$\beta_{6j}$ corresponds to the impact of the interaction between $(\text{ADAPT}_{ij})^2$ and $\text{ENV}_{ij}$ on $\text{PROFPERF}_{ij}$, i.e. to the moderating impact of environmental differences across ventures on the relationship between marketing adaptation across ventures squared and venture profit performance. $\beta_{6j}$ is a function of an intercept ($\gamma_{60}$, equation (16)). The degree of statistical significance of $\gamma_{60}$ is, therefore, a test for the positive moderating role of environmental differences across ventures on the link between marketing adaptation across ventures squared venture profit performance, i.e., $\gamma_{60}$ is a test for $H_7$.

The mixed model can be obtained by combining level-1 and level-2 equations (i.e. equations (9) to (16)), and is specified as follows:

**Mixed Model:**

\[
\text{PROFPERF}_{ij} = \gamma_{00} + \gamma_{01} \times \text{EMO}_{ij} + \gamma_{02} \times \text{RESOURCE}_{ij} + \gamma_{03} \times \text{EXPER}_{ij} + \gamma_{10} \times \text{SALPERF}_{ij} + \gamma_{20} \times \text{ADAPT}_{ij} + \gamma_{21} \times \text{EMO}_{ij} \times \text{ADAPT}_{ij} + \gamma_{30} \times \text{ENV}_{ij} + \gamma_{40} \times \text{ADAPT}_{ij} \times \text{ENV}_{ij} + \gamma_{50} \times (\text{ADAPT}_{ij})^2 + \gamma_{51} \times (\text{ADAPT}_{ij})^2 \times \text{EMO}_{ij} + \\
\gamma_{60} \times (\text{ADAPT}_{ij})^2 \times \text{ENV}_{ij} + u_{0j} + n_{ij}
\] (17)
In the present section, the analysis strategy for the conceptual first model of this investigation was outlined. The empirical results are presented next.

7.3 RESULTS: MODEL I

7.3.1 Assessment of structural model

Model assessment followed the guidelines provided in the hierarchical linear modelling literature (Hofmann 1997; Raudenbush and Bryk 2002; Snijders and Bosker 1999). The models for export venture sales performance and for export venture profit performance were run separately. Thus, those two models had to be assessed separately as well.

7.3.1.1 Venture sales performance

Typically, in Hierarchical Linear Modelling, the researcher starts by creating a null model, i.e. a model without predictors. One key purpose of the null model is that it serves as basis for computing the intraclass correlation (ICC). The ICC is a test used to assess whether multilevel modelling is necessary to test a particular model (e.g. Raudenbush and Bryk 2002; Snijders and Bosker 1999).

The equations corresponding to the null model of for sales performance are presented below.

\[
\text{Level-1:} \quad \text{SALPERF}_{ij} = \beta_{0j} + r_{ij} \tag{18}
\]

\[
\text{Level-2:} \quad \beta_{0j} = \gamma_{00} + u_{0j} \tag{19}
\]
Where:

\[ \beta_{0j} = \text{Intercept firm } j \]

\[ \text{SALPERF}_{ij} = \text{Export sales performance in venture } i \text{ of firm } j \]

\[ \gamma_{00} = \text{Intercept (level-2, i.e. firm level)} \]

\[ u_{0j} = \text{residual (level-2, i.e. firm level)} \]

By combining level-1 and level-2 equations, the following equation is obtained:

\[ \text{SALPERF}_{ij} = \gamma_{00} + u_{0j} + r_{ij} \] (20)

As shown in the equations just presented, \( \text{SALPERF}_{ij} \) is predicted by an intercept \( (\beta_{0j}) \) and by a residual \( (r_{ij}) \). \( \beta_{0j} \) corresponds to variations in export venture sales performance across firms and is a function of the grand mean in venture level sales performance \( (\gamma_{00}, \text{which is computed as an average of the mean values in export venture sales performance attained in individual firms}), \) plus a level-2 residual \( (u_{0j}) \). \( r_{ij} \) corresponds to variations in export venture sales performance across export ventures which are nested within the same firm.

By running the null model, a key output produced by HLM concerns the estimation of variance components. See Table 7.1.

**Table 7.1: Final estimation of variance components: Null model for export venture sales performance.**

<table>
<thead>
<tr>
<th>Random Effect</th>
<th>Standard Deviation</th>
<th>Variance Component</th>
<th>d.f.</th>
<th>( \chi^2 )</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRCPT1, ( u_0 )</td>
<td>1.783</td>
<td>3.180</td>
<td>125</td>
<td>1488.519</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>level-1, ( r )</td>
<td>0.857</td>
<td>0.735</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

233
Table 7.1 contains relevant pieces of information. The first of those concerns $u_0$, i.e. the random component of the intercept of $S(ALPERF)_{ij}$. The fact that such random component is significantly different from zero, as indicated by the highly significant chi-square ($\chi^2 = 1488.519, \alpha<0.001$) indicates that the intercept of $S(ALPERF)_{ij} (\beta_{0ij})$, which corresponds to variations in export venture sales performance across firms) is significantly affected by certain predictors. Such result indicates, thus, that variance in $u_0$ (the random component of the intercept of $S(ALPERF)_{ij}$) may be explained by adding predictors to the model or, put differently, variations in venture sales performance across firms can be explained by adding variables to the model.

The second piece of information concerns the level-1 residual, $r_{ij}$. Such residual corresponds to the variance in export venture sales performance across export ventures within the same firm. The fact that there such variance is different from zero (more specifically, it has the value of 0.735) indicates that variance in export sales performance across export ventures within firms (which is one of the phenomena being investigated in the first conceptual model of the present research) may be explained by adding predictors to the model.

The third piece of information concerns the intraclass correlation coefficient, ICC. The ICC can be computed as the variance in the intercept component of the null model (i.e. variance in $u_0$) divided by the total variance in the null model (i.e. variance in $u_0$ plus variance in $r_{ij}$) (cf. Hofmann 1997; Raudenbush and Bryk 2002; Snijders and Bosker 1999). Thus:

$$ICC = \frac{\sigma^2_{u_0}}{\sigma^2_{u_0} + \sigma^2_{r_{ij}}} \tag{21}$$
Where:

\[ \sigma^2 u_0 = \text{variance in } \text{SALPERF}_{ij} \text{ attributable to variations in } \text{SALPERF}_{ij} \text{ across firms} \]
\[ \sigma^2 r_{ij} = \text{variance in } \text{SALPERF}_{ij} \text{ attributable to variations in } \text{SALPERF}_{ij} \text{ across export ventures within firms} \]

The ICC can vary from +1.0, when the group mean value for the dependent variable differs across groups (i.e. level-2 units) but the dependent variable does not vary within groups (i.e. across level-1 units which are nested within level-2 units), to negative values when the group mean value for the dependent variable is the same across groups, but within group variation in the dependent variable is very large. Thus, in the null model of venture sales performance, the ICC can vary from +1.0 (when the firm mean value for venture sales performance differs across firms but venture sales performance does not vary across ventures which are nested within the same firms), to negative values when the firm mean value for venture sales performance is the same across firms, but venture sales performance varies highly across ventures which are nested within the same firms.

The higher the ICC (i.e., the more it approaches the value of +1.0), the higher the need for a multilevel model, as a greater part of the variance in the dependent variable can be attributed to group level (i.e. level-2) factors. Conversely, when ICC is close to 0 or is negative, hierarchical linear modelling is not suitable, as the variation in the dependent variable is essentially attributable to level-1 predictors (i.e., the dependent variable does not vary across level-2 units (or groups). Thus, when ICC is close to 0 or is negative, a single level model would suffice. In the case of the null model of venture sales performance, a high ICC indicates the need for a multilevel model, as a great deal of the variance in venture sales performance can be attributed to firm level predictors. On the other hand, an ICC close to 0 (or negative) suggests that Hierarchical Linear Modelling is not needed, as variance in export venture
sales performance is mainly attributable to venture level antecedents. Thus, in such circumstances, a single (venture) level model is enough.

Using the formula from equation (21), the ICC for the null model of venture sales performance was computed as $3.180 / (3.180 + 0.735) = 0.812$. Such value was quite high (close to +1.0), suggesting that a great deal of variance in export venture sales performance was attributable to firm level factors. Hence, it was confirmed that a multilevel model was needed.

The next step was, therefore, to run the Intercepts- and Slopes- as-Outcomes model. For purposes of clarity, the equations of the Intercepts- and Slopes-as-Outcomes model for venture sales performance (equations (1) to (8)) are reproduced below.

**Level-1:**
\[
\text{SALPERF}_{ij} = \beta_{0j} + \beta_{1j} \cdot \text{ADAPT}_{ij} + \beta_{2j} \cdot \text{ENV}_{ij} + \beta_{3j} \cdot (\text{ADAPT}_{ij} \cdot \text{ENV}_{ij}) + \beta_{4j} \cdot (\text{ADAPT}_{ij})^2 + \beta_{5j} \cdot ((\text{ADAPT}_{ij})^2 \cdot \text{ENV}_{ij}) + r_{ij}
\]  
(1)

Where:
- $\text{SALPERF}_{ij}$ = Export sales performance in venture $i$ of firm $j$
- $\beta_{0j}$ = Intercept firm $j$
- $\text{ADAPT}_{ij}$ = Marketing adaptation in venture $i$ of firm $j$
- $(\text{ADAPT}_{ij})^2$ = Marketing adaptation in venture $i$ of firm $j$ - squared
- $\text{ENV}_{ij}$ = Environmental differences in venture $i$ of firm $j$
- $\beta_{1j}$ = Slope for firm $j$ corresponding to the effect of $\text{ADAPT}_{ij}$ on $\text{SALPERF}_{ij}$
- $\beta_{2j}$ = Slope for firm $j$ corresponding to the effect of $\text{ENV}_{ij}$ on $\text{SALPERF}_{ij}$
- $\beta_{3j}$ = Slope for firm $j$ corresponding to the effect of the interaction of $\text{ADAPT}_{ij}$ and $\text{ENV}_{ij}$ on $\text{SALPERF}_{ij}$
- $\beta_{4j}$ = Slope for firm $j$ corresponding to the effect of $(\text{ADAPT}_{ij})^2$ on $\text{SALPERF}_{ij}$
- $\beta_{5j}$ = Slope for firm $j$ corresponding to the effect of the interaction of $(\text{ADAPT}_{ij})^2$ and $\text{ENV}_{ij}$ on $\text{SALPERF}_{ij}$
\( r_{ij} \) = residual for venture \( i \) of firm \( j \)

**Level-2:**

\[
\begin{align*}
\beta_{0j} &= \gamma_{00} + \gamma_{01} \cdot (EMO_j) + \gamma_{02} \cdot (RESOURCE_j) + \gamma_{03} \cdot (EXPER_j) + u_{0j} \\
\beta_{1j} &= \gamma_{10} + \gamma_{11} \cdot (EMO_j) \\
\beta_{2j} &= \gamma_{20} \\
\beta_{3j} &= \gamma_{30} \\
\beta_{4j} &= \gamma_{40} + \gamma_{41} \cdot (EMO_j) \\
\beta_{5j} &= \gamma_{50}
\end{align*}
\]

Where:

\( EMO_j \) = Market orientation of firm \( j \)

\( RESOURCE_j \) = Resources of firm \( j \)

\( EXPER_j \) = Experience of firm \( j \)

\( \gamma_{00}, \gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{40}, \gamma_{50} \) = Intercepts (level-2)

\( \gamma_{01} \) = Intercept relating \( EMO_j \) to the intercept term of the level-1 equation (i.e. to \( \beta_{0j} \))

\( \gamma_{02} \) = Intercept relating \( RESOURCE_j \) to the intercept term of the level-1 equation (i.e. to \( \beta_{0j} \))

\( \gamma_{03} \) = Intercept relating \( EXPER_j \) to the intercept term of the level-1 equation (i.e. to \( \beta_{0j} \))

\( \gamma_{11} \) = Slope relating \( EMO_j \) to \( \beta_{1j} \) (from equation (1))

\( \gamma_{41} \) = Slope relating \( EMO_j \) to \( \beta_{4j} \) (from equation (1))

\( u_{0j} \) = residual (firm level)
Mixed Model:

\[
\text{SALPERF}_{ij} = \gamma_{00} + \gamma_{01}\text{EMO}_j + \gamma_{02}\text{RESOURCE}_j + \gamma_{03}\text{EXPER}_j \\
+ \gamma_{10}\text{ADAPT}_i + \gamma_{11}\text{EMO}_j\text{ADAPT}_i + \gamma_{20}\text{ENV}_ij + \gamma_{30}\text{ADAPT}_ix\text{ENV}_ij \\
+ \gamma_{40}(\text{ADAPT}_i)^2 + \gamma_{41}(\text{ADAPT}_i)^2\text{EMO}_j + \gamma_{50}(\text{ADAPT}_i)^2\text{ENV}_ij + u_{0j} + r_{ij}
\]

By running the Intercepts- and Slopes- as-Outcomes model, a key output produced by HLM concerns the final estimation of variance components of the model. See Table 7.2.

### Table 7.2: Final estimation of variance components: intercepts- and slopes- as-outcomes model for export venture sales performance.

<table>
<thead>
<tr>
<th>Random Effect</th>
<th>Standard Deviation</th>
<th>Variance Component</th>
<th>d.f.</th>
<th>(\chi^2)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRCPT1, (u_0)</td>
<td>1.775</td>
<td>3.149</td>
<td>122</td>
<td>1502.343</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>level-1, (r)</td>
<td>0.842</td>
<td>0.708</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in by inspecting Table 7.2, the variance in the random component of the intercept term (\(u_0\)), which relates to variations in venture sales performance across firms has decreased from 3.180 (in the null model) to 3.149 (in the Intercepts- and Slopes- as-Outcomes model). The variance in the level-1 residual (\(r_{ij}\)), which corresponds to variance in venture sales performance across ventures which are nested within the same firm also decreased from 0.735 (in the null model) to 0.708 (in the Intercepts- and Slopes- as-Outcomes model).
The reduction in $r_{ij}$, i.e. in unexplained variance in export venture level sales performance obtained with the Intercepts- and Slopes-as-Outcomes model in comparison to the null model can be computed using the following equation (Raudenbush and Bryk 2002):

$$\frac{\sigma^2 r_{ij} (\text{null model}) - \sigma^2 r_{ij} (\text{Intercepts- and Slopes-as-Outcomes model})}{\sigma^2 r_{ij} (\text{null model})}$$

(22)

Therefore, such reduction was computed as $(0.735 - 0.708) / 0.735 = 0.037$. Thus, the intercepts- and slopes-as-outcomes model resulted in a 3.7% decrease in the unexplained variance of venture sales performance relative to the null model. Accordingly, it can be concluded that Intercepts- and Slopes-as-Outcomes model for venture sales performance fits well the data, as it contributes to explain variations in sales performance across ventures nested within the same firms. As described earlier in this chapter, hierarchical linear modeling allowed the researcher to partition variations in venture sales performance into variance in venture sales performance across firms and variance in venture sales performance across ventures within firms. The latter type of effect, i.e., venture sales performance variations across ventures within firms is the relevant one for purposes of testing the hypotheses corresponding to the first model of this research. The results concerning the test of the hypotheses relating to sales performance across ventures nested within firms are presented later in this chapter.

### 7.3.1.2 Venture profit performance

The assessment of the model for venture profit performance followed the same steps as the assessment of the model for venture sales performance. Accordingly, the researcher started by creating a null model, i.e. a model no predictors which had venture profit performance as the dependent variable.
The equations for the null model are presented below.

**Level-1:**
\[ \text{PROFPERF}_{ij} = \beta_{0j} + r_{ij} \] (23)

**Level-2:**
\[ \beta_{0j} = \gamma_{00} + u_{0j} \] (24)

Where:

- \( \beta_{0j} \) = Intercept firm \( j \)
- \( \text{PROFPERF}_{ij} \) = Export profit performance in venture \( i \) of firm \( j \)
- \( \gamma_{00} \) = Intercept (level-2, i.e. firm level)
- \( u_{0j} \) = residual (level-2, i.e. firm level)

Via combining level-1 and level-2 equations, the following equation is derived:

\[ \text{PROFPERF}_{ij} = \gamma_{00} + u_{0j} + r_{ij} \] (25)

As depicted in the equations just presented, \( \text{PROFPERF}_{ij} \) is predicted by an intercept (\( \beta_{0j} \)) and by a residual (\( r_{ij} \)). \( \beta_{0j} \) corresponds to variations in venture profit performance across firms and is a function of the grand mean in venture level profit performance (\( \gamma_{00} \), which is computed as an average of the mean values in venture profit performance attained in individual firms), plus a level-2 residual (\( u_{0j} \)). \( r_{ij} \) corresponds to variations in venture profit performance across export ventures which are nested within the same firm.

Via running the null model, a key output produced by HLM relates to the estimation of variance components. See Table 7.3.
Table 7.3: Final estimation of variance components: Null model for export venture profit performance.

<table>
<thead>
<tr>
<th>Random Effect</th>
<th>Standard Deviation</th>
<th>Variance Component</th>
<th>d.f.</th>
<th>χ²</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRCPT1, u₀</td>
<td>0.824</td>
<td>0.679</td>
<td>125</td>
<td>522.000</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>level-1, r</td>
<td>0.730</td>
<td>0.533</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 7.3, $u₀$, i.e. the random component of the intercept of PROFPERF$_{ij}$, is significantly different from zero, as indicated by the highly significant chi-square ($χ^2 = 522.000$, $α<0.001$). Accordingly, the intercept of PROFPERF$_{ij}$ ($β_{0j}$, which corresponds to variations in venture profit performance across firms) is significantly affected by certain antecedents. Variance in $u₀$ (the random component of the intercept of PROFPERF$_{ij}$) may, thus, be explained by adding predictors to the model. In other words, variance in venture profit performance across firms can be explained by adding variables to the model. Furthermore, variance in $r_{ij}$ is different from zero (more specifically, it has the value of 0.730). Variance in venture profit performance within firms (which is one of the phenomena being investigated in this research) may, thus, be explained by adding predictors to the model.

As mentioned previously in this chapter, the ICC can be computed using the formula presented below:

$$ICC = \frac{σ^2 u_0}{σ^2 u_0 + σ^2 r_{ij}}$$

(21)

Where:

$σ^2 u_0$ = variance in SALPERF$_{ij}$ attributable to variations in SALPERF$_{ij}$ across firms
\( \sigma^2 r_{ij} = \) variance in SALPERF\(_{ij}\) attributable to variations in SALPERF\(_{ij}\) across export ventures within firms

As also outlined previously, the ICC can vary from +1.0, when the group mean value for the dependent variable differs across groups (i.e. level-2 units) but the dependent variable does not vary within groups (i.e. across level-1 units which are nested within level-2 units), to negative values in cases where the group mean value for the dependent variable is the same across groups, but within group variation in the dependent variable is very large. Thus, in the null model of venture profit performance, the ICC can vary from +1.0 (when the firm mean value for venture profit performance differs across firms but venture profit performance does not vary across ventures which are nested within the same firms), to negative values when the firm mean value for venture profit performance is the same across firms, but venture profit performance varies highly across ventures which are nested within the same firms.

Using the formula from equation (21), the ICC for the null model of venture profit performance was computed as \( 0.679 / (0.679 + 0.533) = 0.560 \). Such value was relatively high, suggesting that a considerable proportion of variance in venture profit performance was attributable to firm level variables. Hence, it was confirmed that a multilevel model was necessary for hypotheses testing.

The next step was, hence, to run the Intercepts- and Slopes- as-Outcomes model. For purposes of clarity, the equations of the Intercepts- and Slopes- as-Outcomes model for venture profit performance (equations (9) to (17)) are reproduced below.

**Level-1:**

\[
\text{PROFPERF}_{ij} = \beta_{0j} + \beta_{1j} \times (\text{SALPERF}_{ij}) + \beta_{2j} \times (\text{ADAPT}_{ij}) + \beta_{3j} \times (\text{ENV}_{ij}) + \\
\beta_{4j} \times (\text{ADAPT}_{ij} \times \text{ENV}_{ij}) + \beta_{5j} \times (\text{ADAPT}_{ij})^2 + \beta_{6j} \times ((\text{ADAPT}_{ij})^2 \times \text{ENV}_{ij}) + r_{ij}
\]  

(9)
Where:

\[ \text{PROFPERF}_{ij} = \text{Export profit performance in venture i of firm j} \]

\[ \text{SALPERF}_{ij} = \text{Export sales performance in venture i of firm j} \]

\[ \beta_{0j} = \text{Intercept firm j} \]

\[ \text{ADAPT}_{ij} = \text{Marketing adaptation in venture i of firm j} \]

\[ (\text{ADAPT}_{ij})^2 = \text{Marketing adaptation in venture i of firm j} - \text{squared} \]

\[ \text{ENV}_{ij} = \text{Environmental differences in venture i of firm j} \]

\[ \beta_{1j} = \text{Slope for firm j corresponding to the effect of SALPERF}_{ij} \text{ on PROFPERF}_{ij} \]

\[ \beta_{2j} = \text{Slope for firm j corresponding to the effect of ADAPT}_{ij} \text{ on PROFPERF}_{ij} \]

\[ \beta_{3j} = \text{Slope for firm j corresponding to the effect of ENV}_{ij} \text{ on PROFPERF}_{ij} \]

\[ \beta_{4j} = \text{Slope for firm j corresponding to the effect of the interaction of ADAPT}_{ij} \text{ and ENV}_{ij} \text{ on PROFPERF}_{ij} \]

\[ \beta_{5j} = \text{Slope for firm j corresponding to the effect of (ADAPT}_{ij})^2 \text{ on PROFPERF}_{ij} \]

\[ \beta_{6j} = \text{Slope for firm j corresponding to the effect of the interaction of (ADAPT}_{ij})^2 \text{ and ENV}_{ij} \text{ on PROFPERF}_{ij} \]

\[ r_{ij} = \text{residual for venture i of firm j} \]

**Level-2:**

\[ \beta_{0j} = \gamma_{00} + \gamma_{01}(\text{EMO}_{j}) + \gamma_{02}(\text{RESOURCE}_{j}) + \gamma_{03}(\text{EXPER}_{j}) + u_{0j} \]  \hspace{1cm} (10)

\[ \beta_{1j} = \gamma_{10} \]  \hspace{1cm} (11)

\[ \beta_{2j} = \gamma_{20} + \gamma_{21}(\text{EMO}_{j}) \]  \hspace{1cm} (12)

\[ \beta_{3j} = \gamma_{30} \]  \hspace{1cm} (13)

\[ \beta_{4j} = \gamma_{40} \]  \hspace{1cm} (14)

\[ \beta_{5j} = \gamma_{50} + \gamma_{51}(\text{EMO}_{j}) \]  \hspace{1cm} (15)

\[ \beta_{6j} = \gamma_{60} \]  \hspace{1cm} (16)
Where:

\[ \text{EMO}_j = \text{Market orientation of firm } j \]
\[ \text{RESOURCE}_j = \text{Resources of firm } j \]
\[ \text{EXPER}_j = \text{Experience of firm } j \]

\[ \gamma_{00}, \gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{40}, \gamma_{50}, \gamma_{60} = \text{Intercepts (level-2)} \]
\[ \gamma_{01} = \text{Intercept relating EMO}_j \text{ to the intercept term of the level-1 equation (i.e. to } \beta_{0j}) \]
\[ \gamma_{02} = \text{Intercept relating RESOURCE}_j \text{ to the intercept term of the level-1 equation (i.e. to } \beta_{0j}) \]
\[ \gamma_{03} = \text{Intercept relating EXPER}_j \text{ to the intercept term of the level-1 equation (i.e. to } \beta_{0j}) \]
\[ \gamma_{21} = \text{Slope relating EMO}_j \text{ to } \beta_{1j} \text{ (from equation (1))} \]
\[ \gamma_{51} = \text{Slope relating EMO}_j \text{ to } \beta_{5j} \text{ (from equation (1))} \]
\[ u_{0j} = \text{residual (firm level)} \]

**Mixed Model:**

\[ \text{PROFPERF}_{ij} = \gamma_{00} + \gamma_{01} \times \text{EMO}_j + \gamma_{02} \times \text{RESOURCE}_j + \gamma_{03} \times \text{EXPER}_j \]
\[ + \gamma_{10} \times \text{SALPERF}_{ij} + \gamma_{20} \times \text{ADAP}_{ij} + \gamma_{21} \times \text{EMO}_j \times \text{ADAP}_{ij} + \gamma_{30} \times \text{ENV}_{ij} + \gamma_{40} \times \text{ADAP} \times \text{ENV}_{ij} + \gamma_{50} \times (\text{ADAP}_{ij})^2 + \gamma_{51} \times (\text{ADAP}_{ij})^2 \times \text{EMO}_j + \gamma_{60} \times (\text{ADAP}_{ij})^2 \times \text{ENV}_{ij} + u_{0j} + r_{ij} \]  

(17)

By running the Intercepts- and Slopes- as-Outcomes model, a critical output produced by HLM concerns the final estimation of variance components of the model. See Table 7.4.
Table 7.4: Final estimation of variance components: intercepts- and slopes- as-outcomes model for export venture profit performance.

<table>
<thead>
<tr>
<th>Random Effect</th>
<th>Standard Deviation</th>
<th>Variance Component</th>
<th>d.f.</th>
<th>$\chi^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRCPT1, $u_0$</td>
<td>0.843</td>
<td>0.710</td>
<td>122</td>
<td>562.450</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>level-1, $r$</td>
<td>0.696</td>
<td>0.485</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inspection of Table 7.4 reveals that the variance in ($u_{0j}$), which relates to variations in venture profit performance across firms, increased from 0.679 in the null model to 0.710 in the Intercepts- and Slopes-as-Outcomes model, which implies that the null model explains more of the variance in export venture profit performance across firms than the Intercepts- and Slopes-as-Outcomes model. Such result is somehow surprising and counter-intuitive, since the Intercepts- and Slopes-as-Outcomes model includes predictors and the null model does not. On the other hand, the variance in the level-1 residual ($r_{ij}$), which relates to variance in profit performance across ventures which are nested within the same firm (which is the relevant variance component in the case of the current research) reduced from 0.533 in the null model to 0.485 in the Intercepts- and Slopes-as-Outcomes model).

The reduction in $r_{ij}$, i.e., in unexplained variance in venture profit performance obtained with the Intercepts- and Slopes-as-Outcomes model in comparison to the null model can be computed using equation (22), which was presented previously and is reproduced again below:

\[
\frac{\sigma^2 r_{ij} \text{ (null model)} - \sigma^2 r_{ij} \text{ (Intercepts- and Slopes-as-Outcomes model)}}{\sigma^2 r_{ij} \text{ (null model)}} \quad (22)
\]

Therefore, such reduction was computed as $(0.533 - 0.485)/0.533 = 0.090$. Thus, the Intercepts- and Slopes-as-Outcomes model resulted in a 9% decrease in the unexplained variance of venture profit performance in
comparison to the null model. It can be, thus, concluded that Intercepts- and Slopes-as-Outcomes model for venture profit performance fits well the data, as it contributes to explain variations in profit performance across ventures which are nested within the same firms. Hierarchical linear modeling enabled the researcher to partition variance in venture profit performance into variance in venture profit performance across firms and variance in venture profit performance across ventures within firms. The latter type of effect is the pertinent one for purposes of hypotheses testing.

The results concerning the test of the hypotheses of the first conceptual model of this research are presented in the next section of this chapter.

7.3.2 Hypotheses Testing

Having established that the structural models for venture sales performance and venture profit performance were suitable for purposes of hypotheses testing, the results regarding the path estimates that represented the several hypotheses included in the model were then inspected. In the next subsection the test of hypotheses of the model concerning venture sales performance is presented. Subsequently, the results relating to the hypotheses pertaining to venture profit performance are outlined.

7.3.2.1 Venture sales performance

Considering the directionality of the hypothesized relationships, the pertinent critical t-values are 1.282, 1.645, and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$, and $\alpha = 0.01$, respectively. In order to facilitate the interpretation of the results obtained, the equations corresponding to the Intercepts- and Slopes-as-Outcomes model for venture sales are reproduced again below.
Level-1:
SALPERF$_{ij}$ = $\beta_{0j}$ + $\beta_{1j}$*(ADAPT$_{ij}$) + $\beta_{2j}$*(ENV$_{ij}$) + $\beta_{3j}$*(ADAPT$_{ij}$*ENV$_{ij}$) + $\beta_{4j}$*(ADAPT$_{ij}$)$^2$ + $\beta_{5j}$*((ADAPT$_{ij}$)$^2$*ENV$_{ij}$) + $r_{ij}$ (1)

Where:
SALPERF$_{ij}$ = Export sales performance in venture i of firm j
$\beta_{0j}$ = Intercept firm j
ADAPT$_{ij}$ = Marketing adaptation in venture i of firm j
(ADAPT$_{ij}$)$^2$ =Marketing adaptation in venture i of firm j - squared
ENV$_{ij}$ = Environmental differences in venture i of firm j
$\beta_{1j}$ = Slope for firm j corresponding to the effect of ADAPT$_{ij}$ on SALPERF$_{ij}$
$\beta_{2j}$ = Slope for firm j corresponding to the effect of ENV$_{ij}$ on SALPERF$_{ij}$
$\beta_{3j}$ = Slope for firm j corresponding to the effect of the interaction of ADAPT$_{ij}$ and ENV$_{ij}$ on SALPERF$_{ij}$
$\beta_{4j}$ = Slope for firm j corresponding to the effect of (ADAPT$_{ij}$)$^2$ on SALPERF$_{ij}$
$\beta_{5j}$ = Slope for firm j corresponding to the effect of the interaction of (ADAPT$_{ij}$)$^2$ and ENV$_{ij}$ on SALPERF$_{ij}$
$r_{ij}$ = residual for venture i of firm j

Level-2:
$\beta_{0j}$ = $\gamma_{00} + \gamma_{01}$(EMO$_j$) + $\gamma_{02}$(RESOURCE$_j$) + $\gamma_{03}$(EXPER$_j$) + $u_{0j}$ (2)
$\beta_{1j}$ = $\gamma_{10} + \gamma_{11}$(EMO$_j$) (3)
$\beta_{2j}$ = $\gamma_{20}$ (4)
$\beta_{3j}$ = $\gamma_{30}$ (5)
$\beta_{4j}$ = $\gamma_{40} + \gamma_{41}$(EMO$_j$) (6)
$\beta_{5j}$ = $\gamma_{50}$ (7)
Where:

$$EMO_j = \text{Export market orientation of firm } j$$

$$RESOURCE_j = \text{Resources of firm } j$$

$$EXPER_j = \text{Export experience of firm } j$$

$$\gamma_{00}, \gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{50} = \text{Intercepts (level-2)}$$

$$\gamma_{01} = \text{Intercept relating } EMO_j \text{ to the intercept term of the level-1 equation (i.e. to } \beta_{0j})$$

$$\gamma_{02} = \text{Intercept relating } RESOURCE_j \text{ to the intercept term of the level-1 equation (i.e. to } \beta_{0j})$$

$$\gamma_{03} = \text{Intercept relating } EXPER_j \text{ to the intercept term of the level-1 equation (i.e. to } \beta_{0j})$$

$$\gamma_{11} = \text{Slope relating } EMO_j \text{ to } \beta_{1j} \text{ (from equation (1))}$$

$$\gamma_{41} = \text{Slope relating } EMO_j \text{ to } \beta_{4j} \text{ (from equation (1))}$$

$$u_{0j} = \text{residual (firm level)}$$

**Mixed Model:**

$$SALPERF_{ij} = \gamma_{00} + \gamma_{01}EMO_j + \gamma_{02}RESOURCE_j + \gamma_{03}EXPER_j + \gamma_{10}ADAPT_{ij} + \gamma_{11}EMO_j*ADAPT_{ij} + \gamma_{20}ENV_{ij} + \gamma_{30}ADAPT_{ij}*ENV_{ij} + \gamma_{40}(ADAPT_{ij})^2 + \gamma_{41}(ADAPT_{ij})^2EMO_j + \gamma_{50}(ADAPT_{ij})^2ENV_{ij} + u_{0j} + r_{ij} \tag{8}$$

Table 7.5 depicts the results regarding the standardized path coefficients, and associated t-values corresponding to the hypothesized relationships included in the model of venture sales performance.
Table 7.5: Path coefficients and t-values: venture sales performance.

<table>
<thead>
<tr>
<th>Hypothesis supported by path</th>
<th>Structural path</th>
<th>Predictor</th>
<th>Standardized coefficient</th>
<th>t-value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$</td>
<td>$\gamma_{10}$</td>
<td>Marketing adaptation across ventures</td>
<td>-0.199</td>
<td>-2.061&lt;sup&gt;**&lt;/sup&gt;</td>
</tr>
<tr>
<td>$H_2$</td>
<td>$\gamma_{40}$</td>
<td>Marketing adaptation across ventures-squared</td>
<td>-0.058</td>
<td>-0.613</td>
</tr>
<tr>
<td>$H_3$</td>
<td>$\gamma_{41}$</td>
<td>Marketing adaptation across ventures-squared x EMO</td>
<td>-0.047</td>
<td>-0.799</td>
</tr>
<tr>
<td>$H_4$</td>
<td>$\gamma_{50}$</td>
<td>Marketing adaptation across ventures-squared x environmental differences across ventures</td>
<td>0.0373</td>
<td>0.335</td>
</tr>
</tbody>
</table>

**Controls**

<table>
<thead>
<tr>
<th>$\gamma_{01}$</th>
<th>EMO</th>
<th>0.267</th>
<th>1.626*</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\gamma_{11}$</td>
<td>Marketing adaptation across ventures x EMO</td>
<td>0.131</td>
<td>1.938**</td>
</tr>
<tr>
<td>$\gamma_{20}$</td>
<td>Environmental differences across ventures</td>
<td>-0.098</td>
<td>-0.643</td>
</tr>
<tr>
<td>$\gamma_{30}$</td>
<td>Marketing adaptation across ventures x environmental differences across ventures</td>
<td>0.262</td>
<td>2.136**</td>
</tr>
<tr>
<td>$\gamma_{02}$</td>
<td>Firm resources</td>
<td>0.152</td>
<td>0.963</td>
</tr>
<tr>
<td>$\gamma_{03}$</td>
<td>Firm export experience</td>
<td>-0.113</td>
<td>-0.591</td>
</tr>
</tbody>
</table>

<sup>a</sup>Critical t-values are 1.282, 1.645, and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$, and $\alpha = 0.01$, respectively.

***$\alpha<0.01$; **$\alpha<0.05$ ;* $\alpha<0.10$.

In the following the results concerning hypotheses testing are outlined in more detail.
**H₁:** Within firms, the greater the degree that a venture’s marketing is adapted, the greater the venture’s performance.

H₁ is supported in circumstances where \( \gamma_{10} \) is significant and positive. As shown in Figure 7.4, the path is negative (\( \gamma_{10} = -0.199 \)) and significant (\( \alpha < 0.05 \)). As such the main effect of venture marketing adaptation on venture performance is refuted. However, as shown later in this chapter, the interaction between marketing adaptation across ventures and EMO (which was included as a control in the model) is significant and positive. In addition, the interaction between marketing adaptation across ventures and environmental differences across ventures (which was included as a control in the model) is also significant and positive. Hence, results suggest that, under limited circumstances, venture marketing adaptation has a positive impact on venture sales performance. As a result, the positive relationship advanced in H₁ is observed in the data, but only for some firms in certain situations (when EMO is high and environmental differences are high).

**H₂:** Within firms, the positive relationship between adapting marketing across ventures and venture sales performance becomes less positive under higher levels of adaptation.

For H₂ to be corroborated \( \gamma_{40} \) needs to be significant. Also, the coefficient associated with \( \gamma_{40} \) needs be such that the positive relationship between marketing adaptation and performance becomes increasingly less pronounced for very higher levels of adaptation. Inspection of Table 7.5 reveals that \( \gamma_{40} \) is not statistically significant. Hence, H₂ is not supported empirically.

**H₃:** Within firms, the positive relationship between adapting marketing across ventures and venture sales performance is stronger when the firm has a higher level of EMO.
For $H_3$ to be corroborated $\gamma_{41}$ needs to be significant and positive. As shown in Table 7.5, $\gamma_{41}$ is non-significant. Accordingly, the moderating effect of EMO on the non-linear relationship between venture marketing adaptation and venture performance is not supported. Nonetheless, the coefficient associated with the moderating effect of EMO on the linear relationship between venture marketing adaptation and venture sales performance ($\gamma_{11}$, which was included as a control in the model) is significant and positive ($\gamma_{11} = 0.131$, $\alpha < 0.05$). This indicates that EMO positively moderates the linear relationship between marketing adaptation across ventures and venture performance. Figure 7.1 illustrates the empirical findings concerning the link between export sales performance attained in venture $i$ of firm $j$ ($\text{SALPERF}_{ij}$) as function of the interaction between the degree of marketing adaptation pursued in venture $i$ of firm $j$ ($\text{ADAPT}_{ij}$) and the degree of EMO of firm $j$ ($\text{EMO}_j$).

**Figure 7.1: Study findings: impact of marketing adaptation across ventures and EMO on venture level sales performance.**
As can be seen in Figure 7.1 the interaction between $\text{ADAPT}_{ij}$ and $\text{EMO}_j$ has a positive impact on $\text{SALPERF}_{ij}$. In this context, as outlined previously in this chapter, HLM allows for the partition of the total variance in venture sales performance (i.e. variance in $\text{SALPERF}_{ij}$) into variance in venture sales performance which occurs across firms and variance in venture sales performance which occurs across different ventures nested within firms. The latter component of variance – variance sales performance across multiple ventures within firms - is the relevant one in the case of $H_3$. In this context, the empirical findings concerning the moderating role of EMO on the link between marketing adaptation across ventures and venture sales performance is depicted in Figure 7.2.
Figure 7.2: Study findings: moderating impact of EMO on the relationship between marketing adaptation across ventures and venture sales performance.
Figure 7.2 illustrates the case of two export ventures of firm j (V_{1j} and V_{2j}). Firm j varies the level of marketing adaptation pursued across V_{1j} and V_{2j}. Adapt_{V_{1j}} corresponds to the degree of marketing adaptation undertaken in V_{1j}. Adapt_{V_{2j}} is the level of marketing adaptation carried-out in V_{2j}. The firm pursues a greater degree of marketing adaptation in V_{2j} than in V_{1j}. Figure 7.2 also depicts two scenarios: one in which firm j exhibits a low degree of EMO (this scenario is represented by the full line), and another where firm j exhibits a high level of EMO (this scenario corresponds to the dotted line).

As shown in Figure 7.2, within a firm, increasing the degree of marketing adaptation pursued across ventures contributes to greater variations in sales performance across ventures when EMO is higher. In other words, within a firm, the linear relationship between marketing adaptation across ventures and venture sales performance is positively moderated by the firm’s level of EMO.

\textbf{H}_{4}: Within firms, the positive relationship between adapting marketing across ventures and venture sales performance is stronger under higher levels of environmental differences across ventures.

For \textbf{H}_{4} to be supported \gamma_{50} needs to be significant and positive. As shown in Table 7.5, \gamma_{50} is non-significant. Consequently, the moderating effect of environmental differences across ventures on the non-linear relationship between venture marketing adaptation and venture performance is not corroborated. However, the coefficient associated with the moderating effect of environmental differences on the linear relationship between venture marketing adaptation and venture sales performance (\gamma_{30}, which was included as a control in the model) is positive and significant (\gamma_{30} = 0.262, \alpha<0.05). This offers evidence that environmental differences across ventures moderate the linear relationship between marketing adaptation across ventures and venture sales performance.
Figure 7.3 illustrates the empirical findings concerning the link between export sales performance attained in venture i of firm j (SALPERF<sub>ij</sub>) as function of the interaction between the degree of marketing adaptation pursued in venture i of firm j (ADAPT<sub>ij</sub>) and environmental differences in venture i.

**Figure 7.3: Study findings: impact of marketing adaptation across ventures and environmental differences across ventures on venture sales performance.**

As shown in Figure 7.3 the interaction between ADAPT<sub>ij</sub> and ENV<sub>ij</sub> has a positive impact on SALPERF<sub>ij</sub>. As mentioned previously, HLM allows for the partition of the total variance in venture sales performance (i.e. variance in SALPERF<sub>ij</sub>) into variance in venture sales performance across firms and variance in venture sales performance across different ventures nested within firms. The latter variance component is the relevant one in the case of H<sub>4</sub>. In this context, the empirical findings regarding the moderating role of ENV<sub>ij</sub> on
the link between marketing adaptation across ventures and venture sales performance is illustrated in Figure 7.4.
Figure 7.4: Study findings: moderating impact of environmental differences across ventures on the relationship between marketing adaptation across ventures and venture sales performance.
Figure 7.4 portrays the case of two ventures of firm j (V_{1j} and V_{2j}). Firm j varies the level of marketing adaptation undertaken across V_{1j} and V_{2j}. AdaptV_{1j} corresponds to the degree of marketing adaptation pursued in V_{1j}. AdaptV_{2j} is the level of marketing adaptation carried-out in V_{2j}. The firm pursues a higher degree of marketing adaptation in V_{2j} than in V_{1j}. Figure 7.4 also illustrated two scenarios: one where firm j faces low environmental differences across ventures (this scenario is represented by the full line), and another where firm j faces a high environmental differences across ventures (this scenario corresponds to the dotted line).

As shown in Figure 7.4, within a firm, enhancing the degree of marketing adaptation undertaken across ventures leads to greater variations in sales performance across ventures when the firm faces high environmental differences across ventures. Put differently, within a firm, the linear relationship between marketing adaptation across ventures and venture sales performance is positively moderated by environmental differences across ventures.

7.3.2.2 Venture profit performance

Similarly to the case of venture sales performance, the critical t-values for the test of the hypotheses concerning venture profit performance are 1.282, 1.645, and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$, and $\alpha = 0.01$, respectively.

Furthermore, in order to facilitate the interpretation of the results obtained, the equations relating to the Intercepts- and slopes-as-Outcomes model for venture profit performance.

**Level-1:**

\[
\text{PROFPERF}_{ij} = \beta_{0j} + \beta_{1j} \cdot (\text{SALPERF}_{ij}) + \beta_{2j} \cdot (\text{ADAPT}_{ij}) + \beta_{3j} \cdot (\text{ENV}_{ij}) + \beta_{4j} \cdot (\text{ADAPT}_{ij} \cdot \text{ENV}_{ij}) + \beta_{5j} \cdot (\text{ADAPT}_{ij})^2 + \beta_{6j} \cdot (\text{ADAPT}_{ij} \cdot \text{ENV}_{ij})^2 + r_{ij}
\]
Where:

PROFPERF\textsubscript{ij} = Export profit performance in venture i of firm j
SALPERF\textsubscript{ij} = Export sales performance in venture i of firm j
β\textsubscript{0j} = Intercept firm j
ADAPT\textsubscript{ij} = Marketing adaptation in venture i of firm j
(ADAPT\textsubscript{ij})^2 = Marketing adaptation in venture i of firm j - squared
ENV\textsubscript{ij} = Environmental differences in venture i of firm j
β\textsubscript{1j} = Slope for firm j corresponding to the effect of SALPERF\textsubscript{ij} on PROFPERF\textsubscript{ij}
β\textsubscript{2j} = Slope for firm j corresponding to the effect of ADAPT\textsubscript{ij} on PROFPERF\textsubscript{ij}
β\textsubscript{3j} = Slope for firm j corresponding to the effect of ENV\textsubscript{ij} on PROFPERF\textsubscript{ij}
β\textsubscript{4j} = Slope for firm j corresponding to the effect of the interaction of ADAPT\textsubscript{ij} and ENV\textsubscript{ij} on PROFPERF\textsubscript{ij}
β\textsubscript{5j} = Slope for firm j corresponding to the effect of (ADAPT\textsubscript{ij})^2 on PROFPERF\textsubscript{ij}
β\textsubscript{6j} = Slope for firm j corresponding to the effect of the interaction of (ADAPT\textsubscript{ij})^2 and ENV\textsubscript{ij} on PROFPERF\textsubscript{ij}
r\textsubscript{ij} = residual for venture i of firm j

**Level-2:**

\[ \beta_0 = \gamma_{00} + \gamma_{01} \times (EMO_j) + \gamma_{02} \times (RESOURCE_j) + \gamma_{03} \times (EXPER_j) + u_{0j} \] (10)
\[ \beta_{1j} = \gamma_{10} \] (11)
\[ \beta_{2j} = \gamma_{20} + \gamma_{21} \times (EMO_j) \] (12)
\[ \beta_{3j} = \gamma_{30} \] (13)
\[ \beta_{4j} = \gamma_{40} \] (14)
\[ \beta_{5j} = \gamma_{50} + \gamma_{51} \times (EMO_j) \] (15)
\[ \beta_{6j} = \gamma_{60} \] (16)
Where:

\( EMO_j = \) Export market orientation of firm \( j \)

\( RESOURCE_j = \) Resources of firm \( j \)

\( EXPER_j = \) Export experience of firm \( j \)

\( \gamma_{00}, \gamma_{10}, \gamma_{20}, \gamma_{30}, \gamma_{40}, \gamma_{50}, \gamma_{60} = \) Intercepts (level-2)

\( \gamma_{01} = \) Intercept relating \( EMO_j \) to the intercept term of the level-1 equation (i.e. to \( \beta_{0j} \))

\( \gamma_{02} = \) Intercept relating \( RESOURCE_j \) to the intercept term of the level-1 equation (i.e. to \( \beta_{0j} \))

\( \gamma_{03} = \) Intercept relating \( EXPER_j \) to the intercept term of the level-1 equation (i.e. to \( \beta_{0j} \))

\( \gamma_{21} = \) Slope relating \( EMO_j \) to \( \beta_{1j} \) (from equation (1))

\( \gamma_{51} = \) Slope relating \( EMO_j \) to \( \beta_{5j} \) (from equation (1))

\( u_{0j} = \) residual (firm level)

Mixed Model:

\[
PROFPERF_{ij} = \gamma_{00} + \gamma_{01} * EMO_j + \gamma_{02} * RESOURCE_j + \gamma_{03} * EXPER_j + \gamma_{10} * SALPERF_{ij} + \gamma_{20} * ADAPT_{ij} + \gamma_{21} * EMO_j * ADAPT_{ij} + \gamma_{30} * ENV_{ij} + \gamma_{40} * ADAPT_xENV_{ij} + \gamma_{50} * (ADAPT_{ij})^2 + \gamma_{51} * (ADAPT_{ij})^2 * EMO_j + \gamma_{60} * (ADAPT_{ij})^2 * ENV_{ij} + u_{0j} + r_{ij}
\]  \hspace{1cm} (17)

Table 7.6 shows the results concerning the standardized path coefficients, and associated t-values corresponding to the hypothesized relationships included in the model of venture profit performance.
Table 7.6: Path coefficients and t-values: venture profit performance.

<table>
<thead>
<tr>
<th>Hypothesis supported by path</th>
<th>Structural path</th>
<th>Predictor</th>
<th>Standardized coefficient</th>
<th>t-value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&lt;sub&gt;5&lt;/sub&gt;</td>
<td>( \gamma_{50} )</td>
<td>Marketing adaptation across ventures-squared</td>
<td>-0.086</td>
<td>-0.895</td>
</tr>
<tr>
<td>H&lt;sub&gt;6&lt;/sub&gt;</td>
<td>( \gamma_{51} )</td>
<td>Marketing adaptation across ventures-squared x EMO</td>
<td>-0.016</td>
<td>-0.214</td>
</tr>
<tr>
<td>H&lt;sub&gt;7&lt;/sub&gt;</td>
<td>( \gamma_{60} )</td>
<td>Marketing adaptation across ventures-squared x environmental differences across ventures</td>
<td>0.079</td>
<td>0.766</td>
</tr>
</tbody>
</table>

**Controls**

| \( \gamma_{10} \) | Export venture sales performance | 0.265 | 4.354*** |
| \( \gamma_{20} \) | Marketing adaptation across ventures | -0.021 | -0.255 |
| \( \gamma_{01} \) | EMO | 0.095 | 1.322* |
| \( \gamma_{21} \) | Marketing adaptation across ventures x EMO | 0.042 | 0.354 |
| \( \gamma_{30} \) | Environmental differences across ventures | -0.054 | -0.403 |
| \( \gamma_{40} \) | Marketing adaptation across ventures x environmental differences across ventures | 0.115 | 1.080 |
| \( \gamma_{02} \) | Firm resources | 0.006 | 0.086 |
| \( \gamma_{03} \) | Firm export experience | -0.003 | -0.047 |

***\( \alpha < 0.01 \); **\( \alpha < 0.05 \); *\( \alpha < 0.10 \).

<sup>a</sup>Critical t-values are 1.282, 1.645, and 2.325 for \( \alpha = 0.10 \), \( \alpha = 0.05 \), and \( \alpha = 0.01 \), respectively.

In the following the results concerning hypotheses testing are presented in more detail.
H₅: Within firms, the relationship between adapting marketing across ventures and venture profit performance is inverted U-shaped.

For H₅ to be supported, γ₅₀ needs to be statistically significant and negative. As shown in Table 7.5, γ₅₀ is not statistically significant. Thus, H₅ is not corroborated.

H₆: The greater the firm’s EMO level, the stronger the upslope of the inverted U-shaped relationship between adapting marketing across ventures and venture profit performance.

For H₆ to be supported, γ₅₁ needs to be significant. As shown in Table 7.5, γ₅₁ is non-significant. As such, results do not support the notion that EMO moderates the inverted U-shape relationship between marketing adaptation across ventures and venture profit performance. Nonetheless, as outlined previously, results show that EMO positively moderates the linear relationship between marketing adaptation across ventures and venture sales performance (i.e. under limited circumstances, venture marketing adaptation across ventures has a positive impact on venture sales performance). Furthermore, as shown in Table 7.6, venture sales performance has a strong positive effect on venture profit performance (γ₁₀=0.265, α<0.01). This indicates that EMO positively moderates the linear relationship between marketing adaptation across ventures and venture profit performance, albeit indirectly, via venture sales performance.

H₇: Within firms, the greater the extent of environmental differences across ventures, the stronger the upslope of the inverted U-shaped relationship between adapting marketing across ventures and venture profit performance.

Support for H₇ requires γ₆₀ to be significant. As shown in Table 7.5, γ₆₀ is non-significant. Hence, results do not support the notion that environmental
differences across ventures moderate the inverted U-shape relationship between marketing adaptation across ventures and venture profit performance. However, as outlined previously, results suggest that environmental differences across ventures positively moderate the linear relationship between marketing adaptation across ventures and venture sales performance (i.e. under limited circumstances, venture marketing adaptation across ventures has a positive impact on venture sales performance). Furthermore, as depicted in Table 7.6 venture sales performance has a strong positive effect on venture profit performance ($\gamma_{10}=0.265$, $\alpha<0.01$). This suggests that environmental differences positively moderate the linear relationship between marketing adaptation across ventures and venture profit performance, though indirectly, via venture sales performance.

7.4 ANALYSIS STRATEGY: MODEL II

7.4.1 Choice of technique

The second model of this study includes several constructs, namely marketing adaptation quantity, firm export environmental differences, EMO, firm export sales performance, and firm export profit performance. The model also comprises two performance controls, firm resources and firm export experience.

As mentioned earlier in this chapter, SEM is the typical analysis method used by researchers for hypotheses testing when the variables used are latent constructs. The appropriateness of SEM for hypotheses testing is dependent upon a number of assumptions being met, namely normally distributed data, continuous data, linearity, and independence of observations.

With regard to the distribution of the data, inspection of the data regarding the constructs included in the model did not raise concerns in terms
of deviations from normality. It is also presumed that the data used in the second model are continuous. Specifically, in the case of the Likert-type scales used to measure marketing adaptation quantity, firm export environmental differences, EMO, firm export sales performance, and firm export profit performance, it is reasonable to assume that a continuous variable underlies each of such scales. Such assumption is in accordance with current export performance investigations (e.g. Boso, Cadogan, and Story 2012; Hultman, Robson, and Katsikeas 2009; Katsikeas, Samiee, and Theodosiou 2006). The performance controls included in the model, namely firm export experience and firm resources were assessed via ratio scales. It is, thus, plausible to assume that the resulting data are continuous.

With regard to linearity, as outlined in Chapter 3, the second model of this study comprises linear relationships, non-linear relationships, and moderating effects. In terms of non-linear relationships and moderating effects, appropriate methods were used so as to allow them to be analyzed via SEM. Such procedures are described in detail later in the current chapter.

The assumption of independence of observations was also thought to have been met. Specifically, by using an online survey for purposes of data collection, communication among respondents was considered to have been minimized. The adoption of random sampling further contributed to the independence of observations.

Additionally, and contrarily to the case of the first model of this research, the data concerning the second model only comprised a single score per construct for each of the firms in the sample. Data on the firm’s degree of EMO, firm export sales performance, firm export profit performance, firm export experience, and firm resources were collected directly at the firm level. Accordingly, each of the firms sampled only reported a single value with regard to the items used to measure such constructs, thereby allowing for independence of observations.
As detailed in Chapter 4, marketing adaptation quantity and firm export environmental differences were assessed by aggregating the corresponding venture level values across the firm’s ventures. Specifically, marketing adaptation quantity was assessed via multiplying the average score for venture level marketing adaptation (across the three ventures to which the firm exports Product α on which data were collected) by the number of geographical markets to which the firm exports Product α. Firm export environmental differences were assessed via summating the scores for export venture level environmental differences across those three export ventures. As a result of the procedures just outlined, each firm had only one score for marketing adaptation quantity and one score for firm export environmental differences. Accordingly, independence of observations with regard to such constructs was also believed to have been met.

Given that the assumptions of normally distributed data, continuous data, linearity, and independence of observations were thought to have been met, it was deemed appropriate to use single level SEM to analyze the second model of this research. The LISREL 8.80 (Jöreskog and Sörbom, 2007) software was used for such purpose.

### 7.4.2 Sample size

As outlined in the previous chapter, the sample used to carry-out measure assessment included 131 firms, each of them with data on 1 to 3 export ventures. Nonetheless, as pinpointed in the methodology chapter, marketing adaptation quantity was only assessed for firms that provided data on 3 ventures. Thus, the sample used to test the second conceptual model of this research contained 105 firms.

In this context, the literature suggests that, ideally, the parameter to sample size ratio should be at least 5:1 (e.g. Bentler and Chou 1987). However, the data requirements for testing the second conceptual model were
quite high. Specifically, model testing required collecting data both at the firm level of analysis (for purposes of assessing EMO, firm resources, firm export experience, firm export sales performance, and firm export profit performance), as well as data from multiple export ventures per firm (in order to measure marketing adaptation quantity and firm export environmental differences). Given such high data requirements, the requisite of having a parameter to sample size ratio of 5:1 could not be met.

A less strict requirement concerning sample size requirements proposes that the absolute minimum sample size ought to be at least higher than the number of covariances of the data matrix used as input for purposes of model number of covariances of the data matrix used as input for purposes of model testing (Hair et al. 2010). This requirement was attained, as the number of covariances in the input matrix was 91 (i.e., smaller than the sample size, which was 105).

As was specified earlier in this chapter, the testing of the first conceptual model of this research only included ventures which scored at least 2 in the marketing adaptation scale. The reason for this was that, as discussed previously, ventures scoring 1 in marketing adaptation corresponded to cases where no marketing adaptation was pursued, and the purpose of the model was to assess direct and moderated relationships between marketing adaptation and export performance. In this context, ideally the same procedure would have been adopted for purposes of testing the second model of this research, as the second model also tests direct and moderated relationships between marketing adaptation (more specifically, marketing adaptation quantity) and export performance. Nonetheless, adopting such procedure would further reduce the number of firms in the sample comprising measurements on 3 export ventures. Given that the testing of the second model only included firms with data on three export ventures, the procedure of not considering for analysis ventures scoring less than 2 on marketing adaptation would result in the need discard some of the 105 firms. This would lead to a sample size which would be too small for purposes of model testing.
using SEM. Thus, it was decided not to discard ventures scoring less than 2 in the marketing adaptation scale for purposes of testing the second model.

7.4.3 Z-transformation: marketing adaptation quantity

As mentioned previously, marketing adaptation quantity was measured via multiplying the average score for venture level marketing adaptation (across the three ventures to which the firm exports Product α on which data were collected) by the number of geographical markets to which the firm exports Product α. Given that some of the firms in the sample exported Product α to a large number of markets, the quantity of adaptation score obtained for such firms was quite high. Accordingly, in order to avoid potential estimation problems in LISREL resulting from the existence of very high scores, it was decided to standardize the values obtained for marketing adaptation quantity. A Z-transformation was, thus, carried-out. The Z-transformation results in a distribution which has the same properties as the original distribution, the only exceptions being the values for the mean value and for the standard deviation, which become 0 and 1, respectively (Daniel and Terrell 1992).

7.4.4 Non-linear relationships and multicollinearity

As outlined in Chapter 3, the second model of this research hypothesizes, among other aspects, the existence of curvilinear (more specifically, inverted U-shaped) relationships between marketing adaptation quantity and (a) firm export sales performance and (b) firm export profit performance. It is possible to model curvilinear relationships using linear analysis techniques, provided that the appropriate transformation is carried-out (Little, Bovaird, and Widaman 2006; Ping 1995). Accordingly, and following the guidelines provided in the literature, marketing adaptation quantity was
squared, so as to model its U-shaped relationships with (a) firm export sales sales performance and (b) firm export profit performance.

In this context, as highlighted by Little, Bovaird, and Widaman (2006), the simultaneous use of a powered term and of the first-order construct from which such powered term derives generates a problem of collinearity, which causes problems in terms of model estimation. Given that marketing adaptation quantity and its squared term were used simultaneously in the model, it was necessary to address the issue of collinearity between such terms. The residual centering approach (often referred to as orthogonalization) (Lance 1988) was followed for such purpose. Thus, marketing adaptation quantity squared was regressed onto marketing adaptation quantity. The residuals were subsequently used to represent the quadratic term.

7.4.5 Moderation and multicollinearity

The relationships between marketing adaptation quantity and (a) firm export sales performance and (b) firm export profit performance were hypothesized in the model to be moderated by EMO and by firm export environmental differences. Also, as stated earlier in this chapter, the data corresponding to marketing adaptation quantity, firm export sales performance, and firm export profit performance are assumed to be continuous. Accordingly, in line with current export performance investigations (e.g. Boso, Cadogan, and Story 2013; Cadogan, Kuivalainen, and Sundqvist 2009), it was decided to perform moderator analysis using the continuous variable interaction method.

One of the perils of using multiplicative interactive terms is that the resulting product term may be highly correlated with the first-order constructs from which it is computed (Little, Bovaird, and Widaman 2006). When the researcher uses both the product term and the first-order constructs simultaneously as predictors of an outcome variable, their collinearity generates problems with regard to model estimation (Little, Bovaird, and
Accordingly, and given that moderator effects were computed via the continuous variable interaction approach (which involves multiplying the first-order constructs of such interaction), it was deemed necessary to resolve the problem of collinearity between first-order constructs (namely, marketing adaptation quantity, firm export environmental differences, and EMO) and the product terms computed based on those constructs. The residual centering approach (Lance 1988) was followed for such purpose. Accordingly, the product terms were regressed onto their corresponding first-order variables. The residual terms resultant from such regressions were subsequently used to represent the moderator effects. In this manner, full orthogonality between moderator effects and the first-order variables was guaranteed, thus resolving the problem of collinearity (Lance 1988; Little, Bovaird, and Widaman 2006).

7.4.6 Latent constructs: quadratics, interactions, and residual centering

Ping (1995) defends that, with regard to indicant product analysis, the specification of interactions or quadratic variables may become difficult. In this context, significance tests and model statistics produced by frequently used estimation techniques (such as maximum likelihood) are considered not suitable when the researcher uses indicant product analysis. Accordingly, Ping (1995) advances that single indicants can be used to specify interactions among latent constructs, instead of indicant product analysis. Ping (1995) also demonstrates that the technique of using single indicants performs in an adequate manner in terms of the estimation of results, of the detection of significant effects, and of model-to-data fit. Single indicant analysis allows for the simplification of the use of the residual centering approach for quadratic and interaction terms. Therefore, it was decided that it was suitable to use single indicants for purposes of specifying quadratic terms and interaction effects. Therefore, all multi-item scales were converted to single-item scales, via computing the average of their items.
In this context, as detailed in Chapter 4 marketing adaptation quantity was measured via multiplying the average score for venture level marketing adaptation (across the three ventures to which the firm exports Product α on which data were collected) by the number of geographical markets to which the firm exports Product α. The measure for marketing adaptation quantity was, therefore, already a single-item scale and, thus, no conversion was needed. Firm export environmental differences were assessed via summatiing the scores for export venture level environmental differences across those three export ventures. Therefore, the measure for firm export environmental differences was also already a single item-scale and, accordingly, no conversion was needed. The same applies for the scales used to assess firm resources and firm export experience.

The error variance of EMO was then set at the average value of the error variances of intelligence generation and intelligence responsiveness. The error variances for intelligence generation and intelligence responsiveness were computed using the following formula (Cadogan et al. 2005):

\[(1-\alpha) \times \sigma^2\]  

(23)

Where:

\(\alpha\) = composite reliability of the construct
\(\sigma^2\) = sample variance of the construct

### 7.4.7 Model specification

As outlined earlier in this chapter, LISREL 8.80 (Jöreskog and Sörbom 2007) was adopted to test the model. The Maximum Likelihood (ML) estimation technique was chosen, as it is the estimation technique typically
adopted in SEM. ML is quite robust to violations in the assumption of normality of the data (Hair et al. 2010).

As outlined in Chapter 3, the second model of this study has two dependent variables, namely firm export sales performance and firm export profit performance. Accordingly, in order to test the model hypotheses two structural equations were included, one for firm export sales performance and another one for firm export profit performance. Furthermore, the model comprises linear relationships, non-linear relationships, and moderating effects. In terms of linear relationships, \( H_9 \) predicts a positive linear relationship between EMO and firm export sales performance. \( H_{13} \) proposes a positive linear relationship between EMO and firm export profit performance.

With regard to non-linear relationships, \( H_8 \) predicts an inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance. \( H_{12} \) proposes an inverted U-shaped relationship between marketing adaptation quantity and firm export profit performance.

In terms of moderated relationships \( H_{10} \) advances that EMO moderates the inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance. \( H_{14} \) predicts that EMO also plays a moderating role in the inverted U-shaped relationship between marketing adaptation quantity and firm export profit performance. \( H_{11} \) advances that the degree of firm export environmental differences moderates the inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance. Finally, \( H_{15} \) predicts that the degree of firm export environmental differences also plays a moderating role in the inverted U-shaped relationship between marketing adaptation quantity and firm export profit performance.

As mentioned earlier in the present chapter, product term analysis was used to test the hypotheses which include moderating and non-linear relationships. Accordingly, a series of multiplicative product terms were entered in the two structural equations of the model. To guarantee model parsimony, recommended procedures were adopted (cf. Aiken and West 1991).
Specifically, with regard to the powered term corresponding to marketing adaptation quantity-squared, the lower level term from such quadratic term was derived (namely, marketing adaptation quantity) was included as a control in the equations for firm export sales performance and firm export profit performance. In terms of moderating effects, all lower level terms and lower level interactions were included as controls in those two equations.

As detailed in Chapter 3 firm resources and firm export experience were included as performance controls in the model, both in the case of firm export sales performance and in the case of firm export profit performance. Accordingly, such variables were also entered in the equations for firm sales performance and firm export profit performance. In line with existing export performance studies (e.g. Cadogan Cui, and Li 2003), firm export sales performance was included as a performance control in the equation for firm export profit performance.

The equations used to model firm export sales performance and firm export profit performance are presented next.

**Firm export sales performance**

\[
SALPERF = \gamma_1 ZQUANT^2 + \gamma_2 EMO + \gamma_3 ZQUANT^2 \times EMO \\
+ \gamma_4 ZQUANT^2 \times ENV + \gamma_5 ZQUANT + \gamma_6 ENV + \gamma_7 ZQUANT \times EMO \\
+ \gamma_8 ZQUANT \times ENV + \gamma_9 RESOURCE + \gamma_{10} EXPER + \epsilon
\]  

**Firm export profit performance**

\[
PROFPERF = \gamma_1 ZQUANT^2 + \gamma_2 EMO + \gamma_3 ZQUANT^2 \times EMO \\
+ \gamma_4 ZQUANT^2 \times ENV + \gamma_5 ZQUANT + \gamma_6 ENV + \gamma_7 ZQUANT \times EMO \\
+ \gamma_8 ZQUANT \times ENV + \gamma_9 RESOURCE + \gamma_{10} EXPER \gamma_{11} SALPERF + \epsilon
\]
Where:

\[ \text{SALPERF} = \text{Firm export sales performance} \]
\[ \text{PROFPERF} = \text{Firm export profit performance} \]
\[ \text{ZQUANT} = Z\text{-Value of marketing adaptation quantity} \]
\[ \text{EMO} = \text{Firm export market orientation} \]
\[ \text{ENV} = \text{Firm export environmental differences.} \]
\[ \text{RESOURCE} = \text{Firm resources} \]
\[ \text{EXPER} = \text{Firm export experience} \]
\[ r = \text{Residual term} \]

In the current section, the analysis strategy for the second conceptual model of this research was described. Next, the results of the structural model are presented.

7.5 RESULTS: MODEL II

7.5.1 Assessment of structural model

Model assessment followed the guidelines provided in the literature (e.g. Diamantopoulos and Siguaw 2009; Hair et al. 2010). Table 7.7 depicts the main results regarding the assessment of structural model.
Table 7.7: Structural model assessment.

<table>
<thead>
<tr>
<th>Model Fit Information</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Theory Weighted Least Squares Chi-square (10 df)</td>
<td>15.563 (P = 0.113)</td>
</tr>
<tr>
<td>Root Mean Square Error of Approximation (RMSEA)</td>
<td>0.0731</td>
</tr>
<tr>
<td>Comparative Fit Index (CFI)</td>
<td>0.969</td>
</tr>
<tr>
<td>Incremental Fit Index (IFI)</td>
<td>0.976</td>
</tr>
<tr>
<td>Non-normed fit index (NNFI)</td>
<td>0.760</td>
</tr>
<tr>
<td>Goodness of fit index (GFI)</td>
<td>0.977</td>
</tr>
<tr>
<td>Standardized Root Mean Square Residual</td>
<td>0.0249</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>$R^2$ for endogenous variables</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm export sales Performance</td>
<td>0.186</td>
</tr>
<tr>
<td>Firm export profit Performance</td>
<td>0.571</td>
</tr>
</tbody>
</table>

As shown in Table 7.7, the structural model had good fit with the data. The Normal Theory Weighted Least Squares Chi-square was non-significant and, except for the Non-normed fit index (NNFI), all fit indices were within the recommended thresholds (e.g. Diamantopoulos and Siguaw 2009). Furthermore, the model explained a satisfactory portion of the variance of firm export sales performance (18.6%) and more than half of the variance of firm export profit performance (57.1%).

As outlined earlier in the present chapter, the requisite of having a parameter to sample size ratio of 5:1 could not be met. Nonetheless, the sample size was deemed suitable, as it meets a less strict requirement which considers that the absolute minimum sample size ought to be at least higher than the number of covariances of the data matrix used as input for purposes...
of model testing. In this context, the results of the structural model indicated that the relaxation of the minimum parameter to sample size ratio of 5:1 did not raise any problem with regard to model estimation. Specifically, as can be seen in Table 7.7, all but one fit indicators showed that the data fitted the model quite well, and the Normal Theory Weighted Least Squares Chi-square was non-significant. Therefore, it was decided that the model was suitable for purposes of hypotheses testing. The results concerning hypotheses testing are presented next.

7.5.2 Hypotheses Testing

Having established that the structural model was suitable for purposes of hypotheses testing, the results concerning the path estimates representing the hypotheses included in the model were then examined. For purposes of clarity, the results concerning the hypothesis testing relating to firm export sales performance and to firm export profit performance are presented separately.

7.5.2.1 Firm export sales performance

In order to facilitate the interpretation of the results attained, the structural equation for firm export sales performance is reproduced again below.

\[
\text{Firm export sales performance} = y_1ZQUANT^2 + y_2\text{EMO} + y_3ZQUANT^2 \times \text{EMO} \\
+ y_4ZQUANT^2 \times \text{ENV} + y_5ZQUANT + y_6\text{ENV} + y_7ZQUANT \times \text{EMO} \\
+ y_8ZQUANT \times \text{ENV} + y_9\text{RESOURCE} + y_{10}\text{EXPER} + r 
\]
Where:

SALPERF = Firm export sales performance
Firm export profit performance
ZQUANT = Z-Value of marketing adaptation quantity
EMO = Firm export market orientation
ENV = Firm export environmental differences.
RESOURCE = Firm resources
EXPER = Firm export experience
r = Residual term

Table 7.8 depicts the results regarding the unstandardized path coefficients, standardized path coefficients, and associated t-values corresponding to the relationships specified in the model. Given the directionality of the hypothesized relationships, the critical t-values are 1.282, 1.645, and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$, and $\alpha = 0.01$, respectively.
Table 7.8: Path coefficients and t-values: Firm export sales performance.

<table>
<thead>
<tr>
<th>Hypothesis supported by path</th>
<th>Structural path</th>
<th>Predictor</th>
<th>Unstandardized coefficient</th>
<th>Standardized coefficient</th>
<th>t-value $^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_8$</td>
<td>$Y_1$</td>
<td>Marketing adaptation quantity $^2$</td>
<td>0.030</td>
<td>0.043</td>
<td>0.364</td>
</tr>
<tr>
<td>$H_9$</td>
<td>$Y_2$</td>
<td>EMO</td>
<td>0.329</td>
<td>0.255</td>
<td>1.839**</td>
</tr>
<tr>
<td>$H_{10}$</td>
<td>$Y_3$</td>
<td>Marketing adaptation quantity $^2$ x EMO</td>
<td>0.379</td>
<td>0.548</td>
<td>1.824**</td>
</tr>
<tr>
<td>$H_{11}$</td>
<td>$Y_4$</td>
<td>Marketing adaptation quantity $^2$ x environmental differences</td>
<td>0.307</td>
<td>0.606</td>
<td>1.736**</td>
</tr>
</tbody>
</table>

Controls
| $Y_5$ | Marketing adaptation quantity | 0.305 | 0.232 | 1.866** |
| $Y_6$ | Environmental differences     | -0.050| -0.067| -0.500  |
| $Y_7$ | Marketing adaptation quantity x EMO | 0.510 | 0.368 | 1.171   |
| $Y_8$ | Marketing adaptation quantity x environmental differences | 0.461 | 0.471 | 1.723** |
| $Y_9$ | Resources                      | -0.187| -0.142| -1.135  |
| $Y_{10}$ | Experience                     | -0.097| -0.073| -0.671  |

***$\alpha<0.01$; **$\alpha<0.05$ *$\alpha<0.10$.  
$^a$Critical t-values are 1.282, 1.645, and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$, and $\alpha = 0.01$, respectively.

In the following the results regarding each hypothesis are outlined in a more detailed manner.
**H₈:** There is an inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance.

H₈ is supported in circumstances where the path from the squared term of marketing adaptation quantity to firm export sales performance ($γ_1$) is significant and negative. As shown in Figure 7.11, the path not significant. Thus H₈ is not supported.

**H₉:** There is a positive linear relationship between EMO and firm export sales performance.

H₉ is supported in case the path from EMO to firm export sales performance ($γ_2$) is significant and positive. As depicted in Figure 7.11, the path is both positive and significant ($α<0.05$). Hence, H₉ is supported. Such finding is in line with previous studies (e.g. Cadogan, Cui, and Li 2003; Cadogan, Kuivalainen, and Sundqvist 2009).

**H₁₀:** The greater the firm’s EMO level, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance.

For H₁₀ to be supported, two conditions need to be satisfied. First, it is necessary that the coefficient of the path from the interaction between marketing adaptation quantity squared and EMO to firm export sales performance ($γ_3$) is significant. Second, for H₁₀ to be corroborated, that same coefficient needs to be such that, as the degree of EMO becomes greater, the “uphill” part of the inverted U-shaped relationship which is hypothesized to exist between marketing adaptation quantity and firm export sales performance becomes steeper. As depicted in Table 7.8, ($γ_3$) is significant ($α<0.05$). Figure 7.5 illustrates the link between marketing adaptation quantity squared and firm export sales performance for the different levels of EMO.
Figure 7.6 shows the form of the relationship between marketing adaptation quantity squared and firm export sales performance for high and low levels of EMO.

Figure 7.5: Study findings: impact of marketing adaptation quantity and EMO on firm export sales performance.
Figure 7.6: Study findings: impact of marketing adaptation quantity on firm export sales performance under low and high degrees of EMO.

As figures 7.5 and 7.6 illustrate that contrarily to H_{10} (a) increases in EMO result in greater levels of export sales performance across all marketing adaptation quantities (in accordance with H_9, which was supported in this study, as described earlier in the present section), (b) firm export sales performance achieves its highest values when the firm practices either very low or very high marketing adaptation quantities, (c) as the firm’s degree of EMO rises, the link between marketing adaptation quantity and firm export sales performance becomes increasingly U-shaped, which implies that deviations from extreme (low and high) marketing adaptation quantity levels lead to increasingly higher reductions in export sales performance. Therefore, H_{10} is rejected.
H$_{11}$: The greater the environmental differences, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance.

For H$_{11}$ to be corroborated, two conditions need to be met. First, the coefficient associated with the path from the interaction of marketing adaptation quantity squared with firm export environmental differences to firm export sales performance ($\gamma_4$) needs to be significant. Second, the coefficient needs to be such that, as the degree of firm export environmental differences rises, the “uphill” part of the inverted U-shaped relationship which is hypothesized to exist between marketing adaptation quantity and firm export sales performance becomes steeper.

As can be seen in Table 7.8, $\gamma_4$ is significant ($\alpha < 0.05$). Figure 7.7 depicts the relationship between marketing adaptation quantity squared and firm export sales performance for the different levels of firm export environmental differences. Figure 7.8 illustrates the form of the link between marketing adaptation quantity squared and firm export sales performance for high and low firm export environmental differences.
Figure 7.7: Study findings: impact of marketing adaptation quantity and firm export environmental differences on firm export sales performance.
Figure 7.8: Study findings: impact of marketing adaptation quantity on firm export sales performance under low and high degrees of firm export environmental differences.

As figures 7.7 and 7.8 show, contrarily to H₁₁, firm export level sales performance is higher when the firm pursues either very low or very high marketing adaptation quantity levels. Also, firm export level sales performance is maximized when firms pursue very high marketing adaptation quantities. Additionally, firm export level sales performance is increasingly reduced the further apart the firm is from extreme (high/low) quantities of marketing adaptation. Results also suggest that, as firm export environmental differences becomes greater (i.e. as the firm’s export environments become more heterogeneous) it becomes increasingly beneficial to pursue very low or very high marketing adaptation quantity levels (although firm export sales performance is always maximized when the firm carries-out very marketing adaptation quantity levels). Finally, as the degree of firm export environmental differences rises, the reductions in firm export sales performance which derive
from being further apart from extreme (high/low) marketing adaptation quantity levels become increasingly greater. Therefore, H₁₁, is rejected.

7.5.2.2 Firm export profit performance

The structural equation for firm export profit performance is reproduced below.

Firm export profit performance

\[ \text{PROFPERF} = \gamma_1 Z\text{QUANT}^2 + \gamma_2 \text{EMO} + \gamma_3 Z\text{QUANT}^2 \times \text{EMO} \\
+ \gamma_4 Z\text{QUANT}^2 \times \text{ENV} + \gamma_5 Z\text{QUANT} + \gamma_6 \text{ENV} + \gamma_7 Z\text{QUANT} \times \text{EMO} \\
+ \gamma_8 Z\text{QUANT} \times \text{ENV} + \gamma_9 \text{RESOURCE} + \gamma_{10} \text{EXPER} + \gamma_{11} \text{SALPERF} + \epsilon \]

Where:

\( \text{SALPERF} = \) Firm export sales performance
\( \text{PROFPERF} = \) Firm export profit performance
\( \text{ZQUANT} = \) Z-Value of marketing adaptation quantity
\( \text{EMO} = \) Firm export market orientation
\( \text{ENV} = \) Firm export environmental differences.
\( \text{RESOURCE} = \) Firm resources
\( \text{EXPER} = \) Firm export experience
\( \epsilon = \) Residual term

Table 7.9 illustrates the results concerning the unstandardized path coefficients, standardized path coefficients, and associated t-values corresponding to the relationships detailed in the model. Considering the directionality of the hypotheses, the critical t-values are 1.282, 1.645, and 2.325 for \( \alpha = 0.10 \), \( \alpha = 0.05 \), and \( \alpha = 0.01 \), respectively.
Table 7.9: Path coefficients and t-values: firm export profit performance.

<table>
<thead>
<tr>
<th>Hypothesis supported by path</th>
<th>Structural path</th>
<th>Predictor</th>
<th>Unstandardized coefficient</th>
<th>Standardized coefficient</th>
<th>t-value $^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_{12}$</td>
<td>$\gamma_1$</td>
<td>Marketing adaptation quantity $^2$</td>
<td>0.065</td>
<td>-0.144</td>
<td>-1.379*</td>
</tr>
<tr>
<td>$H_{13}$</td>
<td>$\gamma_2$</td>
<td>EMO</td>
<td>0.020</td>
<td>0.024</td>
<td>0.190</td>
</tr>
<tr>
<td>$H_{14}$</td>
<td>$\gamma_3$</td>
<td>Marketing adaptation quantity $^2$ x EMO</td>
<td>-0.134</td>
<td>-0.293</td>
<td>-1.062</td>
</tr>
<tr>
<td>$H_{15}$</td>
<td>$\gamma_4$</td>
<td>Marketing adaptation quantity $^2$ x environmental differences</td>
<td>-0.117</td>
<td>-0.349</td>
<td>-1.095</td>
</tr>
</tbody>
</table>

**Controls**

|                      |                   |                     |                     |                     |
|----------------------|-------------------|---------------------|---------------------|
| $\gamma_5$          | Marketing adaptation quantity | -0.080 | -0.092 | -0.837 |
| $\gamma_6$          | Environmental differences | -0.025 | -0.051 | 0.442 |
| $\gamma_7$          | Marketing adaptation quantity x EMO | -0.311 | -0.339 | -1.202 |
| $\gamma_8$          | Marketing adaptation quantity x environmental differences | -0.160 | -0.247 | -0.992 |
| $\gamma_9$          | Resources         | 0.038               | 0.044               | 0.398               |
| $\gamma_{10}$       | Experience        | -0.078              | -0.089              | -0.938              |
| $\gamma_{11}$       | Sales performance | 0.490               | 0.742               | 6.590***            |

$^a$Critical t-values are 1.282, 1.645, and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$, and $\alpha = 0.01$, respectively.

$^{***}\alpha<0.01; **\alpha<0.05 *\alpha<0.10.$

Next, the results concerning each of the hypotheses relating to firm export profit performance are presented in more detail.
H₁₂: There is an inverted U-shaped relationship between marketing adaptation quantity and export profit performance.

H₁₂ is corroborated if the coefficient associated with path from the squared term of marketing adaptation quantity to firm export profit performance ($γ₁$) is significant and negative. As can be seen in Table 7.9, the path is both negative and significant ($α < 0.10$). Therefore $H_{12}$ is supported. See figure 7.9.

Figure 7.9: Study findings: impact of marketing adaptation quantity on firm export profit performance.

As depicted in Figure 7.9, up to an optimal point (ZQUANT*) increasing marketing adaptation quantity is beneficial for firm export profit performance. Thus, under low levels of marketing adaptation quantity, increments in the latter are beneficial for profits. Nonetheless, there are diminishing profit returns associated with marketing adaptation quantity. Beyond the optimal point
(ZQUANT*, Figure 7.9), additional increments in marketing adaptation quantity lead to reductions in the firm’s export profit performance levels.

**H\textsubscript{13}: There is a positive linear relationship between EMO and firm export profit performance.**

For H\textsubscript{13} to be supported, the path from EMO to firm export profit performance (γ\textsubscript{2}) needs to be significant and positive. Inspection of Table 7.9 reveals that γ\textsubscript{2} is non-significant. Nonetheless, as outlined previously in this chapter, results indicate that EMO positively impacts firm export sales performance. Furthermore, as shown in Table 7.9, the coefficient associated with the path from firm export sales performance to firm export profit performance (γ\textsubscript{11}) is positive and highly significant (α<0.01). Therefore, although results do not support the notion that there is a positive direct link between EMO and firm export profit performance, EMO has a positive indirect effect on firm export profit performance via the impact it has on firm export sales performance. Thus H\textsubscript{13} is indirectly supported. Such result is in line with existing findings in the literature (e.g. Cadogan, Cui and Li 2003).

**H\textsubscript{14}: The greater the firm’s EMO level, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export profit performance.**

For H\textsubscript{14} to be corroborated, two conditions need to be verified. First, the coefficient associated with the path from the interaction between marketing adaptation quantity squared and EMO to firm export profit performance (γ\textsubscript{3}) needs to be significant. Second, the value of the coefficient needs to be such that, as EMO rises, the “uphill” part of the inverted U-shaped relationship that is hypothesized to exist between marketing adaptation quantity and firm export profit performance becomes steeper. As shown in Table 7.9, γ\textsubscript{3} is non-significant. Therefore, H\textsubscript{14} is not corroborated.
**H$_{15}$**: The greater the environmental differences, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export profit performance.

For $H_{15}$ to be supported, two conditions need to be met. First, the coefficient associated with the path from the interaction between marketing adaptation quantity squared and firm export environmental differences to firm export profit performance ($\gamma_4$) needs to be significant. Second, the value of the coefficient needs to be such that, as the degree of firm export environmental differences increases, the “uphill” part of the inverted U-shaped relationship that is hypothesized to exist between marketing adaptation quantity and firm export profit performance becomes steeper. As depicted in Table 7.9, $\gamma_4$ is non-significant. Therefore, $H_{15}$ is not corroborated.

### 7.6 CONCLUSIONS

The first conceptual model of this research concerns the antecedents of export sales and export profit variations across export ventures within firms.

Study findings suggest that marketing adaptation across ventures becomes increasingly beneficial for venture performance (directly in the case of sales and indirectly in the case of profits) as firms become more export market-oriented and as the levels of environmental differences across ventures increase. The second model concerns the antecedents of firm export sales and profit performance. Results suggest that EMO increases firm export sales performance and that, under higher levels of EMO, firm export sales performance reaches its highest values when the firm practices either very low or very high levels of marketing adaptation quantity. Also, under greater levels of EMO, firm export sales performance is increasingly diminished the more the firm deviates from extreme (low/high) marketing adaptation quantities. Furthermore, as the firm’s export environments become more heterogeneous, the more the firm benefits from practicing either very low or very high
marketing adaptation quantity levels (with sales performance being optimized when the firm pursues very high levels of marketing adaptation quantity), and the higher are the reductions in firm export sales performance accruing from pursuing intermediate marketing adaptation quantity levels.

Findings also indicate that increasing marketing adaptation quantity is beneficial for firm export profit performance up to an optimal point. The returns brought by additional increments in marketing adaptation quantity are increasingly lesser as marketing adaptation quantity increases. Beyond an optimal point, additional increments in marketing adaptation quantity reduce firm export profit performance. The marketing adaptation quantity-firm export profit performance link was not found to be moderated directly neither by EMO nor by firm export environmental differences. Results also suggest that EMO has a positive indirect effect on export profit performance via sales. Table 7.10 and Table 7.11 contain a summary of the empirical findings of this research.
### Table 7.10: Summary of the supported hypotheses: Model I.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₁</td>
<td>The greater the degree that a venture’s marketing is adapted, the greater the venture’s performance</td>
</tr>
<tr>
<td>H₂</td>
<td>The positive relationship between adapting marketing across ventures and venture sales performance becomes less positive under higher levels of adaptation</td>
</tr>
<tr>
<td>H₃</td>
<td>The positive relationship between adapting marketing across ventures and venture sales performance is stronger when the firm has a higher level of EMO</td>
</tr>
<tr>
<td>H₄</td>
<td>The positive relationship between adapting marketing across ventures and venture sales performance is stronger under higher levels of environmental differences across ventures</td>
</tr>
<tr>
<td>H₅</td>
<td>The relationship between adapting marketing across ventures and venture profit performance is inverted U-shaped</td>
</tr>
<tr>
<td>H₆</td>
<td>The greater the firm’s EMO level, the stronger the upslope of the inverted U-shaped relationship between adapting marketing across ventures and venture profit performance.</td>
</tr>
<tr>
<td>H₇</td>
<td>The greater the extent of environmental differences across ventures, the stronger the upslope of the inverted U-shaped relationship between adapting marketing across ventures and venture profit performance.</td>
</tr>
</tbody>
</table>

---

A. Despite the main effect being rejected, the interaction between marketing adaptation across ventures and EMO (which was included as a control in the model) is significant and positive. In addition, the interaction between marketing adaptation across ventures and environmental differences across ventures (which was included as a control in the model) is also significant and positive. Hence, results suggest that, under limited circumstances, venture marketing adaptation has a positive impact on venture sales performance. As a result, the positive relationship specified in H₁ is observed in the data, but only for some firms in certain situations (when EMO is high and environmental differences are high).<br>

B. Although the hypothesis regarding a non-linear relationship being moderated by EMO is not supported, the linear relationship between marketing adaptation across ventures and venture sales performance is moderated by EMO.<br>

C. Even though the hypothesis regarding a non-linear relationship being moderated by environmental differences across ventures is not supported, the linear relationship between marketing adaptation across ventures and venture sales performance is moderated by environmental differences across ventures.<br>

D. Although the hypothesis concerning a U-shaped relationship being moderated by EMO is not supported, the linear relationship between marketing adaptation across ventures and venture sales performance is moderated by environmental differences across ventures.<br>

E. Even though the hypothesis concerning a U-shaped relationship being moderated by environmental differences across ventures is not supported, the linear relationship between marketing adaptation across ventures and venture profit performance is moderated by environmental differences across ventures. (indirectly, via venture sales performance).<br>

F. Even though the hypothesis concerning a U-shaped relationship being moderated by environmental differences across ventures is not supported, the linear relationship between marketing adaptation across ventures and venture profit performance is moderated by environmental differences across ventures.
**Table 7.11: Summary of the supported hypotheses: Model II.**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_8$</td>
<td>There is an inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance.</td>
</tr>
<tr>
<td>$H_9$</td>
<td>There is a positive linear relationship between EMO and firm export sales performance</td>
</tr>
<tr>
<td>$H_{10}$</td>
<td>The greater the firm’s EMO level, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance</td>
</tr>
<tr>
<td>$H_{11}$</td>
<td>The greater the environmental differences, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export sales performance</td>
</tr>
<tr>
<td>$H_{12}$</td>
<td>There is an inverted U-shaped relationship between marketing adaptation quantity and export profit performance</td>
</tr>
<tr>
<td>$H_{13}$</td>
<td>EMO $\rightarrow$ firm export profit performance</td>
</tr>
<tr>
<td>$H_{14}$</td>
<td>The greater the firm’s EMO level, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export profit performance</td>
</tr>
<tr>
<td>$H_{15}$</td>
<td>The greater the environmental differences, the stronger the upslope of the inverted U-shaped relationship between marketing adaptation quantity and firm export profit performance</td>
</tr>
</tbody>
</table>
CHAPTER 8: DISCUSSION AND CONCLUSIONS

8.1 INTRODUCTION

This chapter concludes this research project via presenting a discussion of its main findings, implications, and limitations. First, the contributions of the study for theory development are discussed. In this context, the objectives of this research as well as its main findings are reviewed, and its theoretical implications are discussed. This is followed by a discussion of the methodological contributions of this research. Subsequently, the managerial implications of the study are discussed, and the associated recommendations for practitioners presented. Then, a discussion of the methodological contributions of this research, as well as of its limitations and of directions for future research is undertaken. Finally, a conclusion of the study is presented.

8.2 THEORETICAL IMPLICATIONS

The objectives of this study were to further current knowledge with regard to the link between export marketing adaptation and export performance, the role of EMO (i.e. a firm resource) as a supporting mechanism of export marketing adaptation, and the external environmental circumstances under which export marketing adaptation is more/less beneficial for export performance. By pursuing such objectives, this research makes important theoretical contributions. These are now discussed.
8.2.1 Export marketing adaptation

This study set out to investigate the link between marketing adaptation and performance at two different levels of analysis. Underpinned by a contingent approach to the study of business performance (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Hitt et al. 2001; Venkatraman and Prescott 1990; Zajac, Kraatz, and Bresser 2000) two conceptual models were developed and tested. Both models analyzed the link between export marketing adaptation and export performance, though at distinct levels of analysis.

The first model concentrated on variations in the performance of individual export ventures which are nested within the same firm (i.e. on intra-firm variations on export venture performance). More precisely, the model examines the direct relationships between carrying-out different levels of marketing adaptation in different ventures and (a) venture sales performance and (b) venture profit performance. Existing venture level studies have focused mainly on whether adapting marketing a single export venture within firms results in enhanced venture level performance across firms. Thus, this research makes an important contribution for theory development since, to the best knowledge of the researcher, this is the first study ever to investigate the marketing adaptation-venture performance relationship within firms, i.e. from an internal firm perspective. This study also makes a broader contribution to the investigation of the antecedents of export performance, as it sheds light on the need to develop intra-firm export venture level theory, which is lacking in the literature (Oliveira, Cadogan, and Souchon 2012).

The first model also examined EMO and export environmental differences faced by the firm across individual ventures as possible moderators of the link between marketing adaptation across ventures and venture performance. The findings obtained indicate that both EMO and export environmental differences faced by the firm in different ventures play a positive moderating role on the link between marketing adaptation across ventures and venture sales performance. Accordingly, the degree of usefulness of varying
the levels of adaptation across ventures in terms of venture sales performance levels attained is positively affected by the firm's level of EMO. Firms displaying higher EMO levels are, thus, more likely to be better able to adapt marketing across ventures more effectively, thereby attaining higher venture sales levels. Such finding is in line with recent investigations in which EMO was found to act as a facilitating mechanism of export strategic predictors (e.g. Boso, Cadogan, and Story 2012; Cadogan et al. 2012; Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014).

The findings of the first model also suggest that pursuing different marketing adaptation levels across ventures is more beneficial for venture sales performance in circumstances where there are greater environmental differences across ventures. Accordingly, results indicate that the positive impact of attaining fit between marketing adaptation and environment on export performance which has been found in single export venture level investigations (e.g. Katsikeas, Samiee, and Theodosiou 2006) also holds at the intra-firm export venture level of analysis (i.e. across multiple ventures within firms).

Interestingly, varying the degree of marketing adaptation across ventures was not found to have a direct impact on venture profit performance. Nonetheless, as outlined previously, both a firm's level of EMO and the degree of environmental differences faced across ventures render marketing adaptation across ventures more beneficial in terms of attaining higher venture sales performance levels. Furthermore, results show that venture profit performance is positively affected by venture sales performance. Accordingly, it seems to be the case that pursuing different levels of marketing adaptation across ventures becomes increasingly beneficial for venture profit performance (although indirectly, via venture sales performance) the greater the firm's level of EMO and the higher the degree of environmental differences across ventures.

The second model of this research focused on the impact of marketing adaptation quantity on inter-firm variations in firm export sales and profit
performance. Existing studies adopt a general approach to marketing adaptation, since firms are asked for their general stance when it comes to marketing adaptation (i.e. "yes we do it/ no we do not do it") and, so far, have not been asked about how much of it they actually do across their export operations. Accordingly, this research makes an important contribution for theory, as it this is the first study ever to examine the marketing adaptation quantity issue.

The second model also examined EMO and firm export environmental differences as potential moderators of the relationship between marketing adaptation quantity and firm export performance (sales and profits). With regard to firm export sales performance, and contrarily to what was hypothesized, results indicate that, as the firm’s degree of EMO increases the relationship between marketing adaptation quantity and firm export sales performance becomes increasingly U-shaped. In other words, EMO acts as a supporting mechanism in the case of extremely high/low marketing adaptation quantity levels.

A possible explanation for such finding could be that given that EMO renders firms wiser with regard to their export efforts (e.g. Boso, Cadogan, and Story 2012), more export market-oriented firms are better able to standardize their marketing in a way that allows them to fully extract the sales benefits associated with standardization (such benefits include superior marketing programs pursued due to the pooling of marketing resources across countries and a more rapid roll-out of new products (Steenkamp 2014)), and to pursue high marketing adaptation quantity levels more effectively.

Furthermore, the finding that the marketing adaptation quantity-firm export sales performance relationship becomes increasingly U-shaped as EMO raises means that, as firms become more export market-oriented, firm export sales performance is increasingly reduced the more the firm deviates from pursuing extreme low/high marketing adaptation quantities. A possible justification for this result could be that, pursuing intermediate marketing adaptation quantity levels generates some level of tension between
standardization and adaptation, which is aggravated the greater the firm’s level of EMO. In this context, the finding attained could potentially be explained by adding additional variables to the model (for instance, other resource and environmental contingencies). A potential direction for future research could be, thus, to examine such issue.

In terms of the moderating impact of firm export environmental differences on the relationship between marketing adaptation quantity and firm export sales performance, contrarily to what was hypothesized, results suggest that the form of such relationship is similar to a U-shape. More specifically, the greater the degree of environmental heterogeneity faced by the firm the more the firm benefits from undertaking either very low or very high marketing adaptation quantity levels - firm export sales performance is, nonetheless, maximized when the firm pursues very high marketing adaptation quantity levels. Furthermore, as the firm’s export environments become more heterogeneous the reductions in firm export sales performance accruing from practicing intermediate marketing adaptation quantity levels become greater.

The finding that, as the firm’s export markets become more heterogeneous, the firm benefits increasingly more in terms of sales from practicing a standardized marketing is somehow counterintuitive, as one would expect higher levels of environmental heterogeneity to require greater amounts of marketing adaptation. There may be, thus, other factors which were not included in the model which help explain this finding (for instance, other resource or environmental contingencies). A possible direction for future research could be, thus, to examine such issue. The finding that under high degrees of firm export environmental differences, firm export sales performance is maximized via pursuing very high marketing adaptation quantity levels seems plausible. The reason is that greater heterogeneity levels across the firm’s markets are likely to require the firm firm to pursue greater amounts of marketing adaptation in order to meet customers’ needs and wants across markets and, thus, attain higher firm export sales performance.
The finding that, under greater levels of firm export environmental differences firm export sales performance is increasingly reduced the more the firm deviates from carrying-out extreme low/high marketing adaptation quantity levels is quite interesting. A possible explanation could be that undertaking intermediate marketing adaptation quantity levels generates some degree of tension between standardization and adaptation, which is intensified in circumstances where the firm’s export markets are more heterogeneous. This finding could possibly be explained by adding additional variables to the model (for instance, other environmental moderators). Future research is, thus, needed to investigate this issue.

With regard to firm export profit performance, the findings attained support the notion that there are diminishing profit returns associated with marketing adaptation quantity. The export profit returns brought by additional increments in marketing adaptation quantity are increasingly lesser as marketing adaptation quantity becomes greater. Increasing marketing adaptation quantity is beneficial for firm export profit performance up to an optimal point, beyond which additional increments in marketing adaptation quantity reduce export profit performance. The marketing adaptation quantity-export profit performance link was not found to be moderated directly neither by EMO nor by firm export environmental differences.

The findings obtained concerning the marketing adaptation quantity-firm export profit performance link are in line with existing standardization/adaptation studies. As mentioned previously, results suggest that up to a certain point, increasing marketing adaptation quantity is beneficial for firm export profit performance. This is reasonable since, at low levels of marketing adaptation quantity managing and controlling the adaptation task is not too burdensome and brings profit benefits to the firm, due to good targeting of export customers’ needs and wants. Yet, as marketing adaptation quantity becomes greater, the task of managing the adaptation job and benefiting from it becomes progressively more difficult due to the enhanced cost of coordinating such task (Steenkamp 2014). One of the problems accruing from greater levels of marketing adaptation quantity is that costs associated with
marketing multiple adapted products increase. For example, if communications strategies, platforms, and messages differ across many ventures the firm loses economies of scale and scope. Additionally, by manufacturing multiple adapted products the firm also loses economies of scale and/or scope in production since there are smaller outputs associated with each adapted product, and in procurement due to lower levels of power which result from lower purchase volumes. Also, by manufacturing a greater number of adapted products, the firm has greater operational costs (e.g. set-up costs, inventory costs) because of the spreading of production across a higher number of different products (Steenkamp 2014; Yip and Hult 2012). Consequently, marketing’s efficiency is reduced due to enhanced cost levels. Eventually, the profit benefits brought by enhancing marketing adaptation quantity will likely be exceeded by increases in costs and, as such, additional increments in marketing adaptation quantity will lead to lesser export profit levels.

8.2.2 EMO as a supporting mechanism

With the exception of the study by Navarro-García, Arenas-Gaitán, and Rondán-Cataluña (2014), existing research on export marketing adaptation fails to investigate the role of EMO as a moderator of the link between export marketing adaptation and export performance. In this context, the findings by Navarro-García, Arenas-Gaitán, and Rondán-Cataluña (2014) report a positive role played by EMO on the relationship between the general stance adopted by the firm with regard to export marketing adaptation and export performance. Based on a contingent approach to the RBV of the firm, this study set out to investigate whether EMO also acts as a supporting mechanism of marketing adaptation across ventures within firms (i.e. at the intra-firm export venture level) and of marketing adaptation quantity. By doing so, this study expands current knowledge on the role of EMO as a supporting mechanism of adaptation. The empirical findings attained in this study suggest that EMO does act as a supporting mechanism of marketing adaptation across ventures (directly in the case of venture sales performance, and indirectly in the case of venture profit performance). EMO also acts as a supporting mechanism of
marketing adaptation quantity in circumstances where firms practice very low/high marketing adaptation quantity levels.

8.2.2 Export environment as a critical contingency

A number of studies indicate that the export environment moderates the export marketing adaptation-export performance relationship. Nonetheless, such investigations focus either on the degree of marketing adaptation pursued in a single export venture within firms or on the firm’s general stance adopted in terms of marketing adaptation. Underpinned by a contingent approach to business strategy, this study set out to investigate whether the export environment also acts as a contingency in the case of export marketing adaptation across ventures (i.e. at the intra-firm export venture level of analysis) and of marketing adaptation quantity. By doing so, this study broadens current knowledge on role of the export environment as a critical contingency with regard to the export marketing adaptation-export performance relationship.

The empirical findings obtained in this research indicate that the export environment does constitute a critical contingency both in the case of link between marketing adaptation across ventures and venture performance and in the case of the relationship between marketing adaptation quantity and firm export performance. More specifically, results suggest that export environmental differences across ventures positively moderate the link between marketing adaptation across ventures and venture performance (directly in the case of venture sales performance and indirectly in the case of venture profit performance). Also, the degree of firm export environmental differences was found to act as a critical contingency in the relationship between marketing adaptation quantity and firm export performance (directly in the case of firm export sales performance, and indirectly in the case of firm export profit performance).
8.2.3 Different impacts across sales and profit performance

Most studies on the link between export marketing adaptation and export performance implicitly assume that such relationship is the same across sales and profit performance, since researchers often use broad assessments of export performance. This is unfortunate, as a number of studies indicate that export performance antecedents may predict export sales performance and export profit performance differently (e.g. Cadogan, Cui, and Li 2003; Cadogan, et al. 2002; French and Cadogan 2012). Additionally, different firms may have different performance objectives (both in the short and in the long term), which makes it imperative to study the impact of export marketing adaptation on export performance separately for sales performance and profit performance.

Against this background, the present research set out to examine whether the link between marketing adaptation across ventures and venture performance and the relationship between marketing adaptation quantity and firm export performance differ across sales and profit performance. The empirical results attained demonstrate that the impact of export marketing adaptation on export performance does vary across sales and profit performance, both in the case of marketing adaptation across ventures and in the case of marketing adaptation quantity. This study makes, thus, an important contribution for theory development as it provides further evidence that export marketing adaptation differentially predicts export sales and export profit performance. Therefore, this study, offers further support to the claim that the export marketing adaptation-export performance link ought not to be examined using broad assessments of export performance which encompass both the sales and the profit categories of such construct.

8.2.4 Balancing the two models

The combination of the two models examined in this research shows that export marketing adaptation is multifaceted. More specifically, marketing adaptation is not simply a matter of deciding whether to adapt marketing in a
single export venture relative to a benchmark market. It is about making decisions concerning whether to adapt marketing in multiple fronts - how many ventures to adapt in, how to manage a profile of adaptation across ventures (i.e. how to manage relative adaptation levels) -, and regarding the overall magnitude of adaptation to be undertaken at the firm level. Therefore, this study makes an important contribution to theory, as it demonstrates that models of marketing adaptation are necessarily complex, or need to become more complex, in order to mirror the multifaceted nature of export marketing adaptation.

### 8.3 METHODOLOGICAL IMPLICATIONS

Finally, this research makes important methodological contributions. More specifically, multilevel modelling was used for purposes of testing the first conceptual model of this research. Unlike single level based approaches, multilevel models allow the researcher to accurately examine the predictors of variance in outcome variable(s) across multiple lower level units that are nested within the same higher level unit. As such, contrarily to single level approaches, multilevel modelling techniques enable the researcher to accurately analyze the antecedents of performance variations across multiple ventures of the same firm (i.e. the predict of intra-firm variations in export venture performance). Put differently, multilevel modelling allows the researcher to develop and test intra-firm venture level theory, the latter being an important new angle from which to analyze export performance antecedents. To the best knowledge of the researcher, this is the first study ever to adopt a multilevel modelling to the investigation of export performance antecedents, as existing export performance studies use single level based approaches. As such, this study makes a notable contribution to the advancement of the export performance research field, constituting a foundation on which future intra-firm export venture level theories can be based.
8.4 MANAGERIAL IMPLICATIONS

This research also makes important contributions for managerial practice, as it provides managers with insights in terms of the different consequences of export marketing adaptation. More specifically, the empirical results regarding the first model of this research imply that different ventures within the firm need to be managed differently with regards to the level of marketing adaptation undertaken. Different venture markets tend to vary to some extent in terms of their environmental attributes. As such, managers need to be aware that the greater the degree of environmental differences faced by the firm across ventures, the more it is important to pursue a different marketing in in different ventures for purposes of enhancing venture sales and profit levels.

The results of the first model also imply that the benefits of pursuing a different marketing across ventures in terms of the venture performance levels attained (both in terms of sales performance and of profit performance) are higher the greater the firm’s level of EMO, since EMO acts as a supporting mechanism of marketing adaptation across ventures. Managers can, thus, manipulate the venture performance levels achieved (both in terms of sales performance and of profit performance) by investing in greater levels of EMO.

Therefore, the results of the first model indicate that, under greater levels of EMO and of export environmental differences across ventures, adapting marketing across ventures is more beneficial for venture sales performance and for venture profit performance. Nonetheless, the results of the second model of this research raise caution regarding the total amount of marketing adaptation to be undertaken by firms. In this context, the findings obtained indicate that decisions concerning marketing adaptation quantity have different impacts across firm export sales performance and firm export profit performance.
Results suggest that the usefulness of undertaking different marketing adaptation quantity levels in terms the export sales performance levels attained by the firm depends on the firm’s level of EMO. EMO acts as a supporting mechanism of marketing adaptation quantity in the case of export sales performance in circumstances where the firm either practices a standardized export marketing (i.e. when it undertakes low levels of marketing adaptation quantity) or pursues high levels of marketing adaptation quantity. Hence, firms can manipulate the usefulness of practicing high/low levels of marketing adaptation quantity via investing in greater levels of EMO. The findings obtained also imply that practicing intermediate marketing adaptation quantity levels is likely to be increasingly detrimental for export sales performance the greater the firm’s EMO level. Accordingly, intermediate levels of marketing adaptation quantity ought not to be pursued when the objective of firms is to maximize export sales performance, especially under greater levels of EMO.

Firms’ export markets tend to differ to some extent with regard to their environmental attributes. In this context, the results of the second model suggest that, under greater overall levels of export environmental heterogeneity, export sales performance can be maximized via pursuing high levels of marketing adaptation quantity. Results also imply that practicing intermediate quantities of marketing adaptation under higher levels of export environmental heterogeneity is likely to result in increasingly reduced export sales performance levels. Hence, managers should not pursue intermediate levels of marketing adaptation quantity when the firm’s objective is to optimize export sales performance, especially under higher levels of environmental heterogeneity. Also, EMO was found to have a positive direct impact on firm export sales performance. Managers can, thus, leverage export sales performance via investing in higher EMO levels.

Results of the second model indicate that raising marketing adaptation quantity is beneficial for firm export profit performance up to an optimal point. The returns brought by additional increments in marketing adaptation quantity are, thus, increasingly smaller as marketing adaptation quantity increases.
Beyond an optimal point, additional enhancements in marketing adaptation quantity lead to diminished export profit performance. Thus, managers ought to carefully evaluate the profit benefits and costs associated with different marketing adaptation quantity levels, so as to try to ensure that the firm is operating at or close to the optimal marketing adaptation quantity. Finally, results indicate that EMO positively affects firm export profits, although indirectly via sales. Managers can, thus, boost the export profit performance levels of their firms through investing in higher EMO levels.

The combination of the findings of the two models of this research implies that managers’ task with regard to export marketing adaptation involves jointly considering multiple tactical decisions (“how much marketing adaptation is needed for export markets X, Y, and Z?) and, more strategically, deciding on how much marketing adaptation ought to be practiced at the firm level. As such, managers’ decisions concerning export marketing adaptation ought to be carefully thought through, as they need to jointly consider these two sets of issues.

8.5 LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This research provides a number of new insights. This study is not, however, free from limitations. These concern essentially establishment of causality, number of informants used, the investigation of asymmetric relationships, response rate and sample size, and the multilevel nature of the phenomena under investigation. The present section also includes a discussion of future research directions, which are outlined in the context of, and as extensions to the limitations of the study.
8.5.1 Boundaries of the focal models

The interpretation of the findings attained in this research should take into account the boundaries of the two theoretical models used. In this context, the researcher chose to focus on export marketing adaptation, the export environment, and EMO as predictors of export performance, since previous studies highlight those factors as key antecedents of export performance (e.g. Cadogan, Cui, and Li 2003; Cadogan, Diamantopoulos and Siguaw 2002; Cavusgil and Zou 1994; Hultman, Robson and Katskieas 2009; Katsikeas, Samiee, and Theodosiou 2006). The choice to focus on the aforementioned predictors led to the omission of other variables which could affect export performance directly and/or act as moderators of the export marketing adaptation-export performance relationship. Examples of such variables include, but are not limited to, firm export entrepreneurial-oriented behavior, firm innovativeness, or degree of management psychic distance with regard to specific export markets (Boso, Cadogan, and Story 2012; Ito and Pucik 1993; Sousa and Lengler 2009). Accordingly, the inclusion of certain variables which were omitted in this research would have potentially influenced the empirical results attained and would have possibly offered further insights with regard to their interpretation. It is, hence, recommended that researchers examining the export marketing adaptation-export performance relationship develop more complex models which account for the effect of a greater number of variables.

In addition, the two models of this research examine the link between marketing adaptation and performance with a focus on the firm’s export activities. Nonetheless, it is possible that the findings attained in this study are also applicable in the context of other forms of internationalization, such as international joint ventures (e.g. Inpken and Beamish 1997; Lane, Salk, and Lyles 2001) or the establishment of subsidiaries in foreign markets (e.g. Li, Poppo, and Zhou 2010; Paik and Sohn 2004). Accordingly, it is advisable that researchers analyzing the link between export marketing adaptation and export performance develop more comprehensive models which focus on multiple modes of firm internationalization.
8.5.2 Establishing causality

The first model of this research set out to investigate the causal effect of marketing adaptation across ventures on venture performance. The second model aimed at studying the causal effect of marketing adaptation quantity on firm export performance. The direction of the causal linkages advanced in this research is consistent with the dominant view on the relationship between marketing adaptation and export performance (e.g. Aulakh, Kotabe, and Teegen 2000; Brouthers, O'Donnell, and Keig 2013; Madsen 1989; Navarro et al. 2000; Navarro-García, Arenas-Gaitán, and Rondán-Cataluña 2014). However, one ought not to rely necessarily on “dominant” view. Alternative theories can be constructed (Cadogan et al. 2001). For example, one could argue that greater levels of marketing adaptation across ventures or higher export marketing adaptation quantities lead to superior export venture performance and to enhanced firm export performance, respectively.

A cross-sectional design was adopted for the purpose of data collection. As such, it was not possible to empirically test for a causal impact of marketing adaptation across ventures on venture performance (in the case of the first model of this research) and for a causal effect of marketing adaptation quantity on firm export performance (in the case of the second model of this research). Thus, association (rather than causality) was established with regard to the hypothesized relationships, and causality was inferred from the empirical results obtained. In this context, a longitudinal research design would have enabled the researcher to test for causality, since longitudinal studies provide temporal priority, which is a pre-requisite for assessing causality. Specifically, it would have been necessary to gather data on export venture performance and on firm export performance at a later period(s) (relative to the period when data on the antecedent factors were collected) (e.g. Hult et al. 2008). Therefore, the causal interpretations of this study need to be considered as tentative and alternative interpretations of the findings cannot be discounted (Cadogan et al. 2001).
8.5.3 Number of informants

Data were collected from a single informant within exporting firms. This may raise concerns regarding the presence of different types of biases (e.g. common method bias, social desirability bias). However, such type of biases may be minimized in circumstances where the constructs used are relatively concrete, the topic of the study is not sensitive and prone to socially desirable responses, and the measurement scales and formats adopted in the study are heterogeneous (cf. Chang, Witteloostuijn, and Eden 2010; Rindfleisch et al. 2008). Given that this research met such pre-requisites, the biases that could derive from the use of a single informant within firms were believed to have been minimized.

Nonetheless, it could be beneficial if future studies reassessed the models which were developed and tested in the present study using data collected from multiple sources. In this context, for instance, the literature review carried-out by Sousa, Martínez-López, and Coelho (2008) does not discover any study which collected data from more than one informant within the same firm. The authors justify this with the fact that in export performance investigations the information sought is typically unique to the firm’s export function. Accordingly, only a limited number of people within firms have access to the type of data which is pertinent for export studies. Furthermore, the authors advise against using multiple informants just for the sake of it:

“The use of single informants is appropriate where they, and they alone, have unique access to the information being sought, or where they are likely to provide more accurate information (because of either knowledge or reduced bias)… [G]enerating information from multiple informants on export marketing issues may lead to the generation of data from individuals who are not very knowledgeable about the firm’s export operations, and thereby decrease the accuracy of the information provided.” (p. 7)
Accordingly, while collecting data from multiple respondents may be useful, for example, to deal with potential common method bias issues, care must be taken in terms of study design and implementation, so that the use of multiple informants does not result in data which are not valid (Cadogan, Kuivalainen, and Sundqvist 2009).

8.5.4 Asymmetric relationships

Five of the hypotheses of the first model and four of the second model predicted asymmetric relationships with export performance. Nonetheless, it was not evident whether the statistical techniques and transformations adopted would be able to detect relationships of an asymmetric type. Consequently, it could be the case that such hypotheses were incorrectly rejected/non-supported. In this context, with a few exceptions (e.g. Cadogan, Kuivalainen, and Sundqvist 2009; Sousa, Lengler, and Martínez-López 2014), non-linear relationships are usually not investigated in export performance research, and asymmetric relationships have not, to the researcher’s best knowledge, been theorized in previous export performance investigations. Accordingly, if future export performance studies aim at investigating asymmetric relationships, further guidance will be necessary with regard to the usage of techniques to which are suitable for purposes of testing them.

8.5.5 Response rate and sample size

The estimated effective response rate of this study was 16%. Such figure is in line with the values obtained in other export performance investigations (cf Sousa, Martínez-López, and Coelho 2008) and was deemed satisfactory. Nonetheless, although satisfactory, the response rate attained is still relatively low, a fact which could be considered by some as potentially problematic in terms of representativeness. Furthermore, the sample sizes associated with this research (more specifically, 126 firms for the first model
and 105 firms for the second model) although adequate were relatively modest (especially in the case of the second model). Accordingly, the power of the statistical tests used to assess the hypothesized relationships was relatively limited.

Therefore, it would be useful if future studies reassessed the models of the present research using larger samples and achieving higher response rates, so as to enhance the level of power of the statistical techniques used for hypothesis testing, and to diminish potential concerns regarding sample representativeness, respectively. Nonetheless, the testing of the hypotheses of this study required collecting primary data at multiple levels of analysis, a task which was considerably challenging. Accordingly, it may not be easy to obtain large sample sizes and high response rates when collecting primary data at more than one level of analysis. The limitations of the study associated with the need to collect multilevel data, as well as potential ways to overcome such limitations in future research are discussed in more detail next.

8.5.6 Multilevel data

The testing of the hypotheses comprised in this research required collecting data at multiple levels of analysis, namely the firm and the export venture levels of analysis. Collecting data at multiple levels of analysis is a considerably challenging task (e.g. Klein, Tosi, and Cannella 1999). While the researcher tried to successfully overcome the challenges involved in such task, the present study has a few limitations related to the collection and use of multilevel data. These are now discussed.

8.5.6.1 First model

The first model of this research included relationships among variables residing at two levels of analysis, namely the firm level of analysis (i.e. the higher level of analysis) and the export venture level of analysis (i.e. the lower
level of analysis). The variables of the first model which reside at the export venture level were marketing adaptation, environmental differences, sales performance, and profit performance. The variables belonging to the firm level of analysis were EMO, firm level resources, and firm export experience.

The dataset used to test the first model comprised 126 firms. Each firm reported data at the firm level and on 2 to 4 export ventures, namely the Benchmark Venture and up to three additional ventures. In this context, multilevel researchers suggest that, for purposes of attaining enough statistical power, having a sample with a large number of higher level units can be more important than having a sample consisting of a high number of lower level units per higher level unit sampled (e.g. Snijders and Bosker 1993). Also, in multilevel research, samples containing more than 100 higher level units are deemed to be more than satisfactory with regard to providing fairly accurate estimates (e.g. Maas and Hox 2005). Thus, the dataset used was deemed satisfactory for purposes of data analysis.

Nonetheless, the purpose of the first model was to assess export performance variations across ventures within firms. Thus, ideally, the dataset used would have comprised a greater number of export ventures per firm sampled, so that the model could have a higher statistical power with regard to the estimation of the parameters which relate to intra-firm variations in export venture performance. Nonetheless, there is typically no secondary data available at the venture level (e.g. Morgan, Kaleka, and Katsikeas 2004). Also, collecting data on up to four export ventures already resulted in a considerably long questionnaire. Thus, collecting data on more than 4 ventures per firm could have resulted in a questionnaire which would be too long for respondents to answer. Accordingly, collecting information on a higher number of ventures per firm would have possibly resulted in a severe reduction in the response rate attained, thereby raising serious concerns about sample representativeness. Additionally, even if many respondents would have finished completing the survey, the resulting data would have possibly suffered from low levels of quality, due to respondent fatigue.
8.5.6.2 Second model

The second model of this research included variables residing at the firm level of analysis, namely marketing adaptation quantity, firm export environmental differences, EMO, firm resources, firm export experience, firm export sales performance, and firm export profit performance. As outlined in the methodology chapter, the measurements for EMO, firm resources, firm export experience, firm export sales performance, and firm export profit performance were obtained by asking respondents questions directly at the firm level of analysis. Nonetheless, the measurements for marketing adaptation quantity and for firm export environmental differences were obtained via aggregating data on three export ventures within the firm.

The measure used to assess marketing adaptation quantity is reproduced again below.

Marketing adaptation quantity
= Average score for marketing adaptation * number of geographical markets to which firm exports Product α

As depicted in the above presented equation, marketing adaptation quantity was measured by averaging the scores obtained for venture level marketing adaptation across three ventures concerning Product α (i.e. a product/product line exported by the firm) and then multiplying the score obtained by the number of geographical markets to which the firm exports Product α. The measure used is not free from limitations. These are now discussed.

A first limitation concerns the fact that the measure implicitly assumes that the three ventures on which respondents provided marketing adaptation data are representative of the firm's total marketing adaptation activities. This may not be necessarily the case because firms which have more than four
ventures (i.e. more than the Benchmark Venture plus the three additional ventures on which marketing adaptation data were collected) may display different levels marketing adaptation in their remaining ventures. In such cases, the average score for marketing adaptation which was used in the present measure may not provide a precise representation of marketing adaptation activities at the firm level.

The problem of lack of representativeness just described may be aggravated in cases of firms which operate in a large number of ventures as, in such cases, the likelihood that the three ventures on which respondents provided marketing adaptation data are not representative of marketing adaptation at the firm level may be greater. This is because, for such firms, the three ventures on which respondents provided marketing adaptation data may only represent only a small fraction of the firm’s overall export activities.

An additional limitation also concerns venture representativeness. As outlined previously, marketing adaptation quantity is conceptualized as the total amount of marketing adaptation which the firm pursues in its export operations. In this context, by computing marketing adaptation quantity by multiplying the average value of marketing adaptation across the three ventures by the number of geographical markets to which the firms exports Product α, one is implicitly assuming that firms operating in a higher number of ventures undertake greater amounts of adaptation. More precisely, the measure used assumes that, for any given average value of marketing adaptation across the three ventures which were sampled per firm, firms operating in a larger number of geographical markets undertake a higher marketing adaptation quantity than do firms which operate in a lesser number of geographical markets.

This may not be, however, necessarily the case. For instance, a firm operating in a large number of ventures may undertake a high level of marketing adaptation in the three ventures reported in the study but carry-out a more standardized marketing in its remaining ventures. On the contrary, a firm operating in a smaller number of ventures may pursue the same average level
of adaptation in the three ventures as the firm operating in a higher number of ventures, but pursue a greater degree of adaptation in its remaining ventures. In the case of this example, although the firm operating in a smaller number of markets may in fact pursue a greater total amount of marketing adaptation than the firm which operates in a larger number of markets, it will score less on the marketing adaptation quantity measure adopted in this study.

A third limitation relates to the number of products/product lines exported by the firm. As was outlined earlier in this chapter, venture level marketing adaptation data which were used to compute marketing adaptation quantity concerned the firm’s exports of one product/product line exported (Product α). Thus, the measure used implicitly assumes that the firm’s marketing adaptation activities of Product α are representative of the firm’s total marketing adaptation activities (i.e. across the entire portfolio of products/product lines exported by the firm). This may not be, however, necessarily be the case for firms which export multiple products/product lines. For example, firms which export several products/product lines may undertake marketing adaptation quantities across those products/product lines. Thus, for such type of firms, the quantity of marketing adaptation undertaken for Product α may not constitute a fair representation of the total quantity of marketing adaptation pursued by the firm.

The measure for firm export environmental differences is reproduced again below.

Firm export level environmental differences
= venture level environmental differences (venture 1)
+ venture level environmental differences (venture 2)
+ venture level environmental differences (venture 3)

The above presented measure suffers from similar limitations to the instrument used to assess marketing adaptation quantity. Specifically, the measure used to assess firm export environmental differences only accounts
for three of the firm’s venture markets corresponding to Product α. Accordingly, the measure implicitly assumes that the average level of environmental differences faced by the firm across those three venture markets constitutes an accurate representation of the overall degree of export environmental differences faced by the firm. It may be, nonetheless, that firms operating in more than four ventures (i.e. the Benchmark Venture plus the three additional ventures on which environmental data were collected) face different levels of export environmental differences in their remaining ventures in comparison to the levels encountered in the three ventures reported. In such circumstances, the measure used in the present study may not provide a precise representation of the overall degree of export environmental differences encountered by the firm.

A further limitation relates to the fact that such measure assumes that the firm’s export activities concerning Product α are representative of the firm’s overall export activities. However, such assumption is not necessarily valid in the case of firms that export more than one product/product line. For instance, in the case of firms which export multiple products/product lines, the degree of environmental differences faced may vary across the products/product lines exported. In such cases, the levels of export environmental differences concerning firms’ exports of Product α may not constitute a fair representation of the overall levels of export environmental differences faced by firms.

The preceding discussion demonstrated that the measures adopted in the current research to assess marketing adaptation quantity and firm export environmental differences are not free from limitations. Such limitations concern essentially the potential lack of representativeness which may derive from the fact that data on marketing adaptation and data on environmental differences were collected solely from three ventures within the firm. In other words, the limitations of these two measures relate to the issue of abstracting data collected at the export venture level of analysis to the firm level of analysis. In order to address such limitations, future studies can adopt a number of different approaches which are now discussed.
First approach: collecting data on a single export venture per firm sampled

Collecting data from a single export venture within the firm has the advantage of making it feasible to collect data at a relatively low cost by means of, for instance, a survey. Additionally, since this method only involves obtaining on one venture per firm sampled, this approach makes it possible to collect data using a measuring instrument which does not require respondents to devote a large amount of time to the project. Accordingly, it is possible to achieve a reasonable response rate using this approach, hence reducing the risk of obtaining a sample which is not representative of the population of interest.

Nonetheless, such an approach bears an important limitation. Since data are collected from only one export venture within the firm, it is possible that such export venture does not constitute a fair representation of the firm overall export activities, especially as the number and diversity of firms’ export operations enhance in magnitude (cf Oliveira, Cadogan, and Souchon 2012). For example, as described in the data processing and profiling chapter, the mean number of export markets to which the firms examined in this study exported Product α (i.e. only one product/product line) was 24, and the maximum value attained was 150. Considering such figures, it may be argued that the probability that collecting data on a single export venture within such firms results in data which is not representative is relatively high.

Hence, had the researcher adopted this first approach for purposes of assessing marketing adaptation quantity and firm export environmental differences, the resulting measurements would have potentially been less accurate. The present study sampled three ventures per firm in order to assess marketing adaptation quantity and firm export environmental differences. As discussed earlier in this chapter, the approach used in this research is also limited with regard to obtaining marketing adaptation and environmental data which are representative of the firm’s overall export activities. Nonetheless, such approach may be considered to be an improvement in relation to the
single venture method, since it involves gathering data on a larger sample of ventures within the firm.

Second approach: conducting a census on all the firm's export ventures

Such a procedure would guarantee that the data collected are representative of the firm’s overall export activities. Nonetheless, this approach is likely to present the researcher with multiple difficulties.

Specifically, primary data would have to be gathered for the purpose of obtaining venture level data, as there are typically no secondary data available at the venture level. In this context, in circumstances where the firm’s total export activities consist of a small number of ventures, it may be feasible to conduct a census on all the firm’s ventures by means of, for example, a survey. Nonetheless, for firms operating in a large number of ventures, it would not be feasible, if at all possible, to collect data on all the firm’s ventures using a survey. For example, as described in the data processing and profiling chapter, the average number of export markets to which the firms comprised in the sample of this research exported Product α (i.e. only one product/product line) was 24, and the maximum value obtained was 150. Thus, conducting a census on all the firm’s ventures in the case of the average firm of the present investigation (i.e. a firm with 24 ventures for only one product/product line) would have resulted in a questionnaire which would have been too long to be used in the context of a survey. Even if it was possible to deploy a survey containing questions on such a number of ventures, the resulting response rate would probably too low to guarantee sample representativeness. Additionally, the quality of the data obtained would potentially be too low, as a result of extreme levels of respondent fatigue.

A potential alternative for the purpose of conducting a census on all the firm’s ventures could be to conduct structured interviews with managers. This might potentially reduce the chances of collecting poor quality data, as the researcher could adopt tactics to cope with respondent fatigue. Nonetheless, in order to achieve sufficient statistical power, the sample size of the study
would need to be relatively large. In such circumstances, conducting interviews with a manager(s) in each of the firms sampled would likely result in an escalation of the costs associated with the project. Additionally, in the case of firms operating in a very large number of firms, collecting data on all the firm’s ventures by means of an interview (or multiple interviews) would require asking managers to devote an amount of time for research which they may not have. Such factor could severely damage the response rate of the study, potentially raising serious concerns with regard to sample representativeness.

*Third approach: collecting data on a large enough number of ventures per firm sampled*

A third approach consists of collecting data on a number of ventures which is large enough for the purpose of obtaining a fair representation of the firm’s overall export operations. This would constitute an intermediate solution between the approach which was used to test the second model of the present study (i.e. collecting marketing adaptation and environmental data on three export ventures per firm sampled) and conducting a census on all the firm’s export ventures. This third approach could constitute an improvement relative to collecting marketing adaptation and environmental data on three ventures per firm because a higher proportion of the firm’s total number of export ventures would be sampled. Hence, this third approach could potentially address, to some extent, the concern related to obtaining data which is representative of the firm’s overall export activities. Also, this third method does not require collecting data on all the firm’s ventures. Therefore, this option might increase the feasibility of a study in terms of data collection relative to conducting a census on all the firm’s ventures.

This third approach is not, however, free from problems. The first of such problems relates to determining what constitutes a “large enough” number of ventures per firm sampled. In this context, a relatively small number of ventures (for instance, 5 ventures) may be considered as sufficiently large in the case of firms operating in a small number of ventures (for instance, for firms operating in 8 ventures). The reason would be that, in such
circumstances, the number of ventures sampled may be close to the total number of ventures of the firm. However, that same number of ventures (i.e. 5 ventures, in this example) may not be large enough in the case of firms which operate in a high number of ventures (e.g. for firms operating in 100+ ventures). Thus, it may problematic to determine what constitutes a sufficiently large number of ventures per firm sampled. In this context, the higher the number of ventures selected as “sufficiently large”, the higher the likelihood that the researcher will face problems similar to the ones encountered when conducting a census on all firms’ ventures (e.g. very low response rates, poor quality data).

An additional problem of this third approach concerns the fact that a sufficiently large set of ventures may not be necessarily representative of what happens at the firm level. In other words, even if the researcher collects data on a number of ventures corresponding to a high proportion of the total number of export ventures of the firm, there is no guarantee that the resulting data are more representative of what happens at the overall firm level than the data corresponding to a small number of ventures within the firm.

Fourth approach: conducting an in-depth assessment of the firm’s export activities

The use of this fourth approach would involve conducting an in-depth, case study-like investigation of the firm’s export operations, i.e. to analyse in detail all the export activities undertaken by the firm. Such examination could be based, for instance, on internal reports of the firm or on interviews conducted with people involved in the firm’s export activities over a certain period of time.

Such an approach could potentially minimize several response biases, such as social desirability bias or single rater bias and, thus, possibly enhance the quality of the data collected. Additionally, this approach would have the benefit of making it feasible to collect data on a large number of the firm’s ventures (if not on all of the firm’s ventures). This fourth method is not,
however, free from problems. The first potential problem concerns gaining access to firms. In this context, accessing the firm’s internal reports is likely to require authorization from senior management. Senior management may be unwilling to grant the researcher the right to consult internal reports, as these may contain sensitive data, such as competitive information or financial data. Also, it may be difficult for the researcher to obtain permission to conduct interviews with people involved in the firm’s export activities over a period of time, as this may be considered to be disruptive of the firm’s operations.

Additionally, in order to be able to be possible generalize the findings obtained in the study to the population of interest, the researcher would need to collect data from a relatively large number of firms. As such, analyzing a large number of firms using this method would likely require the involvement of multiple researchers, thereby resulting in an escalation of the costs of the project. It would also be necessary to create a standardized answering format, in order to make it possible to compare the data collected by different researchers across different firms. Creating a standardized answering format could potentially be an arduous, if not impossible, task. For instance, there may be considerable variations across firms in terms of the type of export-related data made available in internal reports, or in terms of the format in which such data are reported.

**Fifth approach: collecting data directly at the firm level**

A fifth method involves obtaining aggregated (i.e. firm level) data directly, rather collecting information on any individual venture. Thus, for instance, marketing adaptation quantity could be assessed by asking managers directly about the number of export ventures in which the firm pursues and adapted marketing. The use of such an approach would make it feasible to collect data concerning the total quantity of marketing adaptation pursued by the firm. Given that questions would be posed directly at the firm level, such approach would result in data which were representative of the total marketing adaptation activities pursued by the firm. Furthermore, this approach would involve collecting data at only one level of analysis, namely the firm level.
Hence, using this method would make it possible to collect information by means of, for instance, a survey. The costs of data collection could, hence, be kept at an acceptable level.

Additionally, since this method does not require collecting venture level data on multiple export ventures per firm sampled, the use of such an approach would make it possible to collect data using a measuring instrument which would not require respondents to devote a large amount of time to the project (for instance, a short survey). Accordingly, it would be possible to achieve a reasonable response rate, thereby increasing sample representativeness.

Therefore, among the five methods discussed, collecting data directly at the firm level of analysis seems to be the only one which makes it feasible to collect data which is representative of the firm’s overall export activities, and to do so without an escalation of the research costs to an unreasonable level. Accordingly, by using this fifth approach, future studies can not only examine the issue of marketing adaptation quantity in a manner that addresses the concern of having data which is not representative of the firm’s overall export operations, but also examine new dimensions of the export marketing adaptation construct such as, for instance, firm level depth of export marketing adaptation, or firm level novelty of marketing adaptation. In to order to bring such dimensions of the marketing adaptation construct to life, researchers may find it useful to conceptualize and measure the multiple dimensions of marketing adaptation directly at the firm level of analysis.

8.6 CONCLUSION

To conclude, this research has shed additional light on the theory of export marketing adaptation. First, this study examined the export marketing adaptation-export performance relationship from two new important perspectives, namely the effect of marketing adaptation across ventures on
venture performance, and the impact of the total quantity of marketing adaptation pursued by firms on firm export performance. Second, this research expands current knowledge of EMO as a supporting mechanism of other strategic predictors of export performance, as EMO was found to moderate both the link between marketing adaptation across ventures and venture performance and the relationship between marketing adaptation quantity and firm export performance. Third, this study broadens our understanding regarding the role of the export environment as a critical contingency of the export marketing adaptation-export performance relationship, as the findings attained suggest that the export environment acts as a moderator both of the relationship between marketing adaptation across ventures and venture performance, and of the marketing adaptation quantity-export performance link at the firm level. Fourth, this research has highlighted the importance of examining the export marketing adaptation-export performance link separately for sales and profit performance, as the results obtained indicate that export marketing adaptation has a different impact across those two performance categories, both in the case of export marketing adaptation across ventures and in the case of marketing adaptation quantity. It is wished that the findings attained in this study will encourage further research on the relationship between export marketing adaptation and export performance, and that managers of exporting companies find the managerial recommendations provided in this study useful.
REFERENCES


APPENDIX A: APPENDICES TO CHAPTER 4
Appendix A 4.1: Illustration of survey email invitations sent for the pilot study

Example. #1:

Dear Mr Smith,

I am writing to ask for your participation in the *Loughborough University Export Performance and the Business Environment Survey*. 

This online survey is part of a Doctoral Research project, which is being conducted by the School of Business and Economics at Loughborough University.

I am inviting managers of British exporting companies like yourself to participate. I would like to ask you to provide your views and opinions about how the business environments faced by your firm in its export operations are linked to export performance. I am therefore asking if you would be so kind as to take part in this online survey. To enter the survey please click on the link below to go to the survey website (or copy and paste the survey link into your Internet browser) and then enter the username and password provided below.

Survey Link:

Username: u0jcf1zkay

Password: 126845

Your participation in this project is entirely voluntary and all of your responses will be kept confidential and anonymous, in accordance with the *Data Protection Act 1998*. This research has ethical clearance from Loughborough University.

Please note that this survey requires a considerable degree of commitment on your part. However, it should not take you more than thirty to fifty minutes to complete. I realise that this represents an additional demand on your schedule, but it is only with your help that this study will have the potential to shape business opinion. Also, you are able to take a break from the questionnaire (e.g., if you don’t have time to complete all the questions in one go) by closing the browser. You can return whenever it is convenient for you.
When returning to the survey after taking a break (i.e., after closing the survey window) you will need to re-click the survey link to log in and continue. After re-clicking the survey link and re-logging in, you will able to resume the survey from the last page you completed.

As recognition of your kindness in helping me, you will be given the option to receive a free report containing the main findings of this project. Also, all completed questionnaires entitle the respondent to be entered into a prize draw, which is the chance to win a voucher for a Two Night Getaway Break for Two, redeemable in a choice of hotels across several locations UK wide. Your responses to this survey are crucial for the success of this research project. It is only through help of people like you that advancements can be made in research.

Yours sincerely,

João Oliveira

Doctoral Candidate
School of Business and Economics, Loughborough University
Loughborough, Leicestershire, UK
J.Oliveira@lboro.ac.uk
Example #2:

Dear Mr Smith,

I am aware of how busy your schedule is and of how little spare time you have. However, I am hoping that you can devote some time to help me collect important information for the Loughborough University Export Performance and the Business Environment research project.

It is only through your participation that this research project can succeed! Hence, I urge you to complete this online survey.

To enter the survey please click on the link below to go to the survey website (or copy and paste the survey link into your Internet browser) and then enter the username and password provided below.

Survey Link:
http://selectsurvey.net/LoughboroughUniversity/TakeSurvey.aspx?EID=981B479B038BMI5o5B39mB310B J16

Username: unc9073vx6

Password: 191748

This survey requires a considerable level of commitment on your part. However, it should not take you more than thirty to fifty minutes to complete. I realise that this represents an additional demand on your already very busy schedule.

Please note you are able to take a break from the questionnaire by closing the browser. You can return whenever it is convenient for you.
When returning to the survey after taking a break (i.e., after closing the survey window) you will need to re-click the survey link to log in and continue. You will then be able to resume the survey from the last page you completed.

Thank you very much for helping!

Yours sincerely,

João Oliveira

Doctoral Candidate
School of Business and Economics, Loughborough University
Loughborough, Leicestershire, UK
J.Oliveira@lboro.ac.uk
Appendix A 4.2: Illustration of survey email invitations sent for the main study

**Example. #1:**

Dear Ms Smith,

I recently contacted your firm for purposes of obtaining participation in the “Export Success: A Study of Drivers” Research Project. The purpose of this Research Project, which is being conducted by the School of Business and Economics at Loughborough University, is to understand how the different types of environments firms face in their export operations shape businesses' export performance.

Please note that, after the data collection stage of this project, I will analyse the information obtained in order to find the factors which lead firms to achieve superior levels of export sales and export profits. I will then write a report containing those findings and send it to managers who have participated in the project. This report will not contain any information on any specific firm (only aggregate data will be provided).

In order for you to participate, I would like to invite you to complete an online survey. Please note that this survey requires some commitment on your part. In this respect, to provide you with a guideline, among the respondents that have already completed this survey, the 20% “fastest” respondents have done so in approximately 20 minutes.

Please note that you will be able to complete this survey in instalments. Accordingly, you will be able to take a break from the questionnaire by closing the browser. You can return whenever it is convenient for you. When returning to the survey after taking a break (i.e., after closing the survey window) you will need to re-click the survey link to log in and continue. After re-clicking the survey link and re-logging in, you will be able to resume the survey from the last page you completed.

To enter the survey please click on the link below to go to the survey website (or copy and paste the survey link into your Internet browser) and then enter the username and password provided below.


(Please make sure you copy paste the **entire survey link**)

Username: uz2m01a5uq

Password: 196298
If you experience any problem in logging in or during survey completion please delete any cookies that may have been stored in your session. In case you are not familiarised with this procedure, please visit the following website, which explains how to delete cookies in different browsers:

http://www.wikihow.com/Clear-Your-Browser's-Cookies

If the problem persists, please do not hesitate in contacting me.

Your participation in this project is entirely voluntary and any data you provide will be kept confidential and anonymous, in accordance with the Data Protection Act 1998. This research has ethical clearance from Loughborough University. As recognition of your kindness in helping me, you will be given the option to receive a free report containing the main findings of this project. Also, all completed questionnaires entitle the respondent to be entered into a prize draw, which is the chance to win a voucher for a Two Night Getaway Break for Two, redeemable in a choice of hotels across several locations UK wide.

Thank you for participating!

Yours sincerely,

João Oliveira

Doctoral Candidate

School of Business and Economics, Loughborough University

Loughborough, Leicestershire, UK

J.Oliveira@lboro.ac.uk

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**Example. #2:**

Dear Ms Smith,

I recently contacted you asking you to take part in the British Exporters Survey. Please note that, after the data collection stage of this project, I will analyse the information obtained in order to find the factors which lead firms to achieve superior levels of export sales and export profits. I will then write a report containing those findings and send it to managers who have participated in the project. This report will not contain any information on any specific firm (only aggregate data will be provided).

In order for you to participate, I would like to invite you to complete an online survey. Please note that this survey requires some commitment on your part. In this respect, to provide you with a guideline, among the respondents that have already completed this survey, the 20% “fastest” respondents have done so in approximately 20 minutes.
Please note that you will be able to complete this survey in instalments. Accordingly, you will be able to take a break from the questionnaire by closing the browser. You can return whenever it is convenient for you. When returning to the survey after taking a break (i.e., after closing the survey window) you will need to re-click the survey link to log in and continue. After re-clicking the survey link and re-logging in, you will be able to resume the survey from the last page you completed.

To enter the survey please click on the link below to go to the survey website (or copy and paste the survey link into your Internet browser) and then enter the username and password provided below.

Survey Link:

(Please make sure you copy paste the entire survey link)

Username: utd9fo4pkp
Password: 107342

If you experience any problem in logging in or during survey completion please delete any cookies that may have been stored in your session. In case you are not familiarized with this procedure, please visit the following website, which explains how to delete cookies in different browsers:

http://www.wikihow.com/Clear-Your-Browser's-Cookies

If the problem persists, please do not hesitate in contacting me.

Your participation in this project is entirely voluntary and any data you provide will be kept confidential and anonymous, in accordance with the Data Protection Act 1998. This research has ethical clearance from Loughborough University. As recognition of your kindness in helping me, you will be given the option to receive a free report containing the main findings of this project. Also, all completed questionnaires entitle the respondent to be entered into a prize draw, which is the chance to win a voucher for a Two Night Getaway Break for Two, redeemable in a choice of hotels across several locations UK wide.

Thank you for participating!

Yours sincerely,

João Oliveira
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Loughborough, Leicestershire, UK
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Appendix A 4.3: Illustration of final questionnaire

1. Think of a product/product line (e.g., spanners) that you are very familiar with, and that your company exports to several *geographical* markets.

I will refer to this product/product line later in the questionnaire, so please give it a label (e.g., spanners). This label should help you recognise this product/product line later on when I refer to it.

Please enter the label in the box presented below using no more than 20 characters. (Even if your company exports this product/product line to only a few geographical markets please continue filling in this questionnaire. Your information is vital to me)

"
2. From the following options, please choose the one that best describes Product a.

- Consumer good
- Industrial good
- Consumer & Industrial good
- Component used in manufacturing
- Service

3. Approximately, how many geographical markets does your firm export Product a to? (Please enter a number in the box provided below)

   [Blank]

Notes:

In this survey I will only ask you to provide information on a maximum of 4 of these markets.
4. In terms of contribution to the firm's total export sales, how would you compare Product a with other product/product line(s) exported by your firm? (Please select your answer from the dropdown menu)

Note:
If your firm does not export any other product/product line besides Product a please ignore this question and proceed to the next page.
5. From the geographical markets to which your company exports Product α, identify the market in which performance is the strongest.

Please name this market using no more than 15 characters.

*  

Note:  
Again, the criteria you use to define "geographical market" is left to your discretion. It can be, for instance, a country, a region, a continent, an economic area, ...

* Mandatory field
I would now ask you to answer some questions about your firm's exports of Product a to Benchmark Venture.
Business Outcomes

13. Please rate your level of satisfaction with regard to the sales volume of Product A achieved by your firm in Benchmark Venture over the last 3 years.

- None -

14. How satisfied/dissatisfied are you with the export market share for Product A achieved by your firm in Benchmark Venture over the last 3 years?

- None -
15. How do you think your average annual sales growth of Product a in Benchmark Venture compares to the industry’s average annual sales growth for Product a in Benchmark Venture?

-None--

16. How satisfied/dissatisfied are you with regard to the profit levels obtained by your firm in selling Product a in Benchmark Venture over the last 3 years?

-None--

17. How would you rate the level of profitability achieved by your firm in selling Product a to Benchmark Venture over the last financial year?

-None--
I would now ask you to think of three additional geographical markets to which your firm exports Product a besides Benchmark Venture.

Note:

In case your firm does not export Product a to any additional geographical markets besides Benchmark Venture or it only exports Product a to one or two additional markets besides Benchmark Venture please still proceed to the next page.

Also, the criteria you use to define “geographical market” is again left to your discretion. It can be, for instance, a country, a region, a continent, an economic area, ...
18. Please enter the name of "additional geographical market 1" in the box presented below (use no more than 15 characters):


Note:

In case your firm does not export Product a to any other geographical markets besides Benchmark Venture, please leave the box empty and proceed to the next page.
19. Please enter the name of "additional geographical market 2" in the box presented below (use no more than 15 characters):

Note:
In case your firm does not export Product a to any other geographical markets besides Benchmark Venture and Market 1, please leave the box empty and proceed to the next page.
20. Please enter the name of “additional geographical market 3” in the box presented below (use no more than 15 characters):

Note:
In case your firm does not export Product a to any other geographical markets besides Benchmark Venture, Market 1, and Market 2, please leave the box empty and proceed to the next page.
I would now ask you to compare your Product a exporting activities in Benchmark Venture against your Product a exporting activities in Market 1, Market 2, and Market 3.
Product a exporting activities

(1 of 3) Market 1 vs Benchmark Venture
42. Compare the marketing mix strategies (product, price, promotion, distribution) your firm uses for selling Product α in Benchmark Venture and Market 1.

Overall, these marketing mix strategies are:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different

43. Compare the marketing tactics your firm uses for selling Product α in Benchmark Venture and Market 1.

These marketing tactics are:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different
44. The nature of your firm's marketing strategy for Product a in Benchmark Venture and in Market 1 is:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different
Market 1 vs. Benchmark Venture

Characteristics of the Product α Market

49. How similar/different is Market 1 in comparison to Benchmark Venture with regard to customer requirements for Product α?
   - Identical
   - Similar
   - Different in many ways but share much in common
   - Quite different
   - Completely different

Note:
"customer requirements for Product α" here refers to aspects such as customers' tastes and preferences with regard to Product α, the type of benefits customers seek in Product α, ...
50. How similar/different is Market 1 in comparison to Benchmark Venture with regard to the purchasing habits of Product e customers?
   - Identical
   - Similar
   - Different in many ways but share much in common
   - Quite different
   - Completely different

51. How similar/different is Market 1 in comparison to Benchmark Venture with regard to the product evaluation criteria of Product e customers?
   - Identical
   - Similar
   - Different in many ways but share much in common
   - Quite different
   - Completely different
52. How similar/different is Market 1 in comparison to Benchmark Venture with regard to the price sensitivity of Product α customers?

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different

53. The customer segments that together make up the Product α market in Market 1 and the customer segments that together make up the Product α market in Benchmark Venture are:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different
Market 1 vs. Benchmark Venture

Characteristics of the Product α Market

54. How similar/different is Market 1 in comparison to Benchmark Venture with regard to the demand potential for Product α?

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different
55. How similar/different is Market 1 in comparison to Benchmark Venture with regard to the level of growth in the Product a market over the last three years?

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different

Note:

This question refers to the level of growth in the whole industry for Product a in Market 1 and Benchmark Venture, not to the level of growth in your firm’s sales of Product a in these markets.

---

56. How similar/different is Market 1 in comparison to Benchmark Venture with regard to the profit potential of the Product a market?

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different
57. How similar/different is Market 1 in comparison to Benchmark Venture with regard to the size of the Product α market?

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different

Note:
This question refers to the size of the Product α market as a whole in Market 1 and in Benchmark Venture, not to your firm’s sales volume of Product α in these markets.

62. Our competitors’ activities in the Product α markets in Market 1 and Benchmark Venture are:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different

63. Our competitors’ strategies in the Product α markets in Market 1 and Benchmark Venture are:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different
64. The degree of hostility between competitors in the Product α markets in Market 1 and Benchmark Venture is:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different

65. The level of competitive aggressiveness in the Product α markets in Market 1 and Benchmark Venture is:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different
66. The degree of rivalry between competitors in the Product a markets in Market 1 and Benchmark Venture is:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different

67. The level of competitive intensity in the Product a markets in Market 1 and Benchmark Venture is:

- Identical
- Similar
- Different in many ways but share much in common
- Quite different
- Completely different

68. How would you compare your levels of satisfaction with the sales volume of Product a achieved by your firm in Market 1 and in Benchmark Venture over the last 3 years?

- None

69. How satisfied are you with your firm's market share in the Product a market in Market 1 in comparison to Benchmark Venture over the last 3 years?

- None
70. How would you compare your firm's sales growth for Product a in Market 1 and Benchmark Venture over the last financial year?

- None

71. How would you compare your degree of satisfaction with the profit levels obtained by your firm in selling Product a in Market 1 and in Benchmark Venture over the last 3 years?

- None

72. How would you compare the profits obtained by your firm in selling Product a in Market 1 and in Benchmark Venture over the last financial year?

- None
I greatly appreciate your cooperation, which is vital for the success of this research.

Please proceed to the next page.

You are now approaching the end of this survey...
About your firm

Please indicate the extent to which you agree or disagree with the following statements regarding your firm’s exporting activities.

135. In this company, we generate a lot of information concerning trends (e.g., regulations, technological developments, political, economic) in our export markets.

- Strongly disagree
- Disagree
- Slightly disagree
- Neutral
- Slightly agree
- Agree
- Strongly agree

136. We constantly monitor our level of commitment and orientation to servicing export customer needs.

- Strongly disagree
- Disagree
- Slightly disagree
- Neutral
- Slightly agree
- Agree
- Strongly agree
137. We are fast to detect fundamental shifts in our export environment (e.g., regulation, technology, economy).

- Strongly disagree
- Disagree
- Slightly disagree
- Neutral
- Slightly agree
- Agree
- Strongly agree

138. We periodically review the likely effect of changes in our export environment (e.g., regulation, technology).

- Strongly disagree
- Disagree
- Slightly disagree
- Neutral
- Slightly agree
- Agree
- Strongly agree

139. We generate a lot of information in order to understand the forces which influence our overseas customers' needs and preferences.

- Strongly disagree
- Disagree
- Slightly disagree
- Neutral
- Slightly agree
- Agree
- Strongly agree
140. If a major competitor were to launch an intensive campaign targeted at our foreign customers, we would implement a response immediately.

- Strongly disagree
- Disagree
- Slightly disagree
- Neutral
- Slightly agree
- Agree
- Strongly agree

141. We are quick to respond to significant changes in our competitors’ price structures in foreign markets.

- Strongly disagree
- Disagree
- Slightly disagree
- Neutral
- Slightly agree
- Agree
- Strongly agree

142. We rapidly respond to competitive actions that threaten us in our export markets.

- Strongly disagree
- Disagree
- Slightly disagree
- Neutral
- Slightly agree
- Agree
- Strongly agree
About your firm

157. In which industry does your company operate?


158. Approximately, for how many years has your company been in business? Please enter a number, not text.


159. Approximately, for how many years has your company been exporting? Please enter a number, not text.


163. Approximately, how many countries does your firm export to? Please enter a number, not text.

164. Approximately, how many full-time employees does your company currently have? Please enter a number, not text.

Note:

Please only consider those employees on your UK payroll.

167. On average over the past 3 years, what has been the annual sales turnover of your company?

(£99,999,999,999,999)

£ 0

Note:

Please include both your firm’s domestic and export operations.
On average over the past 3 years, approximately what percentage of your annual sales turnover has been generated by exports?

% 0

Finally, to complete this survey, I would like ask you to answer a very small set of questions about yourself.
About yourself

192.
What is your job title?

193.
What would you consider to be your employment role?

- Owner / Managing Director (or CEO) / Director
- Senior Manager
- Middle Manager
- Junior Manager
- Other, (please specify):

197.
If you would like to enter the prize draw, please enter your email address in the box below so that we can contact you.

Note:
Your contact details will not be shared with any third party.
198.
Would you like to receive a free copy of the report containing the major findings of this study?

- No thanks
- Yes - Please send it to the email address provided in the previous question
- Yes - Please send it to the following email address:

Survey Completed

You have now completed this survey.
Thank you for your cooperation!