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**Achieving Sustainable Competitive Positioning: The role of
resources within environmental constraints.**

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Doctor of Philosophy

THE UNIVERSITY OF ASTON IN BIRMINGHAM

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Table of Contents

<i>Table of Contents</i>	2
<i>List of Figures</i>	9
<i>List of Tables</i>	11
<i>List of Appendices</i>	16
<i>Summary</i>	20
<i>Abbreviations</i>	22
<i>Definitions</i>	22
<i>Acknowledgements</i>	23

1 Chapter One: Introduction

1.1	RATIONALE FOR THE RESEARCH	24
1.2	RESEARCH OBJECTIVES	29
1.3	SIGNIFICANCE AND IMPORTANCE OF THE STUDY	30
1.4	SCOPE OF THE RESEARCH	31
1.5	METHODOLOGY	33
1.6	LIMITATIONS	33
1.7	CONTRIBUTIONS	34
1.7.1	Academic contribution	34
1.7.2	Managerial contribution	35
1.8	ORGANISATION OF THE STUDY	35

2 Chapter Two: Literature Review

2.1	INTRODUCTION.....	38
2.1.1	Competitive Positioning construct.....	39
2.1.1.1	Competitive Positioning	39
2.1.1.2	Consumers/Customers	52
2.1.1.3	Types of Competitive Positioning.....	53
2.1.1.3.1	Company's competitive positioning.....	53
2.1.1.3.2	Product or brand competitive positioning.....	53
2.1.1.3.3	Places competitive positioning.....	53

2.1.2	<i>Competitive Position/Positioning Typologies</i>	54
2.1.2.1	Price and Quality competitive positioning strategy	64
2.1.2.2	Innovation competitive positioning strategy.....	66
2.1.3	<i>Conclusions and Limitations</i>	67
2.2	RESOURCE BASED VIEW OF THE FIRM (RBV).....	68
2.2.1	<i>Resources construct</i>	68
2.2.1.1	Definitions & Classifications of resources	69
2.2.1.1.1	Market-based assets.....	76
2.2.1.1.2	Market-based capabilities	77
2.2.1.1.3	Firm Culture.....	79
2.2.1.1.3.1	Market Orientation Definitions and components	80
2.2.1.1.3.2	Market Orientation scale and studies.....	87
2.2.1.2	Conclusions and limitations.....	88
2.2.2	<i>Isolating Mechanism (IM)</i>	89
2.2.2.1	Causal ambiguity.....	91
2.2.2.1.1	Tacitness	91
2.2.2.1.2	Complexity.....	92
2.2.2.1.3	Specificity	92
2.2.2.2	Path dependency.....	93
2.2.2.3	Barriers to imitations	93
2.2.2.3.1	Immitability.....	94
2.2.2.3.2	Value.....	94
2.2.2.3.3	Non-transferability and Non-tradability	94
2.2.2.3.4	Customer switching costs	94
2.2.3	<i>Conclusions and Limitations</i>	95
2.3	STUDIES ON THE RELATIONSHIP BETWEEN THE CONSTRUCTS	96
2.3.1	<i>Studies included one or more of the constructs (resources, isolating mechanisms, firm performance, environmental factors)</i>	96
2.3.1.1	Resource studies.....	96
2.3.2	<i>Isolating mechanism studies</i>	97
2.3.2.1	Path dependency studies.....	98
2.3.2.2	Causal ambiguity studies	98
2.4	STUDIES THAT INCLUDED THE RELATIONSHIP BETWEEN COMPETITIVE POSITIONING AND ONE OR MORE OF THE OTHER CONSTRUCTS.....	99

2.4.1	<i>Technical quality competitive positioning</i>	99
2.4.2	<i>Price competitive positioning</i>	99
2.4.3	<i>Innovation competitive positioning, market orientation, assets and capabilities</i>	104
2.4.4	<i>Other studies</i>	105
2.4.5	<i>Competitive positioning and Isolating mechanism</i>	106
2.4.6	<i>Competitive Positioning & Firm performance</i>	106
2.4.7	<i>Competitive Positioning & Environment</i>	108
2.5	CONCLUSIONS AND LIMITATIONS.....	111

3 Chapter Three: Framework

3.1	INTRODUCTION.....	114
3.2	IMPORTANCE OF COMPETITIVE POSITIONING.....	114
3.3	CONCEPTUAL DEFINITIONS.....	115
3.3.1	<i>Competitive positioning</i>	115
3.3.2	<i>Competitive position</i>	115
3.3.3	<i>Firm's resources (market-based resources)</i>	116
3.3.4	<i>Isolating mechanisms</i>	118
3.4	DEVELOPMENT OF PROPOSITIONS AND FRAMEWORK.....	119
3.4.1	<i>The first proposition</i>	119
3.4.1.1	Quality competitive positioning.....	120
3.4.1.2	Price competitive positioning (compared to the competitors).....	123
3.4.1.2.1	High price competitive positioning.....	123
3.4.1.2.2	Low price competitive positioning.....	124
3.4.1.3	Innovation competitive positioning.....	126
3.4.2	<i>The second proposition</i>	129
3.4.2.1.1	Quality competitive positioning.....	129
3.4.2.1.2	Price competitive positioning.....	130
3.4.2.1.3	Innovation competitive positioning.....	131
3.4.3	<i>The third proposition</i>	133

4 Chapter Four: Research design

4.1	INTRODUCTION.....	137
-----	-------------------	-----

4.2	RESEARCH OBJECTIVES	137
4.2.1	<i>Level and unit of analysis</i>	138
4.3	RESEARCH CONTEXT	140
4.3.1	<i>Rivalry between existing firms</i>	140
4.3.2	<i>Entry barriers</i>	141
4.3.3	<i>The bargaining power of suppliers and distributors</i>	141
4.3.3.1	Wholesalers	141
4.3.3.2	Direct distribution to retailers	141
4.3.3.3	Direct distribution to consumers	142
4.3.4	<i>Threat of substitute</i>	142
4.3.5	<i>Bargaining power of buyers</i>	143
4.3.6	<i>Conclusion</i>	143
4.4	RESEARCH STAGES	144
4.4.1	<i>Stage I: Preparation, Pilot study and Modification</i>	144
4.4.1.1	The questionnaire	145
4.4.1.2	Targeting the industry & respondents	148
4.4.1.3	Pre-testing	149
4.4.1.4	Modification of questionnaire	151
4.4.2	<i>Stage II: Secondary Data & Survey</i>	151
4.4.3	<i>Stage III: Main Survey</i>	153
4.4.3.1	Marketing managers	153
4.4.3.2	Sample size	154
4.4.3.3	Factors influencing response rate:	154
4.4.3.4	Follow up	155
4.4.4	<i>Data analysis</i>	155
4.5	CONCLUSIONS	156

5 Chapter Five: Analysis

5.1	INTRODUCTION	158
5.2	PRELIMINARY ANALYSIS	160
5.2.1	<i>Response rate and bias</i>	160
5.2.1.1	Response rate	160
5.2.1.2	Response bias	160

5.2.2	<i>Representative-ness of the data</i>	161
5.2.2.1	Firm size	162
5.2.2.2	Market type	163
5.2.2.3	Competitive positioning strategies	164
5.3	DEVELOPING AND TESTING THE SCALES	167
5.3.1.1	Step 1: Define construct scale	168
5.3.1.2	Step 2: Content and face validity	168
5.3.1.2.1	Marketing assets and capabilities	170
5.3.1.2.2	Isolating mechanism and environmental factors	170
5.3.1.2.3	Competitive positioning dimensions	170
5.3.1.3	Step 3 & 4: Dimensionality and Reliability assessments	171
5.3.1.3.1.1	Marketing Assets	174
5.3.1.3.1.1.1	Reliability	175
5.3.1.3.1.2	Marketing Capabilities	177
5.3.1.3.1.2.1	Reliability	178
5.3.1.3.2	Market orientation (MO)	178
5.3.1.3.3	Isolating Mechanism	180
5.3.1.3.3.1	Reliability	180
5.3.1.4	Step 5: Quality of information & Validity Assessment	182
5.3.1.4.1	Quality of information	182
5.3.1.4.2	Validity Assessment	183
5.3.1.4.2.1	Criterion validity	183
5.3.1.4.2.2	Construct validity	184
5.3.1.4.2.2.1	Nomological validity	184
5.3.1.4.2.2.2	Discriminant validity	185
5.3.1.4.2.2.2.1	Confirmatory Factor Analysis for Assets	187
a)	Assess the identification of the model	188
b)	First model	189
c)	The second model	190
5.3.1.4.2.2.2.2	Confirmatory Factor Analysis for Capabilities	190
d)	First model	190
e)	The Second model	191
5.3.1.4.2.2.2.3	Confirmatory Factor Analysis for Isolating Mechanism	191
5.3.1.4.2.2.2.4	Single Factor	192

5.4	PROPOSITION TESTING	196
5.4.1	<i>The first proposition</i>	198
5.4.1.1	Quality competitive positioning.....	198
5.4.1.2	Price competitive positioning	202
5.4.1.3	Innovation Competitive positioning.....	207
5.4.2	<i>The second proposition</i>	212
5.4.2.1	Quality competitive positioning.....	213
5.4.2.2	Price competitive positioning	215
5.4.2.3	Innovation competitive positioning.....	216
5.4.3	<i>The third proposition</i>	217
5.4.3.1	Technical quality.....	220
5.4.3.2	Price competitive positioning	220
5.4.3.3	Innovation competitive positioning.....	222
5.5	CLUSTER ANALYSIS	226
5.5.1	<i>Step 1: Data preparation</i>	227
5.5.1.1	Missing data	227
5.5.1.2	Outliers	227
5.5.2	<i>Step 2: Process selection</i>	228
5.5.3	<i>Step 3: Cluster solution</i>	229
5.5.4	<i>Step 4: Profiling Clusters</i>	230
5.5.4.1	Determining Group Profiles: ANOVA and Multiple Comparison Tests.....	231
5.5.4.1.1	Result of ANOVA significance difference between groups.....	231
5.5.4.1.2	ANOVA results with resources as scales and as items	233
5.5.4.1.2.1	Marketing Assets	233
5.5.4.1.2.2	Marketing Capabilities.....	235
5.5.4.1.2.3	Market orientation	236
5.5.4.1.3	Isolating mechanism as scale	236
5.5.4.1.4	Firm performance	237
5.5.4.2	Discriminant Analysis	239
5.5.4.2.1	Assets, capabilities and market orientation as scales (stepwise)	240
5.5.4.2.1.1	Marketing assets	240
5.5.4.2.1.2	Marketing Capabilities.....	242
5.5.4.2.1.3	Market orientation	243

5.5.4.2.2	Isolating mechanism:.....	244
5.5.4.2.3	Firm performance.....	244
5.5.5	<i>The three positioning clusters</i>	246
5.5.5.1	Cluster 1.....	246
5.5.5.2	Cluster 2.....	247
5.5.5.3	Cluster 3.....	248
5.6	SUMMARY AND CONCLUSION.....	249

6 Chapter Six: Discussion

6.1	INTRODUCTION.....	253
6.2	TECHNICAL QUALITY COMPETITIVE POSITIONING	254
6.3	PRICE COMPETITIVE POSITIONING	259
6.4	INNOVATION COMPETITIVE POSITIONING	264
6.5	THE ORIGINAL MODEL REVISITED & MODIFIED.....	269
6.6	SUMMARY AND CONCLUSIONS	270

7 Chapter Seven: Conclusion

7.1	INTRODUCTION.....	274
7.2	SUMMARY OF THE RESEARCH.....	274
7.2.1	<i>Research objectives</i>	276
7.2.2	<i>Methods utilised</i>	277
7.2.3	<i>Major findings and contribution</i>	277
7.2.3.1	Academic findings.....	277
7.2.3.2	Managerial findings.....	278
7.3	IMPLICATIONS	279
7.3.1	<i>Academic Implications</i>	279
7.3.2	<i>Managerial implications</i>	282
7.4	RESEARCH LIMITATIONS	285
7.5	FUTURE RESEARCH	286

<i>Bibliography</i>	289
<i>Appendices</i>	318

List of Figures

Figure 1-1

The study organisation..... 37

Figure 2-1

Competitive positioning and position..... 52

Figure 2-2

Synthesising Market Orientation perspectives 82

Figure 3-1

Conceptual Model proposed..... 136

Figure 4-1

Research Stages 145

Figure 4-2

Stages to conduct content analysis 152

Figure 5-1

Measurement model for “Distribution based asset”..... 188

Figure 5-2

The effect of level of competition on the relationship between price competitive positioning and firm performance in terms of market share..... 222

Figure 5-3

The effect of level of competition on the relationship between innovation competitive positioning and market share 224

Figure 5-4

The effect of customer requirements on the relationship between innovation competitive positioning and market share 225

Figure 6-1

Technical quality competitive positioning (Scale)..... 257

Figure 6-2

Technical quality competitive positioning (Items)..... 258

Figure 6-3

Level of price competitive positioning (Scales)..... 262

Figure 6-4

Level of price competitive positioning (Items)..... 263

Figure 6-5

Degree of innovation competitive positioning (Scales)..... 267

Figure 6-6

Degree of innovation competitive positioning (Items)..... 268

Figure 7-1

Original model and possible future research..... 288

List of Tables

Table 2-1

<i>Definitions of Competitive Positioning and Competitive Position</i>	<i>41</i>
--	-----------

Table 2-2

<i>Competitive Position and Competitive Positioning Typologies</i>	<i>56</i>
--	-----------

Table 2-3

<i>Product competitive positioning.....</i>	<i>61</i>
---	-----------

Table 2-4

<i>The most discussed product competitive positioning strategies.....</i>	<i>64</i>
---	-----------

Table 2-5

<i>Examples of the resources classifications based on RBV.....</i>	<i>72</i>
--	-----------

Table 2-6

<i>Examples of Market Orientation definitions</i>	<i>84</i>
---	-----------

Table 2-7

<i>Studies on Isolating Mechanism.....</i>	<i>90</i>
--	-----------

Table 2-8

<i>Studies on the relationship between competitive positioning and resources or among resources.....</i>	<i>101</i>
--	------------

Table 2-9

<i>Studies on Performance.....</i>	<i>109</i>
------------------------------------	------------

Table 4-1

<i>Research Strategy and the research question.....</i>	<i>138</i>
---	------------

Table 4-2

<i>Incentives used to increase response rate.....</i>	<i>156</i>
---	------------

<i>Table 5-1</i>	
<i>Non-response bias analysis.....</i>	<i>161</i>
<i>Table 5-2</i>	
<i>Respondents by Firm size.....</i>	<i>163</i>
<i>Table 5-3</i>	
<i>Results of Chi-Square for sample representativeness.....</i>	<i>163</i>
<i>Table 5-4</i>	
<i>Respondents by market type</i>	<i>164</i>
<i>Table 5-5</i>	
<i>Responses on each competitive positioning dimension (Percentage).....</i>	<i>165</i>
<i>Table 5-6</i>	
<i>Validating a scale</i>	<i>169</i>
<i>Table 5-7</i>	
<i>Results of reliability and Factor analyses for Assets.....</i>	<i>176</i>
<i>Table 5-8</i>	
<i>Results of Factor and Reliability Analysis for Capabilities.....</i>	<i>179</i>
<i>Table 5-9</i>	
<i>Results of Factor and Reliability Analysis for IM</i>	<i>181</i>
<i>Table 5-10</i>	
<i>Correlation of the market orientation and capabilities as evidence of criterion validity...</i>	<i>184</i>
<i>Table 5-11</i>	
<i>Results of Confirmatory Factor Analysis for Assets, Capabilities and Isolating Mechanism.....</i>	<i>192</i>
<i>Table 5-12</i>	
<i>Test for discriminant validity : Exploratory Factor Analysis (Single Factor).....</i>	<i>193</i>

Table 5-13

<i>Summary of the results of Factor analysis of Assets, Capabilities, Market Orientation and Isolating mechanism.....</i>	<i>195</i>
---	------------

Table 5-14

<i>Results of regression analysis for technical quality (Items).....</i>	<i>200</i>
<i>A) Assets</i>	<i>200</i>
<i>B) Capabilities</i>	<i>201</i>

Table 5-15

<i>Results of multiple regression analysis for technical quality (Scales).....</i>	<i>202</i>
--	------------

Table 5-16

<i>Results of regression analysis for price competitive positioning (Items)</i>	<i>205</i>
<i>A) Assets</i>	<i>205</i>
<i>B) Capabilities</i>	<i>205</i>

Table 5-17

<i>Results of Regression analysis price-resources (Scales)</i>	<i>206</i>
--	------------

Table 5-18

<i>Results of regression analysis for innovation competitive positioning (Items).....</i>	<i>208</i>
<i>A) Assets</i>	<i>208</i>
<i>B) Capabilities</i>	<i>209</i>

Table 5-19

<i>Results of Regression analysis innovation-market orientation</i>	<i>210</i>
---	------------

Table 5-20

<i>Results of Regression analysis innovation-resources (Scales).....</i>	<i>210</i>
--	------------

Table 5-21

<i>Results of Regression analysis innovation-resources (Scales).....</i>	<i>212</i>
--	------------

Table 5-22

<i>Pearson correlation matrix for isolating mechanism items and the three competitive positioning dimensions.....</i>	<i>214</i>
---	------------

Table 5-23

<i>Results of Regression analysis market share – price competitive positioning and level of competition as environmental factor moderator</i>	<i>221</i>
---	------------

Table 5-24

<i>Results of Regression analysis market share–innovation competitive positioning and Level of competition as moderator.....</i>	<i>223</i>
--	------------

Table 5-25

<i>Results of Regression analysis market share–innovation competitive positioning and Customer requirements as moderator.....</i>	<i>225</i>
---	------------

Table 5-26

<i>Result of ANOVA significance difference between groups</i>	<i>232</i>
---	------------

Table 5-27

<i>Assets, capabilities, market orientation (as scales): Significance of Between Cluster Differences (Scheffe test).....</i>	<i>234</i>
--	------------

Table 5-28

<i>Marketing Assets (as items): Significance of Between Cluster Differences (Scheffe test)..</i>	<i>234</i>
--	------------

Table 5-29

<i>Marketing Capabilities (as items): Significance of Between Cluster Differences (Scheffe test).....</i>	<i>236</i>
---	------------

Table 5-30

<i>Isolating Mechanism (as scale): Significance of Between Cluster Differences (Scheffe test).....</i>	<i>237</i>
--	------------

Table 5-31

<i>Isolating mechanism (as items): Significance of Between Cluster Differences (Scheffe test).....</i>	<i>238</i>
--	------------

Table 5-32

<i>Firm Performance: Significance of Between Cluster Differences (Scheffe test).....</i>	<i>238</i>
--	------------

Table 5-33

<i>Discriminant analysis Structure Matrix, and Cluster Centroid (Step-wise) for all resources as scales.....</i>	<i>241</i>
--	------------

Table 5-34

<i>Discriminant analysis Structure Matrix, and Cluster Centroid (Step-wise) for assets items.....</i>	<i>242</i>
---	------------

Table 5-35

<i>Discriminant analysis Structure Matrix, and Cluster Centroid (Step-wise) for capabilities items</i>	<i>243</i>
--	------------

Table 5-36

<i>Discriminant analysis Structure Matrix, and Cluster Centroid (Step-wise) for isolating mechanism items.....</i>	<i>244</i>
--	------------

Table 5-37

<i>Discriminant analysis Structure Matrix, and Cluster Centroid (Enter)</i>	<i>245</i>
---	------------

Table 5-38

<i>Summary of hypothesis test results</i>	<i>251</i>
---	------------

Table 6-1

<i>Summary of the results obtained.....</i>	<i>272</i>
---	------------

List of Appendices

Appendix 4-1

<i>A) The piloted questionnaire</i>	<i>318</i>
<i>B) The cover page of the questionnaire</i>	<i>323</i>
<i>C) The last page</i>	<i>324</i>

Appendix 4-2

<i>Check list for piloting the questionnaire</i>	<i>325</i>
--	------------

Appendix 4-3

<i>A) The final questionnaire</i>	<i>326</i>
<i>B) The covering letter.....</i>	<i>330</i>

Appendix 5-1

<i>The result of the skewness and kurtosisness analysis</i>	<i>331</i>
---	------------

Appendix 5-2

<i>Exploratory Factor Analysis and Reliability results for Assets.....</i>	<i>332</i>
--	------------

Appendix 5-3

<i>Exploratory Factor Analysis and Reliability results for Capabilities</i>	<i>336</i>
---	------------

Appendix 5-4

<i>Exploratory Factor Analysis and Reliability results for market orientation</i>	<i>340</i>
---	------------

Appendix 5-5

<i>Exploratory Factor Analysis and Reliability results for Isolating Mechanism.....</i>	<i>341</i>
---	------------

Appendix 5-6

<i>LISREL results for assets</i>	<i>346</i>
<i>A) First LISREL results for Assets.....</i>	<i>346</i>
<i>B) Second and Final LISREL results for Assets</i>	<i>353</i>

Appendix 5-7

<i>LISREL results for capabilities.....</i>	<i>356</i>
---	------------

Appendix 5-8

<i>LISREL results for isolating mechanism.....</i>	<i>366</i>
--	------------

Appendix 5-9

<i>Results of testing the first proposition (as items).....</i>	<i>373</i>
---	------------

<i>1) Technical Quality competitive positioning.....</i>	<i>373</i>
--	------------

<i>A) Assets</i>	<i>373</i>
------------------------	------------

<i>B) Capabilities</i>	<i>373</i>
------------------------------	------------

<i>2) Price competitive positioning.....</i>	<i>374</i>
--	------------

<i>A) Assets</i>	<i>374</i>
------------------------	------------

<i>B) Capabilities</i>	<i>375</i>
------------------------------	------------

<i>3) Innovation competitive positioning.....</i>	<i>376</i>
---	------------

<i>A) Assets</i>	<i>376</i>
------------------------	------------

<i>B) Capabilities</i>	<i>377</i>
------------------------------	------------

Appendix 5-10

<i>Results of testing the first proposition (as scales)</i>	<i>379</i>
---	------------

<i>1) Technical quality.....</i>	<i>379</i>
----------------------------------	------------

<i>2) Price.....</i>	<i>379</i>
----------------------	------------

<i>3) Innovation competitive positioning.....</i>	<i>380</i>
---	------------

<i>A) Market orientation.....</i>	<i>380</i>
-----------------------------------	------------

<i>B) Assets and Capabilities scales</i>	<i>380</i>
--	------------

<i>C) Assets, Capabilities and Market Orientation.....</i>	<i>381</i>
--	------------

Appendix 5-11

<i>Results of the second proposition (as items)</i>	<i>382</i>
---	------------

Appendix 5-12

<i>Results of the second proposition (as scales)</i>	<i>383</i>
--	------------

Appendix 5-13

<i>Results of testing the third proposition</i>	<i>384</i>
---	------------

<i>1) Technical quality competitive positioning.....</i>	<i>384</i>
--	------------

<i>A) Technical quality competitive positioning, market share and level of competition.....</i>	<i>384</i>
---	------------

<i>B) Technical quality competitive positioning, market share & customer requirement.....</i>	<i>385</i>
---	------------

<i>C) Technical quality competitive positioning, market share & technological change.....</i>	<i>385</i>
---	------------

<i>2) Price competitive positioning.....</i>	<i>386</i>
--	------------

<i>A) Price competitive positioning, market share and level of competition</i>	<i>386</i>
--	------------

<i>B) Price competitive positioning, market share and customer requirements</i>	<i>387</i>
---	------------

<i>C) Price competitive positioning, market share and technological change.....</i>	<i>388</i>
---	------------

<i>3) Innovation competitive positioning.....</i>	<i>388</i>
---	------------

<i>A) Innovation competitive positioning, market share and level of competition</i>	<i>388</i>
---	------------

<i>B) Innovation competitive positioning, market share and customer requirements</i>	<i>389</i>
--	------------

<i>C) Innovation competitive positioning, market share and technological change</i>	<i>390</i>
---	------------

Appendix 5-14

<i>Dendrogram using Ward's method and Squared Euclidean Distance (SPSS release 11)..</i>	<i>391</i>
--	------------

Appendix 5-15

<i>K-means with 3 cluster solutions</i>	<i>393</i>
---	------------

Appendix 5-16

<i>ANOVA OF Assets, capabilities, and isolating mechanism (as items):.....</i>	<i>394</i>
--	------------

<i>a) Assets.....</i>	<i>394</i>
-----------------------	------------

<i>b) Capabilities.....</i>	<i>396</i>
-----------------------------	------------

<i>c) Isolating mechanism.....</i>	<i>398</i>
------------------------------------	------------

Appendix 5-17

<i>Results of ANOVA with resources and IM (as scales).....</i>	<i>400</i>
<i>a) Assets, capabilities and market orientation</i>	<i>400</i>
<i>b) Isolating mechanism as scales.....</i>	<i>402</i>

Appendix 5-18

<i>Firm performance: Significance of Between Cluster Differences (Scheffe test)</i>	<i>403</i>
---	------------

Appendix 5-19

<i>Discriminant analysis stepwise for scales.....</i>	<i>404</i>
---	------------

Appendix 5-20

<i>Discriminant analysis (Step-wise) for items.....</i>	<i>405</i>
<i>a) Assets.....</i>	<i>405</i>
<i>b) Capabilities.....</i>	<i>406</i>
<i>c) Isolating mechanism.....</i>	<i>408</i>

Appendix 5-21

<i>Discriminant Analysis Enter scales</i>	<i>411</i>
<i>a) Assets, capabilities and market orientation scales (enter).....</i>	<i>411</i>
<i>b) Isolating mechanism scale Enter.....</i>	<i>412</i>

Appendix 5-22

<i>Discriminant Analysis Enter items.....</i>	<i>415</i>
<i>a) Assets.....</i>	<i>415</i>
<i>b) Capabilities.....</i>	<i>417</i>
<i>c) Isolating mechanism.....</i>	<i>418</i>
<i>d) Firm performance.....</i>	<i>420</i>

ASTON UNIVERSITY
Achieving Sustainable Competitive Positioning: The role of
resources within environmental constraints.

Samaa Taher M. Attia
Doctor of Philosophy
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A central element in marketing strategy is the creation and defence of a clear competitive positioning (CP) in the market place. This requires a tight definition of the target market to be served, together with an appreciation of the firm's resources, that can be deployed to serve that market better than competitors. While the notion of firm resources has been extensively researched in the strategic management literature under the theme of the 'resource based view' (RBV) of the firm, there has been relatively little direct attention paid to the ways in which the exploitation of these resources contribute to the creation and sustainability of CPs. In particular the nature of the relationship between marketing specific resources and CPs is not clearly defined. This work sets out to more clearly define that relationship. In addition, RBV has introduced the concept of Isolating Mechanism (IM) which is used to describe the barriers to imitation that some resources possess. These IMs serve to defend competitive advantages from competitor encroachment. By extension, IMs associated with the resources used to create idiosyncratic CPs may lead to a higher degree of sustainability for those positions. This work employs the concept of IMs to identify those positions which are more sustainable and defensible in the longer term. The relationship between CP employed and firm performance is also addressed in this work. The effectiveness of any CP achieved, however, is likely to be moderated by the nature of the competitive market environment in which it is deployed. The study, therefore, seeks to identify environmental moderators of the position-performance relationship.

The study has two main aims: 1) To develop and test scales for measuring marketing resources and IMs mechanisms. At the time of the research no generally accepted scales were available for measuring or assessing these important constructs. 2) To develop a more thorough understanding of the relationships between: (i) CP-marketing resources; (ii) CP – IM; and (iii) the moderating effect of the business environment on the link between CP and firm performance.

A preliminary theoretical model was developed, and three propositions were generated based on an exhaustive review of the literature. These propositions formed the basis of the design of the research instruments. The data collection methods used were face-to-face interviews, telephone interviews and surveys. A number of data analysis techniques were utilized: confirmatory factor analysis, principle component analysis, regression, correlation, moderated regression, cluster analysis, ANOVA, and discriminant analysis.

The research found support for a relationship between distribution network resources and technical quality based CPs, and the relationship between distribution network resources and price based CP. It also, found a strong relationship between innovation based CP and customer service resources. However, the results did not show any support for the hypothesised relationship between company or brand name resources and quality based CP. The relationship between company or brand name resources and price based competitive positioning was, however, supported. (ii) The IM-CP relationship. It was found that a quality based CP could be defended through being highly valued by customers and creating high customer switching costs. Innovation based CP is mostly associated with path dependency as an IM. It was also found that price based CP is the most difficult position to defend with few IMs. (iii) Finally the results revealed that the external market environment (as exemplified by the level of competition) could affect both price based and innovation based CPs in terms of their relationships with market share achieved (used as a measure of firm performance). This research contributes to the marketing literature both through the development of scales for measuring marketing resources and IMs, and through the testing of the relationships between positions, resources, IMs and firm performance, together with the testing of the moderating effects of the competitive market environment. Further research is called for in a number of areas to build on the base established here.

Key words: Competitive positioning, Resource based view, Isolating mechanism

To my parents

*I love you
and from the bottom of my heart
Thank you*

Abbreviations

BPI	British Pharmaceutical Industry
CFA	Confirmatory Factor Analysis
CP	Competitive Positioning
CPAG	Community Pharmacy Action Group
FAME	Financial Analysis Made Easy
FDA	Food and Drug Administration
GSK	GlaxoSmithKline
GSL	General Sales Lists (OTC products available in retails and outlets)
IM	Isolating Mechanism
MCA	Medicines Control Agency
MO	Market Orientation
OTC	Over The Counter
P	OTC products available through pharmacy only
PAGB	The Proprietary Association of Great Britain
PPRS	Pharmaceutical Price Regulation Scheme
POM	Prescription Only Medicine
RBV	Resources based view
ROI	Return On Investment
SCA	Sustainable Competitive Advantage
SEM	Structural Equation Modelling

Definitions

Competitive positioning	Is to do with the process inside the firms and therefore, refers to the product place in the market from the firm's perspective, (Rigger 1995; Doyle 1998; Hooley et al. 1998a; Jobber 1998; Zindeldin 1996; Zindeldin and Bredenlow 2001)
Competitive position	While competitive position is outside the firm and from a consumer perspective is where the effect of the advertising could be found. (Rigger 1995; Doyle 1998; Hooley et al. 1998a; Jobber 1998; Zindeldin 1996; Zindeldin and Bredenlow 2001)
Competitive advantage	The unique position an organisation develops against some external context (its competitors) (Juga 1999; Hofer and Schendel 1978).
Sustainable Competitive advantage	"[Is] achieved when advantage resists erosion by competitive behaviour (Porter 1985: 11).
Sustainable Competitive positioning	(Same as above) ...it is achieved when the achieved competitive positioning resists erosion

Acknowledgements

When I first enrolled to study my PhD at Aston, I met a group of senior PhD students. We were sitting together discussing their experiences during their PhD studies. Then, the ups and downs of doing a PhD were mentioned and almost all of them emphasised that the only up that you will get when you study your PhD is getting the PhD. However, during this discussion, we did not mention how you can survive the downs. Now from my experience, I can say that you need to be lucky to have people around you who believe in you and encourage you all the way.

In that sense, I am blessed to be surrounded by many people who have helped and supported me a lot. From the bottom of my heart, I thank my parents, Prof. Taher Morsy and Prof. Mona El-Batal, for believing in me, supporting and encouragement along the way unconditionally. Also, a special thank you to my brother and sister.

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In addition, I would like to take this chance express my gratitude to the family of the late Prof. Peter Doyle in his memorial for his advice to me; although I met him only once during an Academy of Marketing conference, his encouragement helped me a lot along with his treasure of literature I found in the library.

1 Chapter One: Introduction

1.1 Rationale for the research

There is general agreement in the marketing literature that the concept of competitive positioning (CP) is one of the fundamental components of modern marketing management (Blankson 2001a,b; Kotler 1997; Hooley et al 2004). Indeed, achieving CP is at the heart of strategic marketing theory and practice (Romaniuk 2001).

This CP issue has already raised concerns and many studies have investigated the different aspects of it. These studies can be divided, basically, into three groups; the scope of the first group is concerned with the consumer's perspective. Studies have been carried out to analyse consumers' mental maps to understand how the product is perceived. Typically, consumers were asked for their perceptions about products/services under study (as Alpert and Gatty 1969; Blankson and Kalafatis 2001).

The scope of the second group was essentially managerial; different approaches were adopted, including examining various advertisements and the different messages included in these advertisements (Crawford 1985).

Finally, the last group's main concern was related to the fact that CP starts from inside the firm. In other words, it is seen as the backbone of the firm's marketing strategy (Dovel 1990). This group has thrown light on the different dimensions of CP (such as segmentation and differential advantage Doyle 1998; Hooley et al. 1998a; Hooley 1999). The present study belongs to this group, its main focus being competitive positioning as determined from inside the firm.

Furthermore, positioning could be either functional, where immediate and practical needs are satisfied, relevant to products designed to solve problems related to consumption (Bhat and Reddy 1998); symbolic, satisfying a symbolic need for self-enhancement such

as prestige, for example associating cosmetics with life-style, and finally, experiential, where sensory pleasure could be obtained when buying books, for example. (Proctor 2000)

Moreover, CP has been developed theoretically in both consumer marketing and with equal applicability for industrial products and services (Webster 1995).

Even more, the literature identified many types of CP such as products/brands, services and even resorts and companies. Consequently, several CP strategies have been identified in the literature, such as quality, price and innovation (CF: Aaker 1989; Porter 1996, 1980; Crawford 1985; Hooley et al. 1998a; Mathur 1984; Mathur 1988, 1991; Mathur and Kenyon 1998).

However, many studies, including Kalafatis et al (2000) have highlighted the lack of empirical studies relative to theoretical ones. Thus, while the empirical aspect has received less attention, substantial insight has been gained with respect to the concept of CP.

This study focuses on product competitive positioning because although such CP was one of the first types of CP to be examined empirically (Alpert and Gatty 1969), it is believed that it is still the least explored CP. The intention is, as discussed earlier, that due to the lack of empirical CP studies, the present study will examine empirically the product competitive positioning in relation to quality, price and innovation. These CPs have very little coverage in the literature, as will be discussed in the literature review chapter.

In essence, each firm positions its offering in the market for the purpose of achieving a superior performance (Fahy and Smithee 1999; Hunt and Morgan 1995; Hunt and Morgan 1996; Oktemgil et al. 2000). Indeed, the strategic importance of the product positioning decision in achieving success in the market place is well recognized (Punj and Moon 2002). In this regard, this study also intends to deal with the relationship between the achieved competitive positioning and the firm performance.

Moreover, among the relatively few empirical studies conducted, little attention has been given to how the CP was created. Indeed, in order to be able to attain the CP planned, certain resources are required to be matched (Hooley et al 1998a). In particular, the study will focus on marketing resources, which are yet to be discovered in relation to the different competitive positioning. Such matching is a challenge for the marketing executive to develop the CP (Darling 2001).

Closely related to CP is the Resource Based View (RBV) of the firm, which discusses the different types of resources that firms would use to create a competitive advantage (Barney 1991; Collis and Montgomery 1995; Grant 1991; Hall 1993; Hall 1992; Peteraf 1993 and more recently Zott 2003).

Recently, the influence of RBV in marketing contribution has been seen clearly (Fahy and Smithee 1999); for example, in Day's (1994) work on market-based capabilities and in the work of Hunt (2001); Hunt and Morgan (1995); and Hunt and Morgan (1996) on competitive advantage and for describing dimensions of positioning strategy (Hooley et al. 1998a). This confirms Fahy's and Smithee's (1999) prediction that the RBV perspective will become increasingly popular in the field of strategic marketing in the years ahead.

Basically, the concept of RBV is that the possession of certain key resources that have certain characteristics, such as being difficult to be duplicated by competitors, would create sustainable competitive advantage (SCA), which could maximise returns (Ibid).

With this perspective, there were two prime concerns: firstly, the different resources that could be found in any firm could be divided mainly into assets and capabilities.

In addition, firm culture, which could be looked at as the steering wheel of the firm, could be added as one of the ingredients of the firm's resources.

Furthermore, there are many aspects of firm culture, one being market orientation (MO). MO is an aspect of culture that a firm could possess to a greater or lesser extent, which is examined in great detail in many studies (CF: Greenley 1995a,b; Hooley et al 2004; Lai 2003; Langerak 2003; Lafferty and Hult 2001; Mavondo 1999; Mavondo and Farrell 2000; Lado et al 1998; Narver and Slater 1994, 1998a; Noble et al 2002; Cadogan and Diamantopoulos 1995; Conrad 1999; Appiah-adu 1998; Vazquez et al 2001).

In this connection, and due to the fact that not many studies (Hooley et al 2001a,b, 2002a,b) have tried to discover the relationship between the competitive positioning and the related marketing resources, this study is an attempt to investigate each of the three CP mentioned above (quality, price and innovation) in order to identify the different marketing resources that would be most associated with each of these CP.

In combining CP and RBV perspective, Hooley et al. (1998a) identified a number of areas for further research, one of which was identifying the key marketing resources in relation to the competitive positioning that could be pursued by firms. A few studies have started to emerge in this area (Fahy 1997/1998; Vorhies et al. 1999) and more recently Hooley et al (2002a,b,c). However, these studies could be considered sole voices, and more work is needed to examine the different aspects that have not been discovered. For example, almost all these studies involved managerial perspectives, ignoring other sources of information such as secondary data. The exceptions to this that have been found are (Zindeldin 1996; Zindeldin and Bredenlow 2001). However, these studies focused on service sectors rather than manufacturers.

Furthermore, before uncovering this relationship, developing and testing scales for the marketing resources will take place. All the scales (marketing assets, marketing capabilities, market orientation and isolating mechanism) that have been used in this study have been used previously in the literature. However, market orientation is the most established one. Indeed, market orientation has been discussed and tested extensively in the literature. On the other hand, marketing assets, marketing capabilities and isolating mechanism are not examined as extensively as market orientation in the literature. In addition, due to the complexity of these scales, it was felt that investigating them as closely as possible in terms of validity and reliability would assist in the dimensionality and purification of the scales. Therefore, the resources will be examined in terms of items as well as scales. This is mainly due to the fact that most of the related literature is comparatively new.

In addition, with the exception of Hooley and Greenley (2002c), no study was found to examine the effect of the different characteristics of isolating mechanism on defending CP. Indeed, one of the prime concerns of the RBV is: what are the different forms that a firm would follow to defend these resources in order to achieving sustainable competitive advantage? As mentioned earlier, a few authors went even further by examining the effect of defending and protecting the achieved CP. Indeed, when the competitive positioning, which is the result of a different bundle of resources, is protected by any/all of the isolating mechanisms, rather than just defending the individual resources, it would be even more difficult for competitors to imitate this achieved competitive positioning (Hooley et al 2002c). In other words, there have been only a few empirical and theoretical papers examining such relationship, and there are still many aspects to be discovered.

To summarise, as can be seen from the discussion above, the main focus of the present study is on the different combinations of marketing resources that are most associated with each of the selected competitive positionings, and developing and testing scales for marketing resources and IM. It also examines how such a positioning could be defended once achieved.

Moreover, due to the fact that each firm positions its product in the market for the purpose of achieving a superior performance (Fahy and Smithee 1999), investigating the effect of the achieved competitive positioning on the firm performance will be included. In more detail, the firm positions its product in the market where the external environment, in terms of, for instance, customer requirements, technological change and level of competition would play a crucial role in determining firm performance. These external business environmental factors should be examined closely not only because of their vital role in positioning (Rigger 1995), but also because few studies have been found which have examined the environmental factors in terms of positioning, and therefore the effects of such factors are not totally clear (Zindeldin and Bredenlow 2001).

As mentioned earlier, the focus of the present study is quality, price and innovation competitive positioning. These three competitive positionings will be investigated separately as well as together. In more detail, in order to examine thoroughly these three

competitive positioning, they will be tested separately in terms of their associations with resources, correlation with isolating mechanism and relationship with firm performance and the environment. However, in real life, a different combination could be found as will be discussed in Chapter Three. Therefore, a thorough investigation of these different combinations in terms of associations with resources, correlation with isolating mechanism and relationship with firm performance and the environment will also take place in the present study.

This discussion leads to the research objectives.

1.2 Research Objectives

Building upon the argument above, it could be said that this study is an attempt to examine closely the achieved CP. This involves uncovering the association of the marketing resources that could be utilised to achieve the planned competitive positioning. However, the first objective of the present study involves developing and testing a scale for the marketing resources. Therefore, the objectives of the present study can be presented as:

- 1) Developing and testing scales for assessing marketing resources
- 2) Examining the relationship between CP - resources, and CP - IM. This second objective involves:
 - 2a: Examining the relationship between the CP and marketing resources
 - 2b: Examining the different isolating mechanisms that correlate most closely with specific CPs

These could be reached by integrating the theory and previous empirical research on CP and Resource Based View (RBV) into a comprehensive model that can explain the

different marketing resources that are used to achieve the different CP. These two sub-objectives will be tested using the items as well as the scales perspectives that have been developed for the first objective.

The final sub-objective addresses the question:

2c: What is the moderating effect of the business environment on the CP firm performance relationship?

This last objective is concerned with discovering the effect of the environment as a moderator on the CP-firm performance relationship.

This chapter will now move on to the significance and importance of the present study.

1.3 Significance and importance of the study

Although many authors have explicitly admitted the importance of the CP concept (Romaniuk 2001), the confusion about this concept, even as to its definition, as well as the different strategies identified, has been widely discussed (Arnott 1992; Blankson and Kalafatis 2001)

In addition, the integration of CP and RBV concepts is a recent development, and consequently much is yet to be uncovered (Hooley et al. 1998b).

Therefore the present study is considered important for the following reasons:

1. In terms of academic significance to marketing management: this research stems from its concern with achieving CP. At present, the market-based resources needed for different competitive positioning strategies are not clear.

2. The specific focus of this research is to present a thorough explanation as to how to sustain the competitive positioning chosen (for example, low price and superior product quality). This explanation will be achieved by describing many of the various methods to defend the achieved competitive positioning.
3. The research has importance in terms of empirical significance. The significance of this study stems from its concern with the effect of the external environment in terms of, for example, the competition for the resources, and technical change as well as customer requirements.

After discussing the different objectives of the present study, next a light will be shed on the scope of the research.

1.4 Scope of the research

This study focuses on the pharmaceutical industry, specifically Over The Counter (OTC) products in the UK. In particular the present study concentrates on the largest two markets, cold and flu, and decongestant (Keynote 2002, Datamonitor 2003) and also the analgesics market. The Pharmaceutical industry is one of the most important industries in the economy (Fletcher and Hart 1990), not only because of its relation to people's health, but also because it is the UK's second most valuable industry (Cobra 1999).

Indeed, the UK is a world leader in both the manufacturing and research and development of pharmaceutical products (Snapshot 2002). In fact, the UK OTC pharmaceuticals market is the most developed in Europe in terms of the number of non-prescription ingredients that are available (Datamonitor 2002). Furthermore, OTC pharmaceuticals market grew in 2001, to reach a value of \$3 billion (£1.71 billion) (Ibid). The market is predicted to grow to reach a value of \$3.7 billion (£2.11 billion) by 2006 (Ibid).

Furthermore, the UK over the counter market is part of one of the most successful and dynamic market sections in both the UK and the world (Keynote 2002). Indeed, the OTC market is highly fragmented, consisting of a broad range of therapeutic categories for a range of different medical conditions (Ibid). In addition, the market ranges from the new and emerging to the comparatively mature (Euromonitor 2002); all of these would lead to a variety of market offering, allowing a variety of competitive positioning.

Even more, although this industry is characterised by high technological development, other resources would still be expected to play a crucial role in creating competitive positioning (Yeoh 1999).

Thus, despite the fact that Research & Development (R&D) expenditure is important, previous studies show that it (R&D) does not necessarily lead to creating competitive positioning. In other words, there should be room for other resources to be deployed that would be needed to achieve the CP (Clement and Grotemeyer 1990).

Moreover, the OTC industry has a turbulent environment not only because of the fierce competition and changes in customer requirements but also because of the rate of technological change (Datamonitor 2003). All of this affects the external business environment to be examined on the CP-performance relationship.

Finally, it was noted that although this industry has received some attention, there are many aspects of the OTC industry that have not been discovered yet.

Consequently, it could be said that one of the prime contributions of this study is that it will advance our understanding of this industry, and therefore, provide an opportunity to explore an area of the pharmaceutical industry that has received limited attention in terms of analytical and empirical research within the context of the OTC market.

Having highlighted the rationale for the research, and its significance and scope, the focus is next on the methodology that will be pursued in this study in order to achieved these objectives and therefore answer its questions.

1.5 Methodology

Regarding the theoretical side, the deductive method was the main one used; firstly, this study used mainly library material, both primary and secondary sources such as company reports, periodicals and newspapers, as well as contemporary books, especially in the field of marketing.

The fieldwork in the thesis uses a questionnaire, as set out in Chapters Four and Five. However, interviews were also conducted and secondary data consulted. This questionnaire is analysed to bring out the initial results that are discussed in depth in Chapter Six.

The following sections of this chapter discuss the limitations of this study, its contribution and finally the organisation of the study.

1.6 Limitations

The study is focused on one industry. Many marketing studies nowadays focus on a single industry (Kim et al 1998). Nevertheless, the general applicability of the resources may still be limited by the characteristics of the industry chosen (Tam 2000). For example, all firms may share some environmental characteristics, however, previous studies (Ibid) have shown that even a single industry might hold distinct environmental characteristics.

Also, due to the fact that this study tries to deal with the many market-based resources that have been identified in the literature, this has resulted in a long questionnaire. This is coupled with only one industry, although all the marketing managers in the OTC industry that have been identified were contacted to ensure as large sample as possible. The resulted sample size is not very large. This is possibly due to the questionnaire length (Saunders 2000) as well as the inclusion of only one industry, although all these

considerations have been taken into account, as will be discussed in the methodology chapter.

This chapter will now turn to the contribution of the present study. In this section, not only the academic but also the managerial contributions will be explored.

1.7 Contributions

The findings of this research are expected to offer both theoretical and practical contributions to the field of study, as discussed below.

1.7.1 Academic contribution

The concept of competitive positioning occupies a significant role in strategic marketing. On the other hand, most markets have become increasingly competitive (Hooley and Beracs 1997) and firms are looking for different ways not only to achieve the positioning they have planned, but also to protect the positioning achieved against competitors. Considering the importance of achieving CP, it is important to increase our understanding of the most associated IM methods utilised to defend CP achieved.

Meanwhile, the Resource Based View (RBV) perspective has been extensively researched in strategy management literature. This perspective has been derived firstly from Economics. Now, it has been exported to marketing literature, which is attempting to discover such crucial perspectives in relation to marketing.

Both perspectives, RBV and CP, are discussed in an exhaustive review of literature, but the integration of these two streams has been discussed in relatively few studies (Fahy and Smithee 1999).

The importance of RBV in marketing literature is attributed to its ability to understand a firm's resource base in order to be able to diagnose the source of SCA. Also, Market Orientation as the firm's culture, with its effect on the firm, has been included as one of the resources that have an effect on firm performance (Hooley et al 2002b).

However, it has been noted that the effect of different forms of resources, including market orientation, is yet to be covered. This study aims to develop a comprehensive

model that incorporates RBV in relation to CP, the external environment, and firm performance. These concepts have been shown to affect the planned CP and investigating them simultaneously can enhance our understanding of their explanatory power with regard to achieving CP. Further, the effect of the external environment on CP and firm performance is also examined.

1.7.2 Managerial contribution

Firstly, the significance of this study to management goes as follows.

Management would be interested to know what are the different CP strategies that are achieved; also, what market-based resources were used to achieve such CP. This information would help management to better understand the market they operate in.

Secondly, management will gain a deeper understanding of the crucial resources related to each CP identified and therefore the contribution of the IM methods necessary to defend the achieved CP.

Thirdly, there is limited empirical research on CP in general and in the pharmaceutical industry in particular, despite its tendency to draw academic and practical attention over the decades.

The organisation of the study will be discussed next.

1.8 Organisation of the study

This study is organised into seven chapters (Figure 1-1), the first of which is the introduction.

Chapter two: is divided into sections; the first section is a thorough review of the huge amount of material on competitive positioning, in relation to product, company and services. This provides a comprehensive review of the literature on the topic of competitive positioning. This includes reviewing all types of competitive positioning with special emphasis on the price, quality, and innovation. This is followed by the second section, where the relatively new stream of RBV is discussed. In this regard, different classification and definitions of resources as well as market orientation as the firm culture

are presented. In addition, under RBV, the different isolating mechanisms are discussed as well. Finally, a clear picture of the relationship between the first and second section is provided; more specifically, these are studies that discussed two or more of these terms (competitive positioning, RBV, market orientation and isolating mechanism). In addition, firm performance is also discussed.

Chapter Three: deals with the main framework that this study is examining. In more detail, in reviewing the literature in the second chapter, a clear picture of the gaps that has been found is highlighted. This chapter tries to address these gaps, state them in terms of propositions, draw them into the framework presented and therefore be ready to examine these propositions empirically.

Chapter Four: this chapter deals with the methodology that has been selected to test the propositions. Justifications for selecting such a methodology, and the different phases of conducting applied research are presented in detail. In other words, it draws the picture in terms of research context and pilot study.

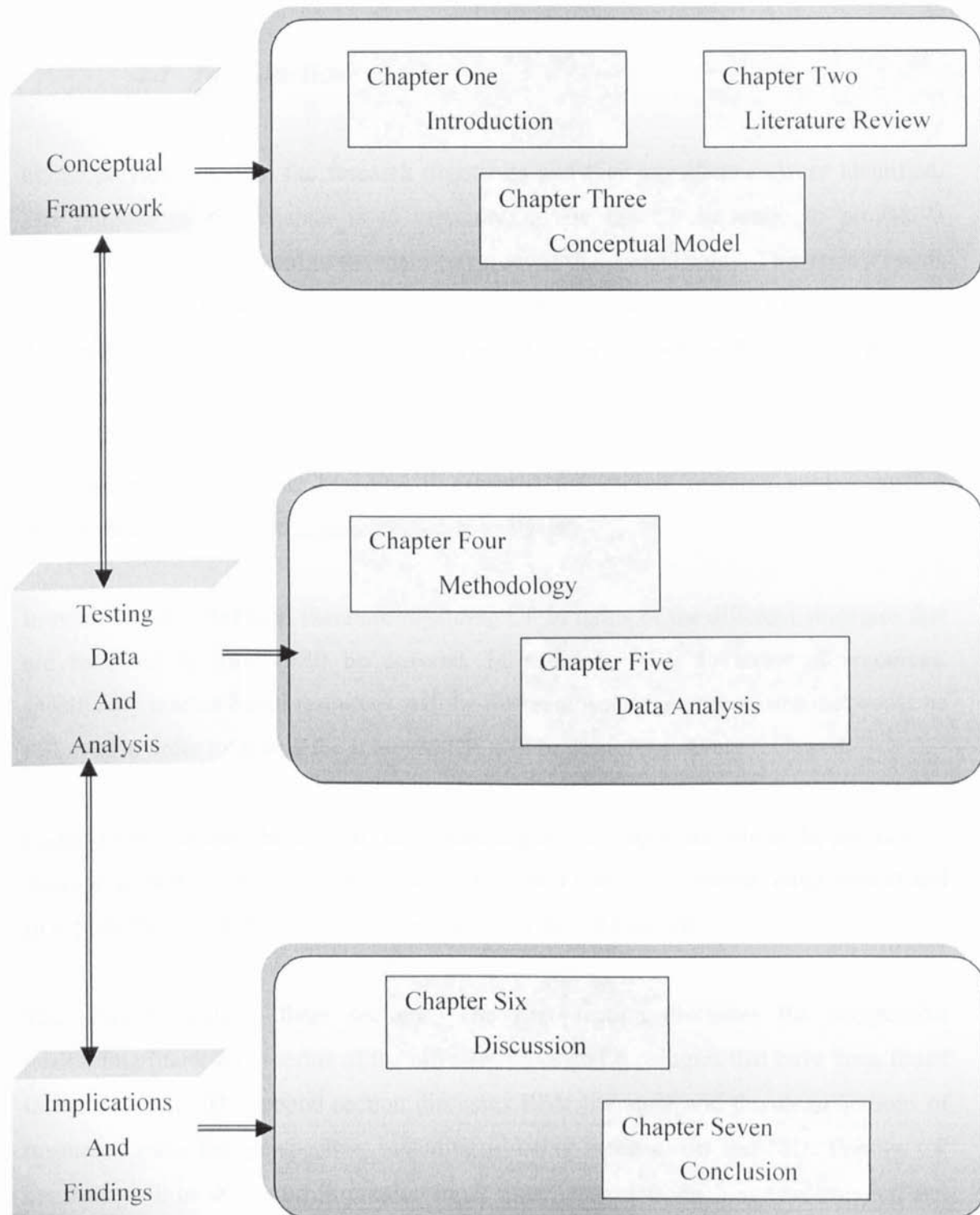
Chapter Five: is the core of the thesis. It is a presentation of the results and the different types of analysis that have been conducted to measure whether the propositions are correct or not. In this regard, special consideration is given here, because this stage is crucial not only because it gives a clear idea of the industry and the real situation there, but also it decides whether what was hypothesised is true or not.

Chapter Six: discusses the results of the empirical studies. It deals with the generation of the working propositions with respect to the research issues and their subsequent examination.

Chapter Seven: discusses the implications and contribution of this study in terms of theoretical as well as managerial issues. In addition, as any other thesis, this study has limitations, which are also discussed in this chapter. Finally, recommendations and suggestions for further research to be undertaken will be included.

Figure 1-1

The study organisation



2 Chapter Two: Literature Review

2.1 Introduction

In the previous chapter, the research objectives and their significance were identified. The purpose of this chapter is to critically review the CP literature to provide a comprehensive background to the main construct of the present study. This review needs to be undertaken in order to identify gaps in the literature in relation to CP, and therefore develop a basis for elaboration of a framework of CP, which will be discussed in the next chapter.

In addition, reviewing the literature is essential for guiding research implementation before embarking on field research and data analysis.

In more detail, the related literature regarding CP in terms of the different strategies that are followed by firms will be covered. In addition, RBV in terms of resources, specifically market-based resources and the different isolating mechanisms that could be followed in order to defend the achieved CP, will be comprehensively reviewed.

Furthermore, because the external environment plays an important role in the positioning decision as well as the firm performance, these two variables, external environment and firm performance, will be discussed in relation to the CP literature.

The chapter contains three sections. The first section discusses the competitive positioning literature in terms of the different types and typologies that have been found in the literature. The second section discusses RBV literature and the classifications of resources under that perspective, including isolating mechanisms and MO. Thirdly, CP construct will be discussed in relation to all these constructs, such as environment, and firm performance, the integration of the CP and RBV.

2.1.1 Competitive Positioning construct

2.1.1.1 Competitive Positioning

Many researchers have acknowledged that the term “positioning” has a variety of meanings (Aaker 1989; Rigger 1995). Although positioning is at the heart of marketing strategy and has been discussed for decades (Alpert and Gatty 1969; Arnott 1992; Lovelock et al. 1999; Ries and J. 1986), there is still no one single definition for it (Blankson 1999). Aaker (1989), for example, argued that positioning means different things to different people. However, from surveying the literature as will be discussed shortly, it could be inferred that there is overlap between “positioning” and “position” (Blankson 1999) and therefore, a clear definition is needed in this chapter.

According to Arnott (1992), there are many definitions of position/positioning. However, these definitions are all different sides of the same coin (Ibid). Blankson (1999) discussed these different definitions in great detail; despite his attempt to present a comprehensive review of the literature, he was not able to present a coherent definition of either competitive position and/or positioning (Ibid). Instead, he used Arnott’s (1992) definition, which is in line with his own thesis.

Next, a review of the history of competitive positioning will be given. The purpose is to:

- a) Review the different stages/eras it went through and therefore highlight the confusion in the literature
- b) Identify the different definitions/ perspectives involved.

This will provide definitions of competitive positioning and position for use in the present study and thus enable a clear differentiation between the two.

Table 2-1 presents different definitions of competitive positioning/position that have been found in the literature. This table gives the author name, year, definition used by the

author and the main dimension or pillar that this definition is built on. A pillar could be identified as a *“Strong and important supporter”* (Hornby 1987: 633). Finally, the perspective, either managerial, consumer or competitor is given. A perspective is *“the way of regarding the subject matter or facts. It is the broad view, context or angle of the subject matter”* (Blankson, 1999; B2-21).

1960's: As can be seen from Table 2-1, the discussion on positioning could be traced back to as early as the late 1960's, when Alpert and Gatty (1969) discussed positioning from a consumer point of view. They acknowledged the importance of having a different brand, which could be achieved by controlling the process of production by not having a tight technology. In other words, they argued that having unique advanced technology as part of the manufacturing process is essential for product positioning.

Therefore, the foremost pillar that was mentioned by Alpert and Gatty (Ibid) was **“differentiation”**, which was used to indicate that the firms want to differentiate their offerings from other competitors by having differential advantage. Thus, the firm wants consumers to have a distinctive perception of their offerings and therefore appeal to their needs. Differential advantage could be defined as

“... a property of any product that is able to claim a uniqueness over other products in its category. To be a differential advantage, the uniqueness must be communicable to customers and have value for them....” (Bennett 1996: 82)

1970's. In the 1970's many works emerged regarding competitive positioning and position. Therefore, this era could be named as **“the discovering era”**, the dominant perspective in which was managerial (Cravens, 1975; Brown and Sims, 1976; Smith and Lusch 1976); however, a few authors took the consumer perspectives (Trout and Ries, 1972), while others combined both. For example, Trout and Ries, (Ibid), argued that positioning is something you do with the consumer's mind; in other words, they believed that by advertising, you could position the product in the consumer's mind with no actual change in the product itself. Perhaps this belief was due to the fact that their background was in advertising consultancy. This perspective was supported by Holmes in 1973.

Table 2-1

Definitions of Competitive Positioning and Competitive Position

<i>Author(s)</i>	<i>Year</i>	<i>Definition</i>	<i>Pillars</i>	<i>Perspective Managerial/Consumers/ Competition</i>
Romaniuk	2001: 112	A brand's position is how it is perceived in the minds of consumers, relative to competitors' brands	Consumer perceptions	Consumers and competition
Darling	2001	"..Positioning is what is done in the minds of prospective consumers through the various components of the market offering..."	Advertising Components of the market offering	Consumers
Zineldin	2001	"...Positioning is a process of establishing and maintaining a distinctive place and image in the market for an organisation and/or its individual product offerings so that the target market/ prospective understands and appreciates what the organisation stands for in relation to its competitors.."	Distinctive market place/ segmentation Differentiation	Consumers
Ma	2000	".. [a] status defining position that leads to better company performance.."	Status	Managerial

Hooley	1999	“... Positioning refers to the place in the market that a company, product or service occupies relative to others in that same market place. It is defined in terms of the target customer groups the offerings are aimed at and the differential advantage of unique created and offered to the target..”	Place Segmentation Competition Differential advantage	Consumers/ Competition
Doyle	1998	“....Positioning strategy is the choice of target market segments, which determines where the business competes, and the choice of differential advantage, which dictates how it competes ...”	Target market/ segmentation Differential Advantage	Managerial Competition
Kotler	1997	“..Positioning is the act of designing the company’s offering and image so that they occupy a meaningful and distinct competitive position in the a target customers’ minds..”	Designing company offering Image	Managerial Competition
Porter	1996	“.. Strategic positioning means performing different activities from rivals or performing similar activities in different ways...”	Different activities Similar activities in different ways	Managerial
Batra et al	1996	“...Involves a decision to stress only certain aspects of own brand, and not others...a brand’s position is the set of	Brand characteristics	Consumers

associations the consumer has with the brands...”

Zineldin	1996	“...Positioning is an attempt to distinguish the bank from its competitors along real dimensions in order to be the most preferred bank for a certain market segment or prospect...It is an attempt to have a clear or unique position .in the market place also positioning is a marketing tool that goes beyond image making..”	Differential Place in the market (Distinctive) Marketing tool	Managerial Consumer competition
Rigger	1995	“..Positioning...as seen in theory is a static phenomenon divided into two phases: First, the development of the positioning statement and Second, the implementation of the company preferred position theory various marketing mix tool in practice seems to be a dynamic phenomena, integrated in the organisation decision making	Differential Segmentation Internal analysis System analysis	Managerial Competition
O’shaughnessy	1995	“...the positioning of a product refers to the process by which the firm decides how it should best depict the product in the market/market segment vis-à-vis competition ...”	Process Segmentation	Managerial
Fred	1994	“... It requires a clear description of how the management of an organisation wishes to be perceived by its most critical audiences...a declaration of what makes it different from and better than the competitors.....”	Differentiation	Managerial/ competition

			“...Positioning means taking what you already own and building on it.”			
Muhlbacher et al	1994		“..Positioning is one of the central ideas of the marketing strategy form the definition of a corporate mission through the strategic profiling of a product line and even to the strategy of a single product..”	Differentiation Segmentation Competitors Internal corporate skills Marketing mix	Consumers	
			“..Positioning can be seen as the underlying concept for the attempt to form an offer for exchange that is more attractive to selected customer than a competitive bid..”			
♣♣Arnot	1992		“..[t]he deliberate proactive, interactive process of defining, measuring, modifying and monitoring consumer perception of a marketable object..”	Process	Managerial	
Auguestine et al	1992		“...Positioning is an integral theoretical concept and applied process with the marketing communication.”	Marketing communication	Managerial	
Lovelock et al	1991		“..Positioning is the process of establishing and maintaining a distinctive place in the market for an organisation and/or its individual product offerings..”	Market Place	Managerial	
Mathur	1991		“.. Market positions are solely determined by outputs;	Differential	Consumer	

			customers' buying decision rest entirely on them and it is for favourable buying decision that sellers compete. Competitive strategy is exclusively about the positioning of the output or offering of the business relative to those of competitors, in the eyes of customers, for that positioning is the key consideration in customer choice..."		Competition
Clement and Grotemeyer	1990	".. one of the basic requirements for a marketing oriented company is awareness of the perception of their product and of competitive products in the mind of the target group.."	Consumer perception	Consumer	
Dovel	1990	"... Positioning should be more than a part of your marketing strategy, it should be the backbone of your product design and development and a key thought in your business plan..."	Backbone of strategy	Managerial	
Lamb and Cravens	1990	"..Positioning is the customer driven process of establishing and maintaining a unique place in the market. Positioning determines how an organisation or its services are perceived by present and potential customers.."	Place in the market Consumer perception	Consumers	
Aaker	1989	"...the position decision often means selecting those associations which are to be removed or de-emphasized ..it implies a frame of reference, the reference point usually being the competitors.."	Offering's aspects/characteristics Competition	Management	

Mathur	1988	“ ..the competitive position of outputs (offerings) is where competitive strategy starts...”	Competitive strategy	Managerial
Friedmann and Lessig	1987	“involves the development of marketing programs for those segments targeted for entry ...the key factor in product positioning is the position or image of the firm’s product in the consumer’s mind...”	Segmentation Image	Managerial
Crawford	1985	“ ..product positioning is a marketing tool that is used to address the question, how is one product different from others? How it is positioned relative to the products we know? Positioning is a key issue in the development of a new product as well as ongoing management of existing products..”	Differentiation	Managerial
Doyle and Saunders	1985	“ ...How it will compete..”	Competitive advantage	Managerial
Aaker and Myers	1982	“ ..a positioning strategy provides focus in the development of an advertising campaign..”	Advertising	Managerial
Engels	1980	“ ..positioning is an “against” strategy. Advertisers position their product for particular job against competition..”	Advertising	Managerial

Brown & Sims	1976	“..positioning occurs when explicit recognition is given to competitors or competitive brands, users of the product, the situation in which the product is used, the problem that it solves, etc., within established market segments....”	Recognition Problem solving Segmentation	Managerial
Smith and Lusch	1976	<p>“ ..positions are effective basis of competition and positioning campaigns are often undertaken to expose each brand’s favourable subjective features..”</p> <p>“ ..thus for some time, the term product position has been used to refer to the objective characteristics of a product vis-à-vis all competing brands...”</p> <p>“ ..product position refers to a brand’s objective attributes in relation to other brands..”</p> <p>“ ...position refers to a product’s subjective attributes in relation to competing products....”</p>	Brands features Attributes	Managerial Competition
Cravens	1975	“ ..positioning is the selection of a marketing strategy from a range of alternatives the marketing strategy being a component part of corporate strategy...”	Corporate strategy	Managerial
Holmes	1973	“ ..a definition of a product’s position would be a perceived image consumers have of one product in relation to their perceived images of 1) similar products marketed by competing firms, and 2) kindred brands which might be	Image	Consumers Competition

offered by the innovating firm..”

Trout and Ries	1972	“ ...Positioning is something you do with the mind...that is, you position the product in the mind of the prospect...” “ ..positioning is a concept that is cumulative....something that takes advantage of advertising’s long range nature... in positioning you must have vision; there is no sense building a position based on a technology that is too narrow or a product that is becoming obsolete..” “..Positioning is a game where the competitor’s image is just as important as your own - sometimes more important..”	Advertising	Consumers
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Alpert and Gatty	1969	“ ...The differentiation of brands by studying the ways in which their consumers differ as well as how consumer perceptions of various brands differ is termed product position..”	Segmentation Consumer Perception	Consumers Competition
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In the same era, in 1976 (Smith and Lusch 1976) took the managerial perspective, along with Brown and Sim (1976).

From the above, as well as Table 2-1, it could be said that the main pillars in the 1970s included marketing strategy, segmentation, consumer perception and advertising.

In more detail, in this era few authors emphasised the perception of the consumer and the firm's ability to manipulate such perceptions. On the other hand, other authors emphasised positioning as part of the corporate strategy. It is noted here that almost all definitions included reference to the competitors or/and the competitors' products/services.

However, confusion could be seen in the definitions of "position" and "positioning". For example, Holmes (1973) mentioned the term "product position" when he was discussing it from consumer perspective. At the same time, Trout and Ries (1972) used "positioning" when they were referring to consumer perception. In addition, Brown and Sims (1976), who supported the managerial perspective, used "Positioning".

1980's. In the following era (1980s), the managerial perspective could still be found; however the consumer perspective started to flourish more. Therefore, this era could be named "The flourishing era" where there were many supporters for both perspectives. The main founders of the consumer perspective are Trout and Ries (1972), whose idea regarding advertising and the effect of the promotion in the consumers' minds in general could be found and supported in Engels, (1980) and Aaker and (Myers, 1982).

However, the managerial perspective in defining the position still predominated (Friedmann and Lessig, 1987, Crawford 1985; Doyle and Saunders 1985), comprising competitive strategy, marketing tools, image and segmentation as pillars for identifying competitive positioning.

Again, in this era, the confusion between the two terms could be realised as follows: Aaker (1989) used "position" while he was referring to consumer perception. At the

same time, Mathur (1988), used “position” when the definition was referring to the managerial perspective.

In 1990s and the millennium, the complexity of the term was highlighted. Therefore, this era could be named “The complex era”.

In this era, two perspectives could be found: consumers (including competition) and managerial. In terms of pillars, many authors identified the use of “processes” (Zindeldin and Bredenlow 2001), “different activities” (Porter 1996), “dynamic phenomena” (Rigger 1995), “integral theoretical concept and applied process” (Augustine et al. 1992). Furthermore, by the end of 1990s and the beginning of the millennium, competitive positioning started to be discovered in relation to different variables such as the life cycle of a product (Blankson 1999) and the RBV perspective (Hooley et al. 1998a; Hooley and Greenley 2002c; Hooley et al. 1998b). To add to this complexity, there was confusion between the terms “position” and “positioning” as was argued by (Rigger 1995).

In this era Dovel (1990), O’Shaughnessy (1995), Muhlbach et al (1994), Augustine et al (1992) and Doyle (1998) used “positioning” from a managerial perspective, while Darling (2001) and Zineldin (2001) used “positioning” while describing consumer perception. At the same time, Batra et al (1996) used “position” while discussing consumer perception.

In general, Webster’s dictionary (1981) (cited in Blankson, 1999), defined position as *“the point or area in space actually occupied by a physical object, relative place, situation, or standing as in a situation or condition that conveys some advantage”*, (Ibid: 858) while positioning was defined as *“placing or arranging in position”* (Ibid: 890). This goes in line with Rigger (1995) and Wind (1990)’s definition, in which they identified “position” as the place or the rank that a product possesses in the market, whereas “positioning” is a process that a firm follows to achieve such a position (Doyle 1998). Indeed, firms go through many processes and activities in order to achieve the planned position in the market (Jobber 1998).

Consequently, positioning could be identified as the complicated process that includes mainly, among other activities, segmentation and differential advantage. This definition goes in line with Doyle (1998) Hooley (1999) and Hooley et al. (1998a). These activities help in creating the position in the market among competitors, and as perceived by consumers. Figure 2-1 depicts these two definitions. In other words, competitive positioning is to do with the process inside the firms, and therefore refers to the product's place in the market from the firm's perspective, while competitive position refers to the situation outside the firm and from a consumer perspective, and is where the effect of the advertising can be found. These definitions are in line with many of the definitions discussed earlier, for example: Doyle (1998); Hooley et al. (1998a); Jobber (1998); Zindeldin (1996); Zindeldin and Bredenlow (2001).

It is worth noting here that these two perceptions could agree with each other, or even overlap; in that case, there is hardly any chasm between these two perceptions, which could explain why many of the authors used both terms synonymously. However, in this study, we will retain this difference and the separate definitions.

Because the present study is concerned with “how” a product position is achieved, and will examine the process from inside the firm and therefore focus on managerial perspective, the term “positioning” will be used. Therefore, the focus of this study is on “positioning.”

Furthermore, literature indicates that there is a strong relationship between competitive positioning and competitive advantage (Colgate 1998). Competitive advantage could be identified as “[t]he unique position an organisation develops vis-à-vis its competitors” (Hofer and Schendel 1978: 25). Moreover, sustainability “ [I]s achieved when advantage resists erosion by competitive behaviour (Porter 1985: 11). Therefore, competitive positioning and competitive advantage are interrelated, which enhances the importance of the competitive positioning.

2.1.1.2

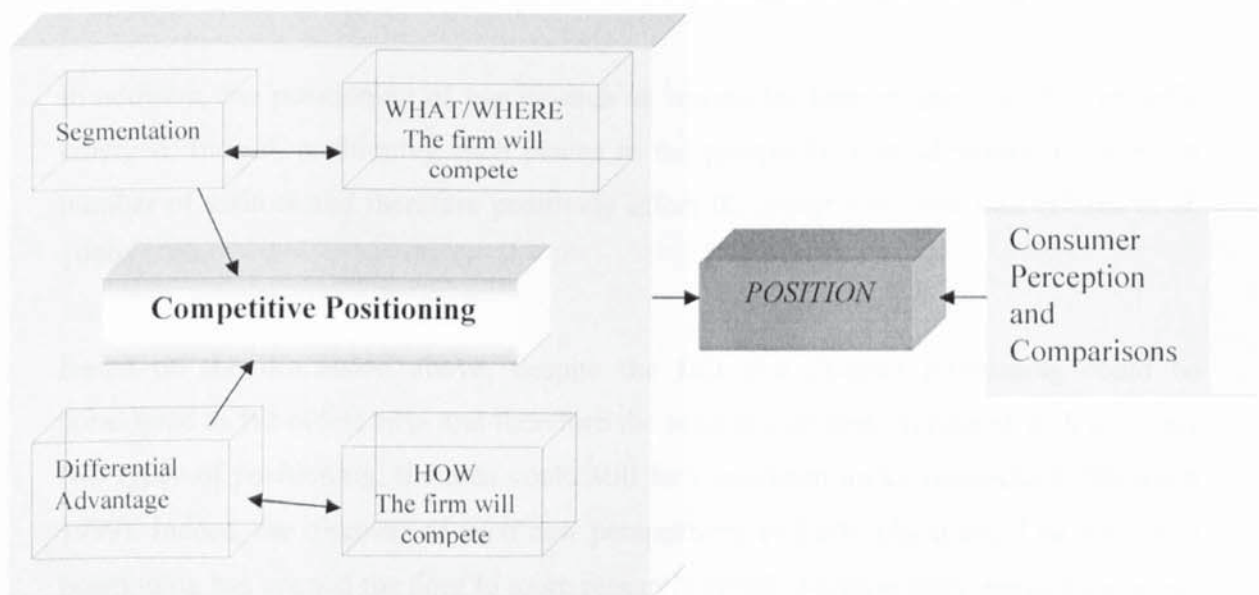
Consumers/Customers

Using the same table (Table 2-1) it can be seen that there is confusion in using the term “consumers”.

Consumers could be defined as “*Traditionally, the ultimate user or consumer of goods, ideas and services. However the term is also used to imply the buyer or decision maker as well as the ultimate consumer*” (Bennett, 1996). “Customer” could be defined as “*The actual or prospective purchaser of products or services*” (Ibid: 73). Due to the fact that the customer and the consumer could be the same in many cases, these two terms will be used synonymously.

Figure 2-1

Competitive positioning and position



2.1.1.3

Types of Competitive Positioning

Hooley (1999) discussed the two main types of competitive positioning; product/brand and company.

2.1.1.3.1 Company's competitive positioning

A company's competitive positioning is to do with how the firm will build its competitive advantage in the market place. Such positioning is based on many grounds, including the totality of offer, image and firm characteristics (Ibid).

2.1.1.3.2 Product or brand competitive positioning

On the other hand, product or brand positioning is concerned more with a particular offering, as well as how "*that is received by customers and potential customer relative to other competing brands*" (Ibid: 309).

2.1.1.3.3 Places competitive positioning

In addition, the positioning of places such as resorts for tourism purposes has recently emerged. Indeed, positioning such places in the prospector's mind would increase the number of visitors and therefore positively affect the resort's performance (Botha et al, 1999).

Based on the discussion above, despite the fact that product positioning could be considered as the oldest term and therefore the most researched, compared with the other two types of positioning, the area could still be considered under-researched (Blankson 1999). Indeed, the discover of such new perspectives as RBV which could be related to positioning has opened the door to more research, simply because there are just too many products, too many companies and too much noise (Ries and Trout 2001) where firms try to get the most appropriate posture and therefore outperform competitors.

Depending on the above, the present study will focus on the product competitive positioning.

In the next section, a discussion of the different typologies that have been found in the literature will take place.

2.1.2 Competitive Position/Positioning Typologies

Competitive positioning has been central to marketing strategy for decades. Many authors have attempted to uncover different typologies of competitive positioning. The importance of identifying the positioning of a product/brand or company in the market is not only because the market has become increasingly competitive and therefore the firm competes for every consumer's attention, but is also due to the effect of such identification on the firm performance (Darling 2001). Table 2-2 presents the different typologies that have been found in the literature. In this table is given author name, year, study perspective (managerial, consumer or competitors), study approach (a priori/ ad hoc), positioning type (product/brand or company), country (where the study took place) and finally the typology.

The study's approach could be divided mainly into a priori or ad hoc studies (Hooley and Saunders 1993), as can be seen in Table 2-2. A priori studies are created based on a theoretical, conceptual model and then tested empirically, e.g. (Porter 1980,1996; Aaker 1989; Crawford 1985), whereas ad hoc studies search empirical data for a pattern e.g.(Douglas and Rhee 1989).

As can be seen from Table 2-2, there have been many a priori as well as ad hoc studies. However, there are considerably fewer product studies than company studies. Furthermore, there is overlap between the different competitive positioning strategies identified. Table 2-3 depicts only product CP that has been found in the literature.

Other CP strategies were specialised within the context they were examined in, such as Arnott (1992), who examined the CP strategies in financial services firms where he identified CP such as empathy, solvency and attentiveness. Kalafatis et al.'s (2000) study

was in a business market, and discussed factors such as being easy to do business with, personal contact, and presence.

On the other hand, other CP overlapped along many studies. For example, Crawford (1985) identified three main aspects of competitive positioning strategies using the advertisements that firms put in magazines and newspapers; the first one is a “Surrogate” positioning, which includes many alternatives a firm would follow. These competitive positioning strategies were then simplified by subsequent studies, where, for example, Aaker (1989) identified positioning with respect to **usage** (the product is positioned where it is typically used). In this strategy, the firm tries to associate the product either with a certain time of usage, i.e. the soup at lunchtime, or certain situations that consumer might face, i.e. a certain telephone company specialised in long distances calls (Aaker 1989). The second competitive strategy would be **user** (typical user of a product, such as Marlboro, which appeals to rugged individuals) (Czinkota et al 2000) or **class** (the product positioned is placed against another type of product or product class) such as Maxim Freeze against dried coffee) (Ibid). This is in line with competitive positioning strategies introduced earlier by Brown and Sims (1976).

Table 2-2

Competitive Position and Competitive Positioning Typologies



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♣ Cited in Blankson (1999)
n/a: Not Available

Table 2-3

Product competitive positioning





Illustration removed for copyright restrictions

♣ Cited in Blankson (1999)
n/a: Not Available

In addition, Crawford (1985) identified “Benefits”, and “Features”, as the second and third competitive positioning, and admitted that there is some confusion between these two strategies. The following studies: Wind (1982), Hooley et al (1998a) and Aaker (1989) did not distinguish between these two; instead they were dealt with simultaneously. Such positioning rests on both the features as well as the benefits that the consumer will gain from using such a product. For example, Toyota emphasizes economy and reliable care (Aaker 1989). In other words, the features of the products are presented by talking to the consumers’ minds and therefore the benefits would occur/be seen/felt by the consumers.

(Adcock 2000) went further by emphasising the important benefits that could be derived from attributes that are experienced by consumers, therefore demonstrating that such attributes are important elements in shaping consumer perception. However, consumers tend to describe the benefits of the product rather than its attributes (Ibid).

However, more recently, Mahajan and Wind (2002) emphasized that there is more to position than just features and benefits; the appeal to consumer emotion is also important. There has long been an appeal to the consumer mind, and now advertisers think it is time to turn to emotional appeal (Ibid). Perhaps this is due to the fact that there are so many products in the market that consumers might be confused (Darling 2001). Indeed, (Buchholz, 2001) argued that the solidarity principle now is to position your brand as an ally to the consumers, on one important emotional issue that other competitors either ignore, do not understand or deny.

Furthermore, from Table 2-3, it could be seen that there are some product CP strategies that are crucial, and competitive positioning studies have focused extensively on them recently. These strategies are presented in Table 2-4.

Next, we will focus on each of these competitive positioning strategies.

Table 2-4

The most discussed product competitive positioning strategies

Author	Year	Price	Quality	Innovation	Remarks
Blankson	2001, 1999	√	√		
Shipley and Jobber	2001	√			Producing the “pricing wheel” concept that is a multistage process for effective price management
Kalafatis	1997, 2000	√	√		Product position but in industrial sector
Romaniuk	2001	√	√		Competitive positioning The study was in financial sector.
Anderson and Vincze	2000	√	√	√	
♣Czinkota	2000				Theoretical
♣Adcock	2000				Theoretical
Hooley et al	1998a	√	√	√	General and theoretical paper
♣Batra	1996	√	√		Theoretical
Aaker	1989	√			General and theoretical paper
Easingwood and Mahajan	1989			√	Applied study in service sector
Berry	1982		√		

♣ A book

2.1.2.1 Price and Quality competitive positioning strategy

The customers of today expect a higher level of product/service quality than ever before because they have more choices and possess better knowledge about the product/service offering (Lai 2003). Therefore, businesses are facing a challenge to remain competitive not only by determining what their customers want but also providing what they want at the appropriate time and for an appropriate price. Basically, Scitovsky (1945) was the first to suggest that buyers use price as an index for both sacrifice and product quality (Chapman and Wahlers 1999).

In that sense, price/quality competitive positioning strategy is the most discussed strategy. In many studies, price competitive positioning was associated with quality (Aaker 1989; Hooley et al. 1998a). Product quality was at the heart of the discussion when Garvin (1988) discussed the eight attributes of quality: 1) performance 2) features 3) conformance (represents the extent to which a product's design and operating characteristics meet the established standards) 4) reliability (indicates the probability that a product will operate properly over a specified period of time under stated conditions of use) 5) durability (the amount of use the consumer gets from a product before it physically deteriorates or until a replacement is preferable) 6) serviceability (for example the speed) 7) aesthetics (how a product appeals to the five senses) and finally, 8) customer perceived quality, indicating the customer's perception of a product's quality based on the reputation of the firm (Wang et al 2003). Indeed, some brands would offer more in terms of features and/or performance and charge a high price as a sign of these special features and high quality (Aaker, Ibid; Alpert et al, 1993).

In essence, two types of quality in particular were found to be the most discussed in the literature; technical quality and functional quality. The former is concerned with the quality of what is delivered and the effectiveness of the product (Mittal and Lassar 1998), whereas the latter is about the quality of how it is delivered, for example the care and manners of the delivering personnel in a service context (Ibid).

The focus of the present study is on the former type of quality: technical quality.

Furthermore, when it comes to price, there are two extremes for such positioning: high price and low price. On one hand, some firms deliberately charge a high price to create exclusivity for their offerings as well as hinting at the special feature of the product, as mentioned above (Hooley et al, Ibid).

On the other hand, other firms charge a low price. Such products would not offer any special features, or extra performance (Hooley et al, Ibid).

In fact, one of the reasons that would force firms to follow such low competitive positioning is a price war in the market, as it could be looked at as a unique phenomenon of market competition (Heil and Helsen 2001). Price war could be identified as follows: "*a price war*

occurs if one company lowers its price and competitors match the price” (Urban and Star 1991: 198). Heil and Helsen (Ibid) summarised the different definitions of price war in the literature by stating: “ [I]t requires one or more of the following conditions: 1) the actions and reactions focus almost exclusively on the competitor instead of consumers, 2) the pricing interaction as a whole is undesirable to the competitors, 3) the competitors neither intended nor expected to ignite the price war through their preceding competitive behaviour, 4) the competitive interaction violates industry norms, 5) the pricing interaction occurs at a much faster rate than previous such interactions, 6) the direction of the pricing is “downward” and finally 7) mainly: the pricing interplay is not sustainable” (Ibid 89-90). In summary, competition among firms could be through such competitive positioning, which would be an aggressive one.

Furthermore, there is an idea that low price is associated with low quality while high price means high quality (Czinkota, 2000; Batra et al. 1996). This was evident in Aaker’s (1989) typology and in the typology presented in the business market by Kalafatis et al. (2000), who moreover separated price from quality in searching for the required resource to be used to achieve each of the planned CP. Consequently, in the present study, price and quality competitive positioning strategies will be examined together as well as separately.

The third and final competitive positioning is innovation CP.

2.1.2.2

Innovation competitive positioning strategy

Easingwood, (1989) identified “Innovation” as a type of CP that a financial firm could pursue. In more detail, a service firm could be presented as a leader in new product introduction or as having a capability to respond rapidly and appropriately to new risks. Furthermore, Mittal and Lassar (1998) identified five types of innovation; R& D product development, new usage of established products, changes in markets exploited, operational and logistical innovation ,and finally business model innovation.

More recently, Han et al (1998) took the innovation concept further than the traditional marketing concept, which looks to the innovation as new product–related breakthroughs, and

utilised the organizational innovation literature which identified two types of innovation; technical and administrative. Technical innovation refers to the basic work activities, whereas administrative innovation involves “*organizational structure and administrative process*” (Ibid: 32). However, the present study concentrates on the marketing definition of innovation where the emphasis is on the importance of launching new products in the market.

Even more recently, Pratali (2003) argued strongly that a product is the physical manifestation of the application of a particular technology; therefore, he emphasised especially that attention should be paid to the importance of innovation, as it should be a linkage between customer needs and the needs satisfied by a company’s product, whether new or modified, which should be sustainable (Ibid) and therefore superior firm performance could be achieved. Indeed, Hooley et al. (1998a,b) argued that innovative positioning may be built on the basis of innovation or speed to market. Such a CP does not only need to present new products to the markets fast to be the pioneer, and to launch “wanted” products, but also needs to cross the chasm between the firm and early adaptors of these new products (Tzokas et al, 1997) which would facilitate the achievement of superior firm performance.

From the previous discussion, it could be realised that although CP has been at the heart of the marketing studies, many aspect are still to be uncovered. In fact, the article by Hooley et al (1998a) highlighted the lack of studies regarding CP, and called for more investigation regarding this area.

2.1.3 Conclusions and Limitations

Despite the fact that classifications and typologies are the beginning of science, the development of an empirical basis is critical in order to provide a reliable method for understanding and predicting strategic behaviour (Pecotich et al 2003). Indeed, as discussed in this section, most of the literature that has been reviewed discusses “*what*” CP is now, rather than “*how*” it was achieved. Further, these studies have mainly concentrated on a priori works rather than empirical ones. More recently, however, they have started to empirically test those positioning strategies, but these attempts are still considered few.

Furthermore, in previous studies, hardly any combination of methods was found. It has been found that most of the studies collected data either from inside firms, such as from managers, or outside the firms (from consumers). However, very few studies have been found to combine more than one source of information.

Furthermore, the CP strategies discussed in the previous section have hardly been empirically discussed or examined. Therefore, this study tries to get closer to some of these empirically neglected strategies.

However, central to understanding a firm's competitive positioning is the understanding of a firm's resource base (Fahy and Smithee 1999). Therefore, in the next section the Resource Based View of the firm perspective will be discussed.

2.2 Resource Based View of the Firm (RBV)

2.2.1 Resources construct

The RBV was developed by many studies (Barney 1991; Barney 1995; Barney 1996; Grant 1991; Peteraf 1993; Reed and DeFillipi 1990; Wernerfelt 1989; Wernerfelt 1995). It is notable that these studies are from the strategic management literature. Indeed, Fahy and Smithee (1999) argued that strategic management provides a context for the marketing process. This is evident in many frameworks and conceptual tools, such as industry analysis technique, which was created by Porter (1980) and then used heavily in the marketing literature (Fahy and Smithee, Ibid). Furthermore, RBV is one of the recent concepts that have been imported to marketing. These two literatures, marketing and RBV, have been evolving in "parallel directions" (Maklan et al, 2001: 10); however, there is a chance to bring them together. This is evident in the recent literature, as will be discussed in section 2.3.

Basically, RBV is built on earlier work by economists, pioneered by Penrose (1959), who recognised the significance of the heterogeneous resources that a firm possesses. In essence, RBV is about achieving sustainable competitive advantage (SCA), through a firm's resources that yield rent (above average return) (Barney 1991; Hooley et al. 1998a; Mahoney 1995).

Indeed, RBV assumes that the main purpose of using the resources that a firm possesses as well as the outcome of managerial effort is achieving SCA. Therefore, RBV argues that the key to achieving SCA not only lies in the possession of the resources that will be discussed in this section but also in those resources that have the isolating mechanism characteristics (as will be discussed in section 2.2.2) such as value, and being difficult to obtain by competitors (Barney 1991; Barney 1995)

Under the RBV, the resources and the different classifications were at the heart of many studies (Hall 1993; Hall 1992). Indeed, RBV emerged as an illuminating framework for diagnosing the source of sustainable competitive advantage, as it provides a mechanism for understating which of the many resources typically available to the firm are crucial in terms of gaining advantage (Fahy 1997/1998). In addition, recently, much research has realised the importance of firm culture and its effect on the whole firm, and therefore has considered it as one of the main component resources of the firm (Deshpande and Webster, 1993; Hooley et al 2002a).

In examining the literature on RBV, and its link to competitive positioning, it is argued that it is necessary to understand what is meant by “resources”. Therefore, the rest of this section will discuss, firstly, the classifications of resources in general and the different definitions of resources within their classifications. Next, there is a discussion on the different components of resources, including assets, capabilities and finally firm culture. finally, we will finish this RBV section with a discussion on isolating mechanism.

However, the main focus of the present study is not RBV; instead, it is about the different market-based resources classifications and isolating mechanisms that were discussed under the RBV perspective.

2.2.1.1 Definitions & Classifications of resources

Firm's resources: In general, resources can be defined as different factors used to present the firm's product. Wernerfelt (1984) described resources as anything that would be considered

as a strength or a weakness of a firm. Grant (1991) implied that resources are inputs to the production process.

In marketing, Srivastava et al (2001) used the term “market-based”. More recently, Hooley et al (2002a,b) used the term “marketing resources” in terms of marketing assets and capabilities as well as market orientation while referring to the definition that Srivastava et al (1998) used for market based resources. In other words, they used different terms while referring to the same things; the resources that the firm has acquired and which can be deployed to create advantage in the market place. Therefore, in the present study, these two terms will be used synonymously, although “market based resources” will be the main term.

Market-based assets could be looked at as what the firm has accumulated over time. These assets are divided into tangible assets, that have physical existence and could be reflecting in the balance sheet (Fahy 1997/1998), and intangible assets, which do not have such existence in the balance sheet, but assume value when they are interpreted by customers in order to fulfil their needs in terms of “value for money” (Hooley et al 1998a: 4).

Intangible assets may include the processes adopted to ensure quality, on time delivery, the knowledge and ability of workers, reputation of the firm and products, intellectual property rights of patents, trade secrets, contract and licences, data bases, information in the public, personal and organisational networks, and the know-how of employees.

Market-based capabilities, on the other hand, are the skills of individuals/groups and organisational routines and interactions, through which all the firm’s resources are co-ordinated (Fahy 1997/1998; Fahy and Smithee 1999; Grant 1991) that are exercised throughout organizational processes, ensuring the ultimate coordination of functional activities (Vaorhies et al. 1999). The concept of capabilities has been given many labels: core competences: Prahalad and Hamel, 1990), distinctive competence (Hofer and Schendel 1978), culture (Wererfelt, 1989), and intangible capabilities (Hall, 1992). Despite all these labels, it can be said that all of them are pointing in the same direction, which is the intangible ability that assists the firm to organise and manage, and therefore achieve its goals. In other words, it is the glue that binds these assets together (Grant, 1991).

Table 2-5 shows that there are several classifications of resources as a result of both conceptual and applied papers. However, it may be noticed that most of the studies are conceptual; indeed, RBV has often been criticized for its lack of an empirical base (Liebermann and Montgomer, 1998; Helfat, 1997). Also, as discussed earlier, most of the early work was done in the strategic management area, and then marketing studies followed. The latter has focused on all resources, with especial emphasis on the resources that enhance the marketing functions and therefore focus on consumers. The essence of definitions of the main terms is almost the same as strategic management; consequently, there is overlap between many of the classifications.

Market-based resources can be classified, according to these papers, mainly into assets and capabilities. However, recently business culture in specific market orientation was included as one of the most important resource classifications (Hooley et al, 2002a,b). The most detailed classification of market-based assets and capabilities was found in Hooley et al (under review), which will be discussed below.

Table 2-5

Examples of the resources classifications based on RBV

<i>Author</i>	<i>Year</i>	<i>Study Type*</i>	<i>Research Design**</i>	<i>Classifications of Resources discussed in the literature</i>
Weerawardena	2003	Mrkg	E	<u>Marketing capability</u> : customer service, effectiveness of promotional activities, quality of sales people, distribution network, advertising expenditure, firm's marketing research, differentiate product (image, service, quality) and speed of production introduction
Zott	2003	Mg	E	<u>Dynamic capabilities</u> : Timing, Cost and learning.
Camelo-Ordaz et al	2003	Mg	E	<u>Assets</u> : Protected by law (intellectual property rights, patents, copyrights, commercial secrets). Not protected by law (reputation, data bases). <u>Capabilities</u> : Dependent on individual employees (employee knowledge, employee experience, level of employee training, knowledge held by agents directly associated with the company, e.g. employees of suppliers, distributors). Residing in the organization as a whole: (Management abilities and study, adaptability, ability to manage change, ability to innovate, organizational culture, teamwork).
Hooley et al	2002 c	Mrkg	E	<u>Customer based assets</u> : Company or brand reputation, Credibility with customers due to being well established in the market, Superior levels of customer service and support, Relationships with key target customer <u>Internal Assets</u> : Cost advantage in production, Superior marketing information system, Superior cost control system, Copyright and patents <u>Supply Chain Assets</u> : Good relationship with suppliers' extent or nature of the distribution network. The uniqueness of the distribution approach., Relationship with distribution channel intermediate <u>Alliance based Assets</u> : Market access through strategic alliances or partnerships, Shared technology through strategic alliances or partnership, Access to strategic partners' managerial know-how and expertise Access to strategic partners' financial resources. <u>Marketing capabilities</u> : (used Day, 1994) including: Networking capabilities (ability to manage relationships with suppliers, good at pooling expertise with strategic partners, good at sharing mutual trust with strategic partners, good at sharing mutual commitment and goals

Hult and Ketchen	2001	Mg	E	with strategic partners)
Dibb et al	2001	Mrkg	C	Market orientation, entrepreneurship, innovativeness and organisational learning
Hunt	2000 2001	Mrkg	C	Firm name, reputation Brand, Market Knowledge, Customer relationship <u>Financial</u> (e.g. access to cash resources) physical (plant and equipment), legal (trademarks, licenses), human (the skill, and knowledge from consumer, competitive intelligence), organisational (competences, controls, culture), Rational (relationship with suppliers and customers), informational (knowledge about market segments, competitors, and technology)
Capron and Hullan	1999		E	Knowledge, physical assets, human capital and tangible and intangible factors.
Hooley et al	1999	Mrkg	E	<u>Marketing capabilities</u> : Marketing culture, marketing strategy Segmentation, Targeting and positioning. Marketing Operations: Day's framework (1994)
Vorhies et al	1999	Mrkg	E	(in relation to market orientation) <u>Marketing resources</u> : Market research, pricing, product development channels, promotion, market management
Srivastava et al	1998	Mrkg	C	<u>Market based assets</u> (relational, intellectual including: customer relationships, channel relationships, partner relationships, market based assets), Market based processes (collection of interrelated work), Market based capabilities (customer relationship processes)
Morgan et al	1998	Mrkg	E	(Organizational learning capabilities): <u>Managerial skills</u> : providing managers with the opportunity to improve their general decision making skills, training mid-level managers to become good general managers, developing a sufficient pool of competent managers, training manager to think beyond short-run, day to day operating activities, assigning management talent among the firm's departments and special products, ensuring managers understand how their decisions fit into the firm's long term strategies and objectives. <u>Strategic development processes</u> : identifying the best strategic options available to the firm, adjusting the firm's strategic posture when threatening events occur in the industry, systematically allocating the firm's discretionary strategic resources, taking advantage of strategic business opportunities in a timely and effective manner, determining which environmental trends are most likely to have significant impact on your firm, developing a broad information base to

				<p>identify the firm's strategic opportunities.</p> <p><u>Co-ordination mechanism:</u> developing an effective-departmental communications system, co-ordinating the activities of the operating units of the firm, ensuring that managers view their functions in the firm just as important as other functions, minimizing the extent of inter-departmental conflict in the firm.</p> <p><u>Operational flexibility:</u> adapting to internal organizational changes, readily adjusting to re-organization of the firm, encouraging manager to accept changes in the status quo during strategic planning.</p> <p><u>Strategic awareness:</u> managers in this firm comply with, rather than commit to the firm's goals, in this firm, managers are judged on the basis of their credibility in the organization rather than upon reaching planned objectives.</p> <p><u>Tangible assets:</u> Plant and equipment, cash in hand/bank.</p> <p><u>Intangible assets:</u> Firm's reputation, registered designs, process/product patent</p> <p><u>Capabilities:</u> Design/engineering know-how, quality control systems, expertise of management people, ability to work with suppliers, work with customers and ability to mobilise multi functional teams.</p> <p><u>Basic Country Specific Resources (CSRs):</u> Government incentives, access to labour at low cost.</p> <p><u>Advanced CSRs:</u> Innovative demands of buyers, cost reduction demands of buyers, access to an experienced/skilled workforce.</p>
Fahy	1997 /98	Mrkg	E	
Song et al	1997	Mrkg	E	<p><u>Marketing activities proficiency:</u> determining marketing characteristics and trends. Conducting a detailed study of market potential, customer preferences, purchase process. Appraising competitors and their products both existing and potential. Selecting customers for testing market acceptance. Submitting products to customers for in use testing. Specifying activities and tentative plans of the product commercialisation phase. Executing test marketing programs in line with the plans for commercialisation. Interpreting the findings from in-house and customer trials, test markets, and trade surveys. Completing the final plans for marketing. Launching and introducing the product into marketplace-selling, promoting and distributing.</p> <p><u>Marketing resources synergy:</u> our company's marketing research resources were more than adequate for this project. Our company's sales force resources were more than adequate for</p>

				<p>this project. Our company's distribution resources were more than adequate for this project. Our company's advertising/promotion resources were more than adequate for this project.</p> <p><u>Marketing skills synergy</u>: our company's marketing research skills were more than adequate for this project. Our company's sales force skills were more than adequate for this project. Our company's distribution skills were more than adequate for this project. Our company's advertising/promotion skills were more than adequate for this project.</p> <p><u>Outside-in</u>: market sensing, customer linking, channel bonding, technology monitoring.</p> <p><u>Inside-out</u>: financial management, cost control, technology development, integrated logistics, manufacturing/transformation processes, human resources management, environment health and safety.</p> <p><u>Spanning processes</u>: Customer order fulfilment, pricing, purchasing, customer service delivery, new product/service development, strategy development.</p> <p><u>Capabilities based competition</u>: Human resources system, logistic technique (cross-docking), procurement, suppliers</p> <p><u>Intangible resources</u> Company reputation, product reputation, employee know-how, culture, networks, specialist physical resources, data bases, supplier know-how, distributors know-how, public knowledge, contracts, intellectual property rights, trade secrets</p> <p><u>Intangible assets</u> (Contracts, patents, Trade marks) and <u>intangible capabilities</u> (Culture, know-how)</p> <p><u>Bundle of</u>: Assets, capabilities, organisational process, firm attributes, information and knowledge</p> <p>Bundle of Tangible and intangible resources (Added to Barney's) Reputation, financial and human.</p> <p><u>Asset flows</u> (a firm resources that can be adjusted or obtained immediately) and <u>asset stocks</u> (a firm resources that cannot be adjusted immediately)</p>
Day	1994	Mrkg	C	
Stalk et al	1992	Mg	C	
Hall	1992	Mg	E	
Hall	1992	Mg	E	
Barney	1991	Mg	C	
Collis	1991	Mg	C	
Grant	1991	Mg	C	
Dierickx and Cool	1989	Mg	C	

*Mg: Management Literature, Mrkg: Marketing Literature

** E: Empirical, C: Conceptual

2.2.1.1.1 Market-based assets

Marketing is mainly about customers; how to get closer to them and satisfy their needs, so that they buy your product (Tzokas et al, 1997). Based on this fact, assets refer to the firm attributes that can be acquired, developed, and nurtured for market place and internal/organisational purposes (Barney, 1991; Srivastava et al, 1998, 2001). Consequently, market-based assets, either tangible or intangible, could be looked at as what is accumulated inside the firm to satisfy the customers' needs.

Hooley et al (2002c), instead of using this tangible and intangible classification, divided these assets into customer based, internal, supply chain and network assets and included tangibility beside each of these four components. This classification goes in line with Srivastava (1998, 2001) who named such assets "Rational", and also included relationship marketing. Also, the intangible assets such as reputation could be found in their classification. These assets are concerned with the new paradigm that has hit marketing literature recently, which is "Relationship marketing" (Brodie, 1997). Indeed, one of its aspects is the buyer-seller relationship, which was represented in Hooley's et al model as "customer based assets". This represents the relationship between the firm and the consumers of the goods they produce in terms of, for example, a) company or brand reputation, which represents intangible assets (Fahy, 1997/98; Dibb et al, 2001), b) relationship and credibility with customer. These customer based assets overlap with Fahy (1997/98) and Dibb et al's (2001) classifications. In addition, this emphasis on the importance of building relationships with customers is crucial, as they might be a source of key brand positions as a source of suggestions (Romaniuk, Ibid).

Hooley et al (2002c) included "Internal assets", which goes in line with the second aspect of the relationship paradigm that Brodie et al (1997) termed "inter-organizational relationships". These types of assets have to do mainly with factors inside the firm. This overlaps with the classification that Morgan et al (1999) discussed when examining organizational learning capabilities; however, they named them "capabilities" rather than assets. This form of assets includes copyright and patents, the ability to have cost advantage in production, as well as having a superior cost control system, and also marketing information systems, which

includes control, planning, and research information that would assist in making marketing decisions (Colgate 1998).

Finally, relationship is extended to include channel or supplier and intermediate relationship “supply chain asset” (Hooley et al, under reviewing; Brodie, 1997). Indeed, not only is the development of an effective and efficient channel relationship important (Buzzell and Ortneier, 1995); effective information technology (Norman and Ramizey, 1993) is also crucial to ensure the product reaches the consumers. For example, in the case of pharmaceuticals, who deal with channel intermediaries between firms and the end users of its products, an exceptionally good relationship with a supplier is needed because such intermediaries control crucial variables such as delivery time and shelf space which are crucial for keeping the cost to the minimum (Vaorhies et al. 1999).

The final aspect of a relationship paradigm is networking, building alliances and developing networks between firms. Brodie (1997) and Coviello et al, (1996) in their empirical studies, found that firms tend to build network marketing; however other forms of marketing could be practiced at the same time by these firms.

In other words, it could be said that Hooley et al’s classification was found to be the most comprehensive, as well as the most recent . Indeed, it includes much of what many other authors have discussed, and therefore, it will be used in this study.

2.2.1.1.2 *Market-based capabilities*

Capabilities are “ *the glue that brings the assets together and enables them to be deployed advantageously*” (Day, 1994: 38). Day’s framework (Ibid) is the most cited work of many market-based capabilities studies as it is the most comprehensive framework so far (Hooley et al. 1999; Hooley and Greenley Under-reviewing; Vaorhies et al. 1999).

This work is divided into three parts: Part one discusses Inside-out capabilities, which are “*those capabilities that are deployed from the inside-out and activated by market requirements, competition challenges and external opportunities*” (Day, Ibid: 41).As can be seen in Hooley et al, (under-review) in Table 2-5, these capabilities could include effective human resource management, which would include skills, knowledge, vision of the firm’s

employees, and sales skills (Morgan and Hunt 1999). Indeed, Wal-Mart realized the importance of front line employees in satisfying customer needs; therefore, creating a sense of responsibility not only towards the customers but also towards the whole organization was their main concern, and this encouraged the creation of stock ownership and profit sharing as well as training of staff (Stalk et al 1992). Finally, strong financial management is included in this first part. This strong financial management is the capitalization that the firm has at its disposal (Hunt and Morgan Ibid).

The second part of market-based capabilities is “outside-in capabilities”. These are: *“the capabilities that connect the processes that define the other organizational capabilities to the external environment and enable the business to compete by anticipating market requirement ahead of competitors and creating durable relationship with customer”*(Day, Ibid: 41). They could include using information about a market effectively, which was gathered either formally or informally (Vaorhies et al. 1999).

Finally, the third part is “spanning capabilities”. Spanning capabilities are those that connect and integrate inside-out with outside-in (Day 1994). In short, such capabilities try to take advantage of the opportunities discovered by market researchers and match such opportunities with firm abilities. This matching could take place through, for example, the ability to launch new products that customers want. Indeed, Cooper and Kleinschmidt (1995) found that for a new product to be successful in the market, it is required to be a superior product in terms of, for example, delivering real customer value, good value for money for the customer, performance characteristics and new innovative products that are the first of their kind. In addition, setting the price that captures the three sides of the picture is a challenging task. The three aspects of prices are those that achieve the planned financial goal, are acceptable to consumers and finally that capture the consumer views of competitors’ prices (Vaorhies et al. 1999).

In addition, (Srivastava, 2001) discussed market-based processes, which were defined as a *“collection of interrelated work routines and tasks”* (Ibid: 783). They included supply chain management and product development management. However, this market-based process overlaps strongly with what was discussed above, although they insist that it could be looked at as a *“Black Box by which resources are converted into something of value”* (Ibid: 782). It was included in Hooley et al’s (under-review) market base assets with its intangible assets,

and mainly in capabilities; consequently, the market base process will not be considered on its own in this present study. However, as Day (1994) noted, processes and capabilities are closely entwined, because the market based processes enable the capabilities to be carried out. In other words, capabilities and process are closely connected. Therefore, in the present study, process will be included implicitly with main capabilities.

2.2.1.1.3 Firm Culture

Business culture is the last component of the firm resources, which has been defined as *“the pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with norms for behaviour in the organisation”* (Deshpande et al. 2000: 354). This implies that organisational culture is the unwritten policies on what has been formally decreed in the firm (Webster 1995). Culture is important simply because it affects decision making in the firm as well as organizational learning (Morgan and Hunt 1999).

Furthermore, in their reply to a paper by (Narver and Slater 1998a), Deshpande and Farley (1998b) highlighted that they (Deshpande and Farley 1998a) and more recently (Deshpande et al. 2000: 354) had examined the organisational culture value, while Narver and Slater (Narver and Slater 1990; Narver et al. 1998b) measure organizational cultures from a behavioural perspectives. Indeed, many schools of thought have tried to uncover the different types of firm culture. At the same time, there have been two different concepts between which confusion could arise: marketing cultures and market culture. The first emphasises marketing concepts in terms of focusing on creating customer satisfaction by meeting their needs (Lafferty and Hult 2001). In other words, it is a business philosophy (Gray et al. 1998). On the other hand, market orientation extends the focus to competitors and is inter-functional; in general, it reflects the focus of the “market” as a whole and therefore could be looked at as the implementation of that philosophy (Lafferty and Hult, Ibid; Gray et al, Ibid). The latter is the focus of this study, not only because it is the “implementation” of the philosophy but also, as will be discussed later, because it is more developed.

One of the most discussed terms of firm culture is market orientation. There have been many schools discussing different perspectives related to market orientation as the firm culture. Next a thorough discussion of this term will be conducted.

2.2.1.1.3.1 Market Orientation Definitions and components

Lafferty and Hult (2001) synthesised almost all the different perspectives that discuss market orientation. These five perspectives are summarised in the next section. A discussion of the chosen perspective will then follow. Figure 2-2 depicts a summary of this synthesis.

Decision making perspective: pioneered by Shapiro (1988). Mainly it is about high commitment by management to share information interdepartmentally and therefore practice decision-making between departments. It consists of: 1) understanding customers 2) the ability to make functional and tactical decisions inter-functional, and finally 3) making and executing decisions among departments with high constituents.

The strategic focus perspective: this focuses on business units. Its components are: 1) focus on customers, 2) plan of action for development focusing on customers, and finally 3) this plan of action responsive to the customer needs.

Customer oriented perspective: introduced by Deshpande and Farley (1998a) who focused on customer orientation, believing that it is synonymous with market orientation.

Culturally based behavioural perspective: introduced by Narver and Slater (1990), it consists of: 1) customer orientation, which requires the utmost understanding of customers' needs in order not only to satisfy their needs by producing what they want but also to create superior value for the customers; 2) competitors' orientation, where the firm tries to uncover the competitors' strengths and weakness. Also, it includes analysis of their ability to meet customers' needs; and finally, 3) Inter-functional orientation, which is about co-ordination between different departments inside the firm. The reason behind this co-ordination is that it not only enables the firm to achieve its goals in satisfying the customer by closely working together regarding information gathered about both customers and competitors, but also means that anyone in the firm could create value for the buyer.

Finally, *the market intelligence perspective*: founded by Kohli and Jaworski (1990), it is mainly about market intelligence. This is collecting information not only about customers and competitors but also about government regulations, technology, and environmental forces. It consists of: 1) generation of market intelligence: this includes formal and information methods in collecting information that could be obtained by any department in the firm. 2) Intelligence dissemination. In order for a firm to adapt to market needs, it has to be able to effectively communicate the information generated in the first step among different departments. Finally, 3) this responsiveness applies to all functions in the firm.

Figure 2-2

Synthesising Market Orientation perspectives



Adapted from Lafferty, B. and Hult, G. (2001), "A synthesis of contemporary market orientation perspectives," *European Journal of Marketing*, 35 (1/2), 92-109.

As shown in the figure above, Lafferty and Hult (2001) synthesised these perspectives into four broad components; customer focus, inter-functional focus, importance of information and action plan. Indeed, although it could seem that these perspectives are different, there are many similarities among them. This can be seen in the different definitions that have been used when discussing market orientation as shown in Table 2-6. Mainly, market orientation could be identified as “*culture that influences how employees think and act.*” (Dobin and Luffman 2000: 895). The main importance of market orientation lies in the fact that it could be a source of creating Sustainable Competitive Advantage (SCP) (Pelham 1997).

In essence, the organizational culture could be viewed as the critical element that could be used by the management in the firm to shape the direction of the firm (Appiah-Adu 1998). In other words, it is the steering wheel of the firm. Furthermore, market orientation could be considered as strategic capacity when a firm implements such a culture. Indeed, having the ability to acquire information about customers in the market in general, as well as having inter-functional coordination inside the firm to use such information could be as a strategic capacity, because such ability could help the firm to identify competitive advantages and use the resources and abilities to reach them (Bigné et al. 2000).

As mentioned before, Narver and Slater's (1990) perspective is the most discussed. The second most discussed perspective is Kohli and Jaworski (1990). However, there have been many studies discussing these two perspectives collectively or/and separately. In addition, several studies have tried to find the similarities and differences between these two perspectives, as well as other perspectives. Furthermore, examining market orientation in relation to many other concepts is the focus of many current studies. The next section gives a thorough discussion of these studies in relation to market orientation.

Table 2-6

Examples of Market Orientation definitions

<i>Author (s)</i>	<i>Year</i>	<i>Market Orientation Definition</i>	<i>♣ Study Type</i>
Deshpande, & Webster	1989	"..The pattern of shared values and beliefs that help individuals understand organisational functioning and thus provide them with the norms for behaviour in the organisation	T
Slater & Narver	1990	".. Market orientations is the organisation culture i.e. culture and climate, that most effectively and efficiently creates the necessary behaviours for the creation of superior value for buyers and thus continuous superior performance for the business.."	E
Deshpande, Webster and Frederick	1993	Same as Deshpande, & Webster (1989)	E
Kohli & Jaworski	1993	"..A market orientation refers to the organisation-wide generation of market intelligence, dissemination of the intelligence across departments, and organisation wide responsiveness to it."	E
Slater & Narver	1994	Same as N & S 1990	E
Siguaw and Diamantopoulos	1995	Same as N & S 1990	E
Kohli et al	1996	"the organisation wide generation of market intelligence pertaining to current and future needs of customer, dissemination of intelligence horizontally and vertically within the organization and organization wide action or responsiveness to market intelligence.."	E

Avlonitis and Gounaris	1997	Hooley et al 1990 definition: “.. a set of specific beliefs that form a certain company attitude/culture..” and Kohli and Jaworski definition	E
Deshpande and Farley	1998	Synthesis of the three scales Narver and Slater, Kohli and Jaworski and Deshpande et al	
Han et al	1998	“.. Market orientation scholars designate a market oriented corporate culture as a significant facto in achieving superior corporate performance..”	E
Narver, Slater & Tietje	1998	“.. A market orientation is a business culture in which all employees are committed to the continuous creation of superior value for customers....”	T
Appiah-Adu Ghana	1998	Narver and Slater	E
Lado et al	1998	The extent to which firms used information about their stakeholders to co-ordinate and implement strategic actions	E
Baker and Sinkula	1999	Kohli and Jaworski definition	E
Deshpande, Farley and Webster	2000	Same as Deshpande, & Webster (1989) “..Organizational culture is the pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with norms for believes....” “..Organizational climate is an enduring quality of the internal environment of the firm experienced by its members, including such matters as communication, trust and participative management..” “...Market orientation is the set of beliefs that puts the customer’s interests first...”	E
Slater & Narver	2000a	“...Market orientation is the business culture that produces outstanding performance though its commitment to creating superior value for customer..”	E

Homburg and Pflesser	2000	“...organizational culture consists ofshared basic values, behavioural norms, different types of artefacts and behaviours...”	E
Voss Voss	and 2000	Depends on type of performance measure. And customer orientation exhibits a negative association with ticket sales, total income and net surplus/deficit Strategic position: innovation, differentiation, cost leadership, relative level of resources, relative market share, product line differentiation	E

♣ E: Empirical. T: Theoretical

N&S: Narver & Slater

MO: Market Orientation

2.2.1.1.3.2 Market Orientation scale and studies

Here, it is worth noting that the present study focuses on market orientation and not marketing orientation. The former expression highlights an entire organization-wide application, as will be discussed later in this thesis, whereas the latter phrase tends to describe activities that are specific to the marketing department (Kohli and Jaworski 1990; Narver and Slater 1990; Appiah-Adu and Blankson 1998).

Based on Table 2-6, it could be realised that there have been many studies investigating market orientation (CF. Narver and Slater 1990; Han et al 1998; Greenley 1995a,b; Lai 2003; Langerak 2003; Lafferty and Hult 2001; Mavondo 1999; Mavondo and Farrell 2000). For example, Han et al (1998) argued that market orientation is mainly about generation, dissemination and responsiveness to market intelligence highlighting that each one of these would consist of customer competitors and inter-functional coordination. Indeed, (Cadogan, 1995; Gauzente, 1999; Farrell, 1997) examined the two definitions and discussed this overlap in great detail.

The main similarities that have been identified between these two frameworks (Narver and Slater 1990; and Kohli and Jowarski 1990) are as follows (Morgan et al, 1998):

- a) Central to the manifestation of the concept is the customer, competitors and all forces that might influence customers' needs
- b) Emphasis on the balance between external and internal business in terms of the environmental situations
- c) Once the customer needs are identified, the whole firm should respond to them.

However, there are differences between these two frameworks; for example, Kohli and Jowarski (1990) focused on the activities that underlie the generation, dissemination and response to market intelligence that has been collected. Narver and Slater (1990), however, considered not only behavioural elements but also included a cultural perspective, where activities such as information processing are a product of the market orientation concept (Deshpande et al. 1993; Narver and Slater 1990).

Consequently, using the market orientation scale created by Narver and Slater (Ibid) was more popular as it is “ *conceptual and appealing*” (Siguaw and Diamantopoulous 1995: 80). Indeed, Narver and Slater’s scale is highly operative and has a more competitive and managerial approach, and it can be used to measure both the way a company is oriented to the market and its degree of innovation (Bigné et al. 2000; Greenley 1995a; Greenley 1995b). Moreover, it is believed to be more reliable than Kohli and Jaworski’s (Han et al 1998). Therefore, Narver and Slater (1990) will be used in the present study.

2.2.1.2 Conclusions and limitations

The discussion of this section concentrated on resources in terms of marketing assets, capabilities and MO that could be found and utilised by a firm. In fact, it was evident, as discussed earlier, that there has been a growing interest in such topics since the late sixties. It was found that there was a dearth of research on general assets, capabilities, and particularly in more recent studies, on marketing assets, marketing capabilities and MO.

However, little attention has been focused on the different relationships between these resources and the planned CP. Indeed, for example when a firm would plan to fill a niche in the market, certain resources would be required to implement this planning. Until recently, such relationship between resources and CP received little attention. In fact, in 1998a, Hooley et al provided an alarming picture of the lack of not only the knowledge of the specific needed resources for each CP, but also of the lack of empirical investigation for this matter. As a result, despite the increasing studies in this regard, there are still neglected aspects of this matter, as will be discussed in more detail in section 2.3.

In short, more studies and investigations are needed not only to uncover aspects of this topic so far, but also to take advantage of the increasing awareness of its importance.

In this section, RBV was discussed in terms of three different types of resources. However, RBV also considered the resources that achieve rent. Such resources have isolating characteristics, which will be discussed in the next section.

2.2.2 Isolating Mechanism (IM)

As was mentioned in section 2.2.1, RBV argued that not all resources are equally important, and only resources that hold certain characteristics could be a source of rent (Fahy 1997/1998).

It can be inferred from Table 2-7 that IM was at the heart of many studies, from a management as well as a marketing perspective, as the protection of the resources that a firm possessed became crucial and therefore a pivotal point for research. Also, from Table 2-7, it seems that earlier on, the concepts of these terms were put first, while recent studies started to examine these concepts empirically. However, many terms were used. In other words, there was no single framework to unite such different terms. In addition, there is no coherent framework that gathers together the different characteristics discussed by many authors.

By examining the different terms used in the table, they could be combined into three main terms: Causal Ambiguity, Path Dependency and Barriers to Imitation (Barney, 1991; Grant, 1991; Hall, 1993). All these three terms could be put under one umbrella: Isolating Mechanism (IM). IM is used to describe the barriers that resources may have which make them difficult to imitate (Peteraf, 1993; Norton, 1998; Barney, 1991 1995; Reed and Deffillippi, 1990; Hooley et al 1998; Hunt and Morgan 1995, 1996). In essence, IM are created through the idiosyncratic ways in which a firm manages its distinctive capabilities and learns how to accumulate these skills (Oktemgil et al. 2000). The main point is to make it difficult for competitors to obtain or identify these resources.

Next we present a discussion on the different as well as similar definitions that have been used by authors, and give an explanation of all three terms.

Table 2-7

Studies on Isolating Mechanism

<i>Author</i>	<i>Date</i>	<i>Term (s) used</i>	<i>Research Design*</i>	<i>Country of research</i>
Reed and Defillipi	1990	Causal ambiguity: complexity, tacitness and specificity	C	US
Grant	1991	Durability, Transparency, Transferability, Replicability.	C	US
Barney	1991 1995	Valuable, rareness, imitable, non-substitutable a) Valuable. B) Rare. C) Imperfectly imitable: the ability of a firm to obtain a resource is dependent upon unique historical condition, the link between the resources possessed by a firm and firm's sustained competitive advantage is causally ambiguous. D) Substitutability: obtain similar resource, or very different firm resources could be substitutability (such as charismatic leader)	C	US
Hall	1993	Regulatory, positional capability, Functional and cultural capability	E	UK
Patel and Pavitt	1997	Path dependency	E	UK
Oktemgil et al	2000	Isolating mechanism	E	UK
Hooley and Greenley	2002c	Protecting legally, the products/services are highly valued by customers, switching costs, difficult to copy, path dependency, employees skills	E	UK
King and Zeithaml	2001	Causal ambiguity	E	USA
Cavusgil et al	2003	Tacit knowledge	E	USA

*Research design: C: Conceptual, E: Empirical

2.2.2.1 Causal ambiguity

Causal ambiguity is based mainly on capabilities that are difficult to delineate, as they encompass firm routines and individuals' skills (Simonin, 1999). Causal ambiguity can refer to the difficulty experienced by individuals inside the firm in understanding the relationship between actions and outcomes (Reed and DeFillippi, 1990; Lippman and Rumelt, 1982). Reed and DeFillippi (Ibid) proposed that causal ambiguity consists of three elements; tacitness, complexity and specificity (Lado et al 1992; Collis 1991):

2.2.2.1.1 *Tacitness*

Tacitness is the implicit accumulated knowledge that results from learning by doing and managerial experience, and is refined by practice (Al-Awadh, 1996). Therefore, tacitness results in the difficulty that competitors could find in codifying or identifying a pattern of activities that could be the result of years of practice and learning by doing (Reed, 1990; Fahy, 1997/1998; Fahy and Smithee, 1999). These skills, which dominate many of the firm's activities (such as general administration, production, marketing and finance) could be a source of competitive advantage, and are embedded in tacit knowledge (Al-Awadh, 1996).

Furthermore, this tacitness may arise at three points. 1) The association of an individual with the firm, for whom the knowledge is tacit. 2) The different relationships that enable the firm to function not being well known to most employees in the firm. 3) The firm's top management is uninformed regarding the details of what happens when their decisions are implemented (Al-Awadh, Ibid).

Even more, Inkpen and Dinur (1998) highlighted the importance of both tacit and explicit knowledge. The former is mainly "know how" (Nonaka 1994), which is housed in individuals and collectives yet stems from personal experience or practice, which may exist across organisations and/or in groups of workers. This tacit knowledge is encoded and resides in the firm's system, is important but difficult to interpret or transfer, and is the foundation of building SCA. The latter is concerned with the "know what" which exists, for example, in organizations' policies, procedures and job descriptions, and is just like goods that could be easily coded and transferred (Inkpen and Dinur 1998).

Actually, the terms tacit and explicit do not need to be seen as a dichotomy, but as points on a spectrum (Ibid). In discovering the ability of these knowledge types to be transferred across organizations, it was found that tacit knowledge is the least transferable, as mentioned earlier.

2.2.2.1.2 *Complexity*

This results from using large numbers of interrelated capabilities and skills, including organization wide communication, and routines across many job functions such as team based experiences (Fahy and Smithee 1999). This will be difficult for competitors to understand because of the mixture of ingredients involved. Consequently, even if the competitors hire any of the firm's employees, it will be still difficult to acquire such capabilities, as there is no individual who could grasp the full breadth and depth of the process. Nelson, (1991) and Barney (1991) emphasised that a wide variety of the firm's resources and capabilities are socially complex, such as the firm's relationships with customers (Crawford 1985) and suppliers (Porter 1980). Such social phenomena, which will lead competitors to imitate these resources, would be constrained. In addition, the complexity of cause-effect relationships in the firm's resources will make imitation more difficult (Al-Awadh, 1996). However, it should be noted that complexity itself is not a direct source of advantage; instead it is the way in which the firm combines its skills and resources (Ibid).

Complexity differs from tacit competency in that the latter is not as easily transferable as the former. For example, a complex chemical formula could be understood, while the firm's reputation among suppliers (Porter 1980) is not easily transferred or imitated.

2.2.2.1.3 *Specificity*

The dedication of certain capabilities to specific strategies or activities, such as long term relationships with customers, is mainly about the idiosyncratic relationship between individual firms and the external constituents. This is due to the time dimension as well as path dependency which are difficult to identify and replicate. In other words, it will be

difficult for competitors to identify the specific capabilities that are used to achieve the firm's goals (Nelson, 1991; Dierickx 1989; Collis 1995; Fahy and Smithee 1999). For instance, the firm's reputation, image and relationship with customers and suppliers, as well as their complexity and tacitness, and the difficulties faced during development and maintenance, are specific to the firm. Therefore, such specificity could be considered as the basis for creating and protecting the firm's competitive advantage (Al-Awadh, 1996). Furthermore, Reed and Defillipi (1990) argued that specificity is the transaction-specific skills and assets that are utilised in production processes

2.2.2.2 Path dependency

Competitive positioning is affected by the resources that a firm acquires, as discussed above, and also by the "*current competitive positioning and by the specific opportunities open to that firm, in other words, Path dependency*" (Tidd et al 1997: 105). Path dependency has recently been discussed in terms of resources (as well as technology and innovation) and its effect on the positioning chosen by the firms (Tidd et al 1997, Nelson and Winter 1977). A firm's resources are dependent on the path (strategies, investments) that has led to their creation or acquisition (Collis, 1991; Lei et al 1996). Thus, path dependency might induce causal ambiguity, and therefore be considered as protection for the resources (Lei et al 1997).

Most of the papers discuss the characteristics of protecting the resources theoretically. The exceptions are the studies conducted by (Oktemgil et al. 2000), and Patel and Pavitt (1997). However, the first study concentrated on IM, ignoring causal ambiguity and path dependency. The last study concentrated on path dependency as a constraint and examined its effects on the technological competencies

2.2.2.3 Barriers to imitations

There have been many studies examining different types of barriers to imitation. Basically, 'barriers to imitation' refers to the difficulty that competitors would find when they try to get the same or similar resources or competitive positioning. They include:

2.2.2.3.1 *Immitability*

Although such characteristics are crucial for the RBV concept, this discussion has become confusing because of the inconsistent use of terms; basically, it is about the competitors' ability to identify the distinctive capabilities on which a successful strategy was based (Barney, 1991; Grant, 1991; Fahy 1997/1998; Fahy and Smithee 1999). It mainly refers to the difficulty that competitors face when attempting to duplicate and/or copy the resources that the firm uses (Barney 1991; Hult and Ketech, 2001).

2.2.2.3.2 *Value*

For resources to be valuable, they must not only be efficient and effective, but also able to meet customers' needs (Barney 1991; Barney 1996; Fahy 1997/1998; Fahy and Smithee 1999). Therefore, customers are willing to purchase the products that are the output of resources utilised at prices that will be above their costs (Hult and Ketch, 2001). In essence, valuable resources can explain products' market imperfections that create rent production (Yeoh 1999).

2.2.2.3.3 *Non-transferability and Non-tradability*

The former (non transferability) occurs when resources have high transaction costs associated with their acquisition; while the latter occurs where team-based skills may be difficult to relocate (Grant 1991; Nelson 1991). In other words, competitors would find it difficult to create access to the resources that the firm has access to, and therefore it could be uneconomic for them to copy those resources

2.2.2.3.4 *Customer switching costs*

Finding new customers and doing business with them takes time, effort and money (Mittal and Lassar 1998). In fact, the authors emphasis that recruiting a new customer is five times more difficult than retaining an existing customer. Therefore, it was found that

maintaining the customers and raising the customer switching costs would be an effective method to create barriers against competitors.

On the other hand, Reinartz and Kumar (2003) found that lifelong customers are not necessarily profitable; however, this may be limited to the industry in which they researched (catalogue retail), as almost all the literature concluded that retaining customers is more economical.

2.2.3 Conclusions and Limitations

The discussion in this section concentrated on isolating mechanisms that could be found inside a firm. Simply put, it is not only crucial to the firm to deploy these capabilities, but also to combine them, as well as defending the competitive positioning (Morgan and Hunt 1999). Indeed, the way that firms could combine these resources, not only in order to achieve competitive positioning, but also to protect it is crucial. Furthermore, how the firm utilizes its skills and resources relative to competitors is very important. (Reed and Defillipi 1990). Moreover, this goes in line with Porter (1996), as he mentioned the importance of performing activities differently to competitors or performing different activities from competitors.

In other words, it could be said from the discussion in this section that the last decade has witnessed the emergence of a rich body of research that has furthered our understanding of IM. However, it is only recently that the applied studies have started growing. As a matter of fact, these studies have already raised the importance of IM not only in defending the resources but also the planned CP. Nevertheless, most of the empirical IM studies that have been found have concentrated on defending the resources rather than the CP. Furthermore, most of these applied studies, with the exception of Hooley et al (2002 a,b,c) and Hooley and Greenly (2002c), concentrated on only one or two types of IM, neglecting many others.

Finally, no study has been found that examines all the different methods of isolating mechanisms to the competitive positioning that the firm has achieved. The only exception is Hooley and Greenley (2002c). Consequently, more studies are needed to

uncover this crucial relationship in order for the firms to achieve the ultimate performance. More investigations are needed not only to uncover the correlation between IM and CP, but also to contribute to the dramatic growth of the related studies by including more than one type of IM in the study.

2.3 *Studies on the relationship between the constructs*

In this section, light will be shed on all possible relationships that could take place between the constructs that the present study is interested in. For example, the core interest of this study is CP and its relation to other constructs (marketing assets, capabilities and MO). In addition, many of these concepts - capabilities, assets, market orientation and isolating mechanism - are interrelated.

2.3.1 Studies included one or more of the constructs (resources, isolating mechanisms, firm performance, environmental factors)

2.3.1.1 Resource studies

Recently, many studies have attempted to uncover the relationship between different resources. For example, the aim of Huang et al's (2001), study is to examine resource adequacy in NPD as a business activity in creating and maintaining a firm's competitiveness. They found that, for example, a firm that is part of a manufacturing chain would tend to acquire technical resources, while a firm that is competitive and where product innovation became crucial was found to develop technical skills.

Furthermore, regarding MO, there have been many studies examining the relationship between MO and firm performance. These studies have mixed results (Greenley 1995a,b). In this regard, Hult and Kitchen (2001) argued strongly that MO should be considered among other resources. In other words, "*market orientation could enhance success, albeit within the context of other important phenomena such as unique resources according to RBV*" (ibid: 899).

Consequently, many studies have emerged to examine this complex relationship. For example, Noble et al (2002) aimed at examining the relationship of not only market orientation but also other strategic orientation to firm performance, as well as the mediating effect of the innovation and organizational learning. They found that firms possessing higher levels of competitor orientation, national brand focus, and selling orientation exhibit superior performance.

Moreover, Tse et al (2003) examined the relationship between market orientation and firm performance in a Chinese business environment, and found a significant positive correlation between market orientation and business performance.

Furthermore, Nieto and Perez (2002) asserted that firm assets have a key role in the formulation and establishment of the strategy. Some of them are very important, even essential, while others may turn out to be irrelevant. In that sense, Vorhies et al (1999) searched the capabilities that a firm would need to become market orientated, using the Kohli & Jawaroski scale. Vorhies found that all six market-based capabilities (market research, product development, pricing, distribution, promotion and marketing management) would be needed to support market orientation.

Finally, it can be seen from Table 2-8 that Miles and Snow's typology has started to receive more attention recently. However, despite that fact that there is some link between those strategies and CP that the present study focuses on, these CP have received the least attention so far.

The following section, examines IM studies.

2.3.2 Isolating mechanism studies

Table 2-7, as discussed earlier, showed studies that have been found to examine IM, few of which were applied studies. Furthermore, few of these empirical studies examined IM

in relation to resources. Also, the main aim of almost all of these studies was to uncover the relationship between possessing IM and firm performance.

2.3.2.1 Path dependency studies

For example, path dependency and its effect on firm performance was the objective of Patel and Pavitt's (1997) study, which aimed to investigate whether firm-specific technological competencies would help explain why firms are different. Their study included 400 of the world's largest firms, and demonstrated the importance of complexity and path dependency in the accumulation of firm specific technological competencies.

2.3.2.2 Causal ambiguity studies

Examination of causal ambiguity in relation to, for example, firm performance empirically has only recently taken place. For example, King and Zeithaml (2001) examined the relationship between causal ambiguity and firm performance in two different managerial levels: middle and top. They found that the ambiguity among decision makers about the link between competency in terms of knowledge as intangible resources and firm performance is, surprisingly, negative at both managerial levels. However, when management look to knowledge as a competence, it was found that there is a positive relationship between it and firm performance. Furthermore, more recently Cavusgil et al (2003) found that there is a positive relationship between tacit knowledge transfer and firm innovation capability.

However, from the above, it could be said that several of the studies examined causal ambiguity in terms of tacit knowledge and firm performance (Simonin 1999; King and Zeithaml 2001); however, due to the limited number of these studies, it appears that this area is under-researched. Indeed, the studies that have been found examining IM in general are very few, and therefore many other aspects remain undiscovered.

However, as mentioned above, the core focus of the present study is CP; therefore, the main interest is the relationship between CP and the other constructs that have been discussed earlier. This will be discussed next.

2.4 Studies that included the relationship between competitive positioning and one or more of the other constructs

The focus of the present study is in particular quality, price and innovation CP. In this section, all studies that have been found that include any of these CP will be discussed.

2.4.1 Technical quality competitive positioning

For technical quality, a considerable number of studies have been found that examined this CP. For example, Franceschini and Zappulli (1998) found that designing product quality could be carried out by means of a comparison with competitors' products, taking into account market expectations. Furthermore, Jacobson and Aaker (1987) found that product quality has a positive influence not only on price and ROI, but also on market share.

Additionally, Waller and Ahire (1996) emphasised that there is a strong, positive correlation between manager-perceived product quality and manager-perceived customer view of the firms' product quality. However, most of these studies do not belong to the marketing field. Therefore, many aspects are neglected, and not all resources are included.

The discussion will now proceed to the second CP; price.

2.4.2 Price competitive positioning

Hilleke and Butscher (1997) discussed three actions that firms could pursue when they face extremely aggressive price competition, which is related to the price war scenario

mentioned in 2.1.2.1, above. Those firms could lower their own prices, and/or refuse to react to such attacks, and/or offer the two-product strategy. This last option is preferred by Hilleke and Butscher (Ibid), where a new, lower positioned product is added to the existing higher positioned brand products, which is targeted directly against the low priced competitors. However, searching the literature suggest that firms which face such competitors tend to lower the prices of their products, for example by cutting costs of productions, as announced by GlaxoSmithKline (GSK) (Financial Times, 2003a). In other words, it seems that a superior cost control system is essential not only for low price competitive positioning but also for high price CP, as such an asset could help firms to control costs according to the competition they might face. In this regard, Lawton (1999) emphasised that such competitive positioning, especially low price competitive position, is not sufficient to establish long term competitive advantage; in other words, it is difficult sustain, as competitors can and will cut their costs too.

Furthermore, when Hilleke and Butscher (Ibid) discussed price competitive positioning, they highlighted the importance of distribution channels as a key role. Indeed, firms with high price products would have good relationships as well as established distribution networks. New product firms, which would compete on lower prices, tend to choose new distribution channels, such as warehouse clubs and discounters, to open up new markets. However, Hilleke and Butscher's (1997) discussion is based on examples from real life, which could suggest a lack of empirical work in this regard. In the same vein, Hooley et al (1998a) discussed price CP theoretically, calling for empirical investigation as mentioned earlier.

Again, it could be realized that price CP was at the heart of the marketing studies, and many aspects of price CP were investigated. However, the specific resources that are needed to achieve such CP have received little attention.

Table 2-8

Studies on the relationship between competitive positioning and resources or among resources

Author	Year	Main construct	Related resources examined	Research Design	The relationship Significant (Sig.) Or not (Not Sig.)	Industry	Country of study
Weerawardena	2003	Marketing capability	1) Entrepreneurial intensity and marketing capability 2) Organizational innovation intensity and marketing capability	Survey	Significant	Machinery and equipment manufacturing and the metal product manufacturing	Australia
Mavondo and Farrell	2003	Market orientation (MO)	Human Resource Management (HRM), product innovation, marketing implementation	Survey	Significant	Food	Zimbabwe
Lavie and Fiegenbaumieg	2002	The positioning of foreign multinational companies in Israel	High price, high value, marketing capabilities, R&D, marketing production HRM, better (than local companies) management in terms of their adaptability to competitive pressures and customers' changing needs	Survey	Significant	Various	Israel
Vazquez et al	2001	MO	MO-innovation & competitive strategy	Survey	MO-innovation, MO-NPD, Innovation – NPD: direct and significant . Prospectors and analysers are the most market oriented firms Differentiation firms are more market oriented than low cost firms	Various	Asturias (Spain)
Matsuno and Mentzer	2000	Relationship between market	Strategy type (Miles and Snow strategies) as moderator.	Survey	The strength of relationship between	Various	USA

Conrad	1999	orientation and firm performance (ROI, market share, relative growth, new product sales as percentage of total sales)	Market orientation	Applied	market orientation and performance as measured by profitability (ROI) is greater for defenders than the other two strategies. The strength of the relationship between market orientation and performance as measured by (a) market share, (b) relative sales growth, and (c) new product sales as a percentage of total sales is greater for prospectors than either defenders or analyzers	Various	USA
	1999	Organizational innovativeness			Significant		
Juga	1999	Positional strategy (cost leadership, differentiation, focus)	Resources	Case Study		Various	Various but mainly Norway
		The relationship between Cost leadership and Demand anticipation and self service support			significant		
		The relationship between Differentiation and Demand management (customer creation) and enforcement of psychological relation			significant		
		The relationship between Focus and Demand discovery and embracement and consultancy oriented relationship			significant		
Appiah-Adu and Blankson	1998	Market orientation	Organizational culture (Hierarchical, adhocracy and clan)	Interviews and survey	Market orientation and hierarchical : Positive and significant Market orientation and adhocracy: Positive and nonsignificant	Various	Ghana

Han et al	1998	Organizational innovativeness (technical and administrative)	Market orientation: customer, competitors and interfunctional orientation.	Survey	Market orientation and clan: not significant	Banks	Midwestern state USA
					Technical innovation: Sig. Customer, Interfunctional Not Sig.: competitor, Administrative Innovation Sig.: customer, and competitors Not Sig.: interfunctional		
Song et al	1997	New product development	Marketing activities proficiency. Marketing resources synergy. Marketing skills synergy. (The details of these resources were discussed in section 2.2.1.1 page 69)	Survey	Significant		China
Beard and Easingwood	1992	Competitive advantage	Technical performance, product quality, distribution, rate of technological improvement, pricing, promotion, technical services, financial services	Survey	5 clusters; Cluster 1: <i>Balanced</i> , technical services, financial services, Cluster 2: <i>Pure quality</i> , product quality, Cluster 3: <i>Pure performance</i> , technological performance, Cluster 4: <i>Mass marketing</i> , Large markets, Cluster 5: <i>Value for money</i> , Price is the most important strategy.	Hi-tech	UK

*Not Applicable

2.4.3 Innovation competitive positioning, market orientation, assets and capabilities

In order for a firm to enhance its competitive positioning, it needs to understand and react to the consumers' needs; in other words, increase the firm's ability to respond to its business environment by modifying and developing its resources (Maklan et al 2001). This could be viewed as the main contribution of the RBV to marketing (Ibid). In addition, the firm could change the composition of players in the market, whether by deconstruction (for example, eliminating part of the value chain), or construction (adding an addition player into the industry value chain) and/or by shifting the functions performed by players in a market in order to be able to compete in the market (Jaworski et al, 2000). The ultimate aim is to enhance the competitive positioning of the firm in the market.

Moreover, it has been found, in consumer firms, that there is a positive relationship between market orientation and innovation either in terms of firm's innovation degree, or innovation performance (Lado and Maydeu-Olivares 2001; Martins and Terblanche 2003), and also between firm performance and the innovative culture (Conrad 1999). Furthermore, similar results were obtained in industrial firms (Vázquez et al 2001).

Furthermore, Waller and Ahire (1996) shed light on the fact that the emphasis on quality during the 1980's came about as a result of rapid changes in customer numbers, needs and purchasing attitude. Indeed, they (Ibid) insisted on the importance of taking the dynamic needs of the customers into account in order to compete effectively. In fact, for a firm to be able to meet such dynamics, offering only quality is not enough; instead, being innovative and offering different innovative products that meet customer needs would enhance CP. Actually, building and enhancing a good relationship with consumers would assist the firm to identify such dynamic needs, innovate the needed products and therefore enhance its performance (Ibid). However, in order for a firm to excel in innovation, it should not only identify and meet the customers' needs, but also know how to deal with a third party (Tzokas et al 1997). This third party is the supply chain and the distribution channels. Indeed, satisfying and meeting this third party's needs and maintaining a good

relationship with it would have a positive impact on this competitive positioning and therefore on firm performance (Ibid).

In addition, many studies have emerged recently which explore the relationship between these CP and resources, IM and firm performance (Hooley et al 1998a, and more recently Hooley et al 2002a,b,c). These studies have and will be mentioned in the present study. In general, Hooley et al (2002c) found that those firms that belong to the “innovators” cluster are good at new product development and successful new product launch, copyright and patent. This cluster protects its CA through path dependency and cost of copying, and deters competitors due to the use of scarce resources. On the other hand, the “price leaders” cluster are good at cost control but weak at distribution and new product launch. However, surprisingly no IM was detected for this cluster. However, these studies could be considered as isolated voices, and more studies are needed to dis/confirm these results

2.4.4 Other studies

More recently, there have been many studies which included Porter’s typology (low cost and differentiation) of positioning and/or Miles and Snow’s typology (analyser, prospectors and reactor) as shown in the table above.

For example, Langerak (2003) examined the relationship between MO, positional advantage (differentiation and low cost) and performance. He also examined the effects of environment and strategy type as moderator factors. The main aim of his study was to investigate the effect of MO on the behaviour required to obtain a differentiation and/or low cost advantage. His findings emphasise that for the analyser type, competitor orientation positively affects cost advantage. His findings further reveal that for the prospector type, both customer and competitor orientation have positive influences on low cost advantage.

Interestingly, Langerak's (Ibid) study included the strategies that Miles and Snow discussed in 1978. In fact, there is a recently growing body of research examining those competitive strategies in relation to resources, as shown in Table 2-9.

Actually, Langerak (Ibid) focused on the effect of MO as a distinctive capability on positional advantage; however, he called for more investigation regarding the effect of other resources that have not been included. In other words, many other resources were not included in his study, and therefore its relationships with the CP have not yet been explored.

2.4.5 Competitive positioning and Isolating mechanism

Moreover, examining the isolating mechanism in relation to the achieved competitive positioning was found only in Hooley and Greenley (2002c). Indeed, the achieved competitive positioning is the result of combining more than one resource together; therefore, defending this competitive positioning would make it even more difficult for competitors to imitate or even identify how this competitive positioning was created in the first place. However, even if competitors could identify the different components that assisted in creating the competitive positioning, it could be uneconomical for them and/or would take a long time to achieve (Ibid).

In that sense, they identified the different positioning clusters that firms could follow. One of these was the "innovative" cluster that protected its positioning by both path dependency and inimitable and scarce resources. The "service leader" cluster defended their CP by high switching costs for customers as well as employee retention. However, surprisingly, other clusters such as "price leaders" and "stuck in the middle" were not found to follow any approach to defend their CP.

2.4.6 Competitive Positioning & Firm performance.

The strategic importance of the product positioning decision in achieving success in the market place is well recognized (Punj and Moon, 2002). Performance is the core point of

many of the investigations. Many of the studies are concerned with the effect of following different strategies on the ability to outperform competitors and therefore remain in the market. Performance is a multi-dimensional term; it includes the involvement of different departments in the firm such as finance operation (Vorhies et al 1999). One of the main performance measures is growth, either in sales or/and market share; it is important because it assures long-term viability and resource availability (Kapland and Norton, 1996; Varadarajan, 1983; Vorhies et al 1999). Indeed, achieving high performance is the ultimate goal of almost all firms, and usually the success or failure of a positioning strategy is determined via sales figures (Romaniuk, 2001). Therefore, different performance measurements, including sales and market share growth, were used in competitive positioning studies. For example, Zindeldin (1996) and Zindeldin and Bredenlow (2001) used market share as an indicator of banks' performance in relation to the competitive positioning they achieved, where it was found that market leaders possess high market share. McAlexander et al 1993) found that complex positioning of dental advertisements in the yellow pages achieved higher gross production income and higher net income gross than the positioning of listings ads.

Most recent, Hooley and Greenley (2000c) examined firm performance in terms of overall profit levels, shareholder satisfaction with financial performance, sales volume achieved, customer satisfaction and customer loyalty in relation to the different competitive positioning in several sectors in the UK. "Stuck in the middle" competitive position was found to have the weakest performance relative to competitors; this is similar to the price group that has been found in the same study. On the other side of the spectrum, service leaders had the highest levels of performance. The average place was taken by the innovators. Finally, the traditionalists reported relatively good profit performance and sales volumes, but were lower than the sample average on customer satisfaction and loyalty measures.

From Table 2-9 there is much evidence that different performance measurements are used in studies of the relationship between capabilities and performance in market driven firms; for example, the most commonly-used performance measurements are: Growth (changes in market share, market growth relative to competitors, growth in sale of products), Profitability (Return on Investment, ROI, Return on Sale, ROS), Customer satisfaction and Adaptability (number of successful new products introduction).

Greenley and Foxall (1998) discussed the two views of using subjective and/or objective firm performance measurements. Subjective measurements were preferred, as managers are frank when discussing firm performance. Furthermore, Greenley and Foxall (1998) claim that most objective measurements in firm accounts are generally flawed and not suitable for research purposes (Fisher and McGowan, 1983; Speed, 1993). Greenley and Foxall (1998) used subjective measures and asked the respondents to state, for example, how their firm's market share, new product success rate, ROI and sales growth compared with competitors'. However, the most commonly used firm performance indicators are the subjective ones (as shown in Table 2-9), not only because they are easy to obtain, but also because they can be used to compare performance over several years.

2.4.7 Competitive Positioning & Environment

In general, successful marketing strategy development is mainly a process of finding the optimum "fit" between the firm and the competitive environment in which it operates (Brooksbank 1999). Indeed, in such a feisty, changeable and increasingly competitive business environment (Ibid) managers are faced with great challenges. Therefore, when managers decide on the competitive positioning strategy for their products, their first action is to identify the competitors constituting their industry (DeChernatony and Daniels, 1992). In addition, it is argued that suppliers and customers as well as competitors affect perceptions of the competitive environment (Ibid.).

In his seminal work, Dovel (1990) discussed the different steps to establish competitive positioning in the market, and emphasised the environment: *"recognize how you can amplify your own position by exploiting the established environmental influences."* (ibid: 46). In that sense, he was not only talking about

"...the importance of how the firm is perceived, but also the importance of comparing the position against that of the competitors."

Despite the importance of the surrounding environment and analysing the competitive actions while choosing the competitive positioning to be followed, and despite the call by

Table 2-9

Studies on Performance

Author(s)	Date	JS JO	Performance measurements	Construct tested
Doyle and Saunders	1985	S	Market share	To develop marketing strategy for a firm switcher
Douglas and Rhee	1989	S	ROI, ROS, Cash Flow, Market Share	To distinguish the performance of the different firms following different strategies
Slater and Narver	1994	S	ROA, sales growth, new product success	market orientation and firm performance
Atkinson	1997	S	Return on common shareholders; investment, customer satisfaction and quality of service.	To present a company's strategic planning process
Greenley and Foxall	1998	S	Subjective measurement: Asked manager about their firms market share, ROI.	The association of different forms of stakeholder (customer, employees, competitors) on performance.
Han et al	1998	S & O	Growth and profitability	Organizational innovativeness (technical and administrative)
Vorhies et al	1999	S	Growth in sales and market share, profitability, customer satisfaction and adaptability.	The performance of market driven firms.
Hooley and Greenley	2002c	S	Overall profit level, shareholder satisfaction with financial performance, sales volume achieved, customer satisfaction and customer loyalty	Firm competitive positioning
White et al	2003	S	Market share, current profitability, cash flow, overall performance	Marketing strategy development styles and firm performance implementation capability (as moderator)

JS: Subjective measurements

JO: Objective measurements

Rigger (1995) to consider the external environment when examining the competitive positioning, there do not seem to have been many studies that have heeded these issues. Notable exceptions include Blankson (1999; 2001a, b); and Blankson and Kalafatis (2001), who examined the relationship between CP and the environment.

In addition, performance might be contingent on some industry situations in which firms operate, such as a) commodity versus non-commodity b) competitive versus non-competitive. Therefore, to examine the previous conclusion, Slater and Narver (1994) investigated the moderating role of competitive environment on the market orientation-performance relationship. They (Ibid) found mixed support; technological turbulence with new product success, market turbulence with return on assets and market growth on sales growth.

Along the same lines, Kohli and Jaworski (1990, 1994) first proposed theoretically and then examined empirically the degree of the effect of the market environment in terms of market turbulence, competitive intensity and technological turbulence as moderators of the relationship between market orientation and business performance, and found no such effect. They suggested that this was because market orientation is robust across various market contexts.

Furthermore, Greenley (1995b) examined the relationship between market orientation and performance, as discussed in section 2.2.1.1.3.2. This relationship was moderated by the environment (in terms of: market turbulence, market growth, customer power, competitor concentration, relative size, relative cost, ease of market entry, competitor hostility, technological change). As mixed support for Slater and Narver's (1994) results, Greeley found support for market turbulence with return on investment ROI and technological change with new product success, but not for market growth.

2.5 *Conclusions and Limitations*

This chapter has presented a thorough examination of the literature of CP and RBV as well as integrating the two concepts together. In addition, firm performance and the external business environment were included in the discussion.

In particular, this last section set out not only to review the literature that investigates the different relationships between the constructs of interest in this study, but also to shed light on the gaps in those studies, and therefore highlight the potential contribution of the present study.

As shown in the last section, many of the strategic marketing models today show that the firm's resources should be the starting point for strategic decisions and thus, precede the positioning decisions. (Juga 1999; Day and Wensley 1988; Day 1994).

In addition, many studies have investigated the direct relationship between market orientation and firm performance. However, the insights generated by the current debate suggest that if market orientation does indeed play a role in organizational success, the relationship is probably more complex than previously depicted (Hult and Ketchen, 2001). Thus, examining market orientation within a more complicated context would be preferred.

Furthermore, when examining the different countries and industries that these studies have been conducted in, it is realized that most of these studies involved many industries, which would suggest that investigating each industry in more depth is required. Moreover, even in the single-industry studies, very little attention has been paid to the pharmaceutical industry. In other words, this industry has been neglected. Finally, in those studies that have been conducted in various countries, more investigation is required for the purpose of confirmation and fuller understanding.

As noted by Nickerson (2001, 1997) the market positioning, the resources and the firm performance are integrated. In other words, a target market positioning is supported by resource profile paired with firm structure to generate product attributes (John 1999).

It was found that many studies in the past had set out to examine the relationship between the planned competitive positioning and the resources. However, each study looked at a few of these resources. The only exception found was Greenley and Hooley (2002c), However, the effect of the surrounding environment is still poorly understood. In addition, the results that have been achieved need confirmation and further investigation.

Furthermore, following the discussion in the literature review chapter, and according to Greenley (1995b), Webster (1993); Gronroos (1989); and Shapiro (1988), market orientation is regarded in this research as a firm's culture and at the same time as a component of the firm's resources. Indeed, the main point here is achieving the competitive positioning planned; this could be done not only by obtaining suitable resources that could assist in this aim, but also by acquiring the required culture that emphasises the importance of satisfying customers, monitoring competitors as well as inter-functionality, which could be reflected on the employees in order to achieve a sense of commitment and understanding towards the importance of these three components.

Moreover, the sources of information were either the consumer (Blankson and Kalafatis 2001), or the managers' views (Morgan, 1998); the only study that has been found to collect information from more than one source was Zindeldin (1996). However, this study was in the banking sector in Sweden. Therefore, insight from different contexts would be required.

Even those emerging studies that try to uncover the relationship between the resources and competitive strategy have included only one strategy; for example, Vaorhies et al. (1999) examined the resources for market driven firms, while Morgan (1998) tried to link the different resources and learning organizations. Even the emerging studies investigating competitive strategy have included either Miles and Snow's typology or/and Porter's typology, ignoring other forms of competitive positioning. In addition, more recently, Hooley and Greenley (2002c) is the only study that has been found that

examines the full marketing resources; however, this is in relation to the firm positioning not to the product positioning.

Consequently, it can be seen that there is an emerging body of studies trying to uncover this integration; however it is still under-researched and many aspects are waiting to be explored. This highlights the core significance of the present study. In the present study, the dependent variable is the product competitive positioning, while the independent variables are the resources.

The next chapter will build on the gaps that have been found and discussed in this chapter, by presenting the propositions.

3 Chapter Three: Framework

3.1 Introduction

In the light of the review discussed in the previous chapter, many gaps were highlighted. Consequently, this chapter develops a theoretical framework for the present study in an attempt to cover most of these gaps. Indeed, the review of the previous chapter provides the background for the framework, methodology, and fieldwork of the present study.

By the end of this chapter, a comprehensive framework will have been developed, and in the following chapter the appropriate methodology for examining the propositions will be decided.

This chapter will thoroughly discuss the importance of competitive positioning, and the related definitions of the concepts that are used in this thesis. Moreover, there will be a discussion of the development of the propositions. Finally, a preliminary theoretical framework is derived through the organization and integration of theories and research discussed in the previous chapter.

3.2 Importance of Competitive positioning

The literature has recognised the importance of competitive positioning (Hooley 1999; Hooley et al. 1998a). Indeed, Wind (1990) argued that competitive positioning strategy is the foundation of a business, because it provides the foundation for the entire business strategy and the resources required, and consequently gives guidelines at the marketing strategy level for all marketing mix decisions, including product design, packaging, distribution and product price. Furthermore, the effect of the planned competitive positioning is measured by the sales figures (Romaniuk 2001). In other words, the chosen

positioning has an effect on the firm's performance. Indeed, more recently Punj and Moon (2002) emphasised that the strategic importance of the product positioning decision in achieving success in the market place is well recognized.

Despite this importance, there is a lack of attention to the assessment of the competitive positioning strategies established (Romaniuk, Ibid). Indeed, the previous chapter has identified that the competitive positioning strategies pursued by firms are under-researched and need to be considered not only because the market has become very competitive and hence having the right competitive positioning is crucial, but also because achieving the optimum performance will assist the firm to survive in this competitive market.

3.3 Conceptual definitions

3.3.1 Competitive positioning

This could be identified as the complicated process that includes, among other activities, segmentation and differential advantage (Doyle 1998; Hooley 1999; Hooley et al. 1998a). In other words, positioning is to do with the process inside firms, and therefore refers to the product's place in the market from the firm's perspective.

3.3.2 Competitive position

These activities (segmentation and creating differential advantage) help in creating the best position in the market among competitors, as perceived by consumers. Competitive position has to do with the world outside the firm and, from a consumer perspective, is where the effect of advertising is found. These definitions are in line with many of the definitions found in the literature, for example: Doyle (1998); Hooley et al. (1998a); Jobber (1998); Zindeldin (1996) and Zindeldin and Bredenlow (2001).

3.3.3 Firm's resources (market-based resources)

This can be defined as the different factors used to present the firm's product (Wernerfelt, 1984; Grant 1991) to enable the firm to develop a SCA and therefore create customer value in the market place.

Market based assets: these are "*the resource endowments the firm has acquired or built over time and that can be deployed to advantage in the market place*" (Hooley et al. 2001b: 508) They include both the relationships that firms could have (i.e. with customers, or the supply chain) and intellectual capital (i.e. related to factors inside the firm, entrenched assets, and knowledge) (Srivastava, 2001).

Customer based assets: those assets that are built on the relationship with customers, such as company or brand reputation, credibility with customers due to being well established in the market, superior levels of customer service and support, and relationships with key target customers.

Internal assets: those assets that could be found inside the firm, such as cost advantage in production, a superior marketing information system, a superior cost control system, copyright and patents, and use of superior technology.

Supply chain assets: those assets that are related mainly to the relationship with the supply chain, such as good relationship with suppliers, extent or nature of the distribution network, the uniqueness of the distribution approach, and relationships with distribution channel intermediaries.

Market-based capabilities: capabilities are "*the glue that binds these assets together and facilitates their effective deployment in the market place*" (Hooley et al. 2001b: 508). They consist of:

Inside-out capabilities: these refer to “*those capabilities that are deployed from the inside-out and activated by market requirements, competition challenges and external opportunities*” (Day, Ibid: 41). They consist of strong financial management, effective human resource management, good operations management expertise and good marketing management ability.

Outside-in capabilities: these are “*the capabilities that connect the processes that define the other organizational capabilities to the external environment and enable the business to compete by anticipating market requirement ahead of competitors and creating durable relationships with customers*”(Day, Ibid: 41). They consist of: using information about markets, customers and competition, understanding customers’ requirements, creating relationships with key customers or customer groups, and maintaining and enhancing relationships with key customers.

Spanning capabilities: “*...are those that connect and integrate inside-out with outside-in*” (Day, 1994: 56). They consist of the ability to launch successful new products, setting prices which attract customers and achieve financial goals, communicating internally across the organization, and effective new product/service development processes.

Market orientation culture: “*...[M]arket orientation is the business culture that produces outstanding performance through its commitment to creating superior value for customers...*” (Slater and Narver, 2000a: 69). It consists of: customer commitment, creation of customer value, understanding of customer needs, customer satisfaction objectives, measures of customer satisfaction, after-sales service, sharing of competitor information, rapid response to competitors’ actions, discussion of competitors’ top management strategies, targeting of opportunities for competitive advantage, inter-functional customer calls, information sharing among functions, functional integration in strategy, contribution of all functions to customer value, and sharing of resources with other business units.

3.3.4 Isolating mechanisms

These are barriers that resources may have to prevent imitation (Peteraf, 1993; Norton, 1998; Barney, 1991 1995; Reed and Deffillippi, 1990; Hooley et al 1998a,b; Hunt and Morgan 1995, 1996). They include *causal ambiguity*, *path dependency* and *barriers to imitation in terms of non-transferability, non-tradability and inimitability*. These will be discussed in more detail as follows:

Causal ambiguity refers to the difficulty for individuals inside the firm to understand the relationship between actions and outcomes (Reed and Deffillippi, 1990). It is a possible cause of: a) tacitness, which refers to the implicit accumulated skills that result from learning by doing, b) complexity, resulting from using large numbers of interrelated capabilities and skills, and finally c) specificity: the dedication of certain capabilities to specific strategies or activities (Al-Awadh, 1996).

Path dependency: a firm's resources/strategies are dependent on the path (investment, strategies) that has led to their creation or acquisition (Collis, 1991; Lei et al 1996).

Inimitability the competitors' ability to identify the distinctive capabilities on which a successful strategy was based (Barney, 1991; Grant, 1991; Fahy 1997/1998; Fahy and Smithee 1999).

Valuable resources are those resources which must not only be efficient and effective but must also be able to meet customers' needs (Barney 1991; Barney 1996; Fahy 1997/1998; Fahy and Smithee 1999).

Non-transferability and non-tradability: the former occurs when resources have high transaction costs associated with their acquisition, while the latter occurs where team based skills may be difficult to relocate. (Grant 1991; Nelson 1991)

When Porter (1996) presented the competitive positioning strategies of firms, he highlighted that these strategies are not mutually exclusive. Therefore, in this present study, such strategies will be dealt with collectively; however, to gain more insight into each of them, they will be dealt with separately as well.

Next, a discussion of the propositions will take place. However, it should be noted that each competitive positioning that has been discussed in the literature review chapter will be examined individually as well as collectively, as will be discussed in the following section.

3.4 Development of propositions and framework

Next, a series of propositions using both items and scales will be developed and tested. As discussed earlier in Chapters One and Two, the previous studies are mainly concerned with resources as items (apart from market orientation). However, Day (1994) proposed that there are a number of underlying dimensions to marketing capabilities, and Hooley et al (1998a), and more recently, Hooley and Greenley (2002c) suggested that this is also true for marketing assets.

3.4.1 The first proposition

As noted from the earlier comprehensive literature review, CP was the central focus of marketing literature, while RBV literature suggested that firms develop and deploy resources to create CA. In combining these two literatures together, it could be said that there are certain resources that are more critical for certain CP. In other words, there are certain ingredients for certain cakes (Attia and Hooley 2002b), and therefore uncovering these different ingredients or resources for each type of competitive positioning is yet to be identified. This is the core point of the first proposition, which is:

P₁: "There are certain resources that would be most associated with certain competitive positioning"

Next, a discussion on the related sub-propositions will take place, looking at both individual items as well as the scales. The aims behind including both individual items and scales are to: 1) dis/confirm what has been found in the literature, 2) compare the results obtained from both individual items and scales, and finally 3) examine these three CP which are the main interest of the present study in a comprehensive way.

3.4.1.1 Quality competitive positioning

As items:

Recent research in marketing points to a positive relationship between high quality and production and manufacturing expertise (Hooley et al 1998a). Indeed, technical competence, including engineering and manufacturing, especially where physical products are involved, is of as high a quality as planned.

Moreover, Franceschini and Zappulli (1998) emphasised that *"nobody needs a product for itself, but because this can answer to a particular need or scope, therefore a winning product results from the correct blend of functionality and customer expectations"* (Ibid: 43). In other words, product technical quality should be thought of as a set of technical/engineering characteristics that are able to satisfy a set of customer requirements. Therefore, both production and manufacturing expertise should cooperate so that the required technical quality would result.

In addition, many of the studies have found that US and European manufacturing executives still ranked quality as the most important competitive priority (Lau 2002). Furthermore, premium prices are a signal for quality, provided that such products have

the high performance that the target market will look for (Vorhies et al. 1999; Chapman and Wahlers 1999).

Even more, in a study of skin moisturiser by Alpert et al (1993), it was found that high price signalling for high quality is more likely to be successful when it is consistent with other quality cues, such as advertising and brand name. In other words, there is marketing mix. This goes in line with Rigger (1995) who discussed the importance of marketing mix.

Another ingredient of marketing mix that is expected to be consistent with the quality CP is the price. The price should be consistent with the quality; in fact, most recent research places emphasis on the price as signalling the quality of the product, in connection with the other ingredients discussed above (Champan and Wahlers 1999). However, in order to attract customers and make them pay the price of the product, the company should be good at understanding what customers' needs and requirements are, and produce products that customers really want. Indeed, due to the fact that quality is decided by the customers in the market place who will actually buy the products (Hooley et al 1998a), it is not only crucial that their needs are met by having good company or brand name reputation, but also that companies communicate with them. Indeed, Romaniuk (2001) emphasised that marketing managers should not be striving for a unique positioning for the brand, but should aim for distinctiveness in the way the positioning is communicated. This emphasises the crucial effect of communication with customers. All these complicated activities involve specific expertise (Hooley et al. 1998a), such as team-working from different departments across the organization in order to be able to satisfy consumers' needs (Day 1994).

Even more, good supply chain management is another important ingredient of marketing mix, as it is also expected to ensure the inputs are of the required quality (Hooley Ibid), for instance, good relationships with suppliers, efficient purchasing of factor inputs and raw materials. Moreover, an exclusive distribution system is essential, as it has been looked at recently as a business system that creates end-user satisfaction (Mavondo 1999; Alpert et al 1993). In other words, the extent or nature of the distribution network, the uniqueness of the distribution and the relationship with distribution channel intermediaries are all important.

From the above, the following resources support quality CP:

- ✓ Production and manufacturing expertise (Franceschini and Zappulli 1998; Hooley et al 1998a)
- ✓ Company or brand name reputation (Ibid)
- ✓ Good at understanding what customers' needs and requirements are (Romaniuk 2001; Franceschini and Zappulli 1998)
- ✓ Good supply chain management (Alpert 1996; Alpert et al 1993; Hooley Ibid) including: (Movondo 1999; Alpert et al 1993, Alpert 1996; Hooley 1998a)
 - Good relationship with suppliers.
 - Exclusive distribution system
 - The extent or nature of the distribution network,
 - The uniqueness of the distribution
 - Good relationship with distribution channel intermediaries.
- ✓ Price: good at setting prices which both attract customers and achieve financial objectives (Hooley et al 1998a; Champan and Wahlers 1999)
- ✓ Produce products that customers really want

This leads us to the following proposition:

P_{1-Q1}: "High quality product competitive positioning is supported by;

Assets: Company or brand name reputation; good supply chain management; good relationship with suppliers; exclusive distribution system; the extent or nature of the distribution network; the uniqueness of the distribution; good relationship with distribution channel intermediaries. Capabilities: Good at understanding what customers' needs and requirements are; good at setting prices which both attract customers and achieve financial objectives; produce products that customers really want, production and manufacturing expertise"

As scale

According to the discussion above, the supply chain assets scale is crucial and therefore associated with technical quality. Indeed, supply chain assets include both the relationship with the distribution channels, which assist in satisfying the needs of the final consumer (Mavondo 1999), and the relationship with suppliers to ensure that the final product is of the required quality (Hooley et al 1998a).

Furthermore, the outside-in capabilities scale is crucial. Indeed, it focuses on the relationship with customers, as in this particular CP, customer bonding is important to: 1) identify what constitutes quality in their eyes and 2) meet their needs (Ibid). Consequently:

P_{1-Q2}: "Quality competitive positioning is supported by: supply chain assets and outside-in capabilities"

3.4.1.2 Price competitive positioning (compared to the competitors)

This CP includes both high and low prices, each of which will be discussed first in terms of items, then in terms of scales.

3.4.1.2.1 High price competitive positioning

As items:

For a high/premium price relative to competitors, as discussed in quality CP, high price could be used as a signal. In the same vein, high price requires high quality (Alpert et al 1993, Alpert 1996). In that sense, such CP is serving certain customers who are willing to pay premium prices for exclusive branded offerings; therefore, building a relationship with key target customers, credibility with customers due to being the market leader as well as providing superior levels of customer services, and being good at

creating/enhancing and maintaining relationship with key customers are crucial (Lavie and Fiegenbaum 2002; Hooley et al 1998a). Indeed, it is expected that brand credibility would have an impact on consumer price sensitivity (Erdem et al 2002). In other words, brand credibility would be expected to be one of the main ingredients. On top of that, the reputation and name of the brand and/or company should be exclusive, to make the customers pay such a premium price.

Depending on the above, the following resources are required for premium price CP:

- ✓ Being good at creating/enhancing and maintaining relationships with key customers is crucial
- ✓ Building relationship with key target customers
- ✓ Company or brand name and reputation
- ✓ Credibility with customers due to being market leader
- ✓ Providing superior levels of customer services

This leads us to the following proposition:

P_{1-P1}: "High price product competitive positioning is supported by:

Assets: Company or brand name and reputation; credibility with customers due to being the market leader: providing superior levels of customer services and high quality.

Capabilities: Being good at creating/enhancing and maintaining relationships with key customers is crucial; producing products that customers really want and building relationships with key target customers."

3.4.1.2.2 Low price competitive positioning

As items:

On the other side of the spectrum, other firms charge a lower price for their products, which is accompanied by standard quality. Such CP provides a service for customers who are price sensitive (Hooley et al 1998a) and therefore gives them what they require. In other words, such low product prices would require an effective cost control system to

check that the costs are lower than, or at least as low as, the competitors'. This includes having effective cost control systems and distribution logistics (Ibid). For low price CP, costs are kept in check so cost advantage in production is achieved. Indeed, such an advantage is crucial in price wars that the firm might face; otherwise, the firm will be at a disadvantage (Ibid).

Furthermore, in order to have the ability to lower costs, firms should have strong financial management, effective human resources management, good operations management expertise and good marketing management ability. These are crucial, not only because they ensure the cost advantage required for this CP, but also because they assist the firm in understanding customer behaviour (Sharp 1995). Finally, distribution logistics are kept to the minimum.

Low price competitive positioning requires (Hooley et al 1998a):

- ✓ Advantage in production
- ✓ Cost advantage
- ✓ Effective human resources management
- ✓ Good marketing management ability
- ✓ Good operations management expertise
- ✓ Having strong financial management
- ✓ Integrated logistics and planning capabilities

This leads us to the following proposition:

P_{1-P2}: "low price product competitive positioning is supported by: Assets; Advantage in production, cost advantage. Capabilities; Effective human resources management, good marketing management ability, good operations management expertise, having strong financial management, integrated logistics and planning capabilities"

As scale (for high and low price CP)

Following on from the discussion above, high price CP needs to have a strong company or brand reputation that builds exclusivity to the brands. Also, in order to have customers who are willing to pay this high price, having credibility with those customers and a good

relationship with them is vital. In other words, customer based assets are the most important assets for such CP.

In the same vein, and due to the fact that firms following low price CP would create and face price wars, such firms would need inside-out capabilities. Indeed, such capabilities include having strong financial management, effective human resources, and good operation management, and therefore being able to follow such CP. Furthermore, internal assets in terms of effective cost control and cost advantage in production are crucial (Hooley et al 199a). Consequently,

P_{1-P3}: “ High price competitive positioning is supported by; Customer based assets”

P_{1-P4}: “ Low price competitive positioning is supported by; Internal assets and inside-out capabilities”

3.4.1.3 Innovation competitive positioning

As items:

Firms that follow innovation as a product competitive positioning strategy are expected to emphasise continuous processes of product and service improvement and therefore of acquiring the necessary skills (Hooley et al. 1998a). Indeed, it is the encouragement of ideas from all levels of the organisation and through links with other firms that would be crucial to innovation, as Bruce (2001) has found in SMEs. Therefore, it is expected that such firms have the ability to launch new products, set prices that attract customers and communicate internally (Ibid). Indeed, the basis of this CP is continuous improvement to the product and/or creating new products (Hooley Ibid). Furthermore, firms that possess market orientation (Lado and Maydeu-Olivares 2001) and strong skills such as good marketing management ability, as well as good operation management expertise, would have an enhanced ability to analyse and react to the external business environment faster by producing the new products that customers would need. Furthermore, building and enhancing good relationships with customers will make it easier to identify and meet the

dynamic needs of the consumers, and therefore assist building innovation competitive positioning (Waller and Ahire, 1996). Indeed, for a firm to be able to make superior offers to customers, it should have an outstanding business process in terms of achieving superior customer relationships (Doyle 2001).

As a result of the above, the following resources are required for innovation CP (Song et al 1996, Hooley et al 1998a)

- ✓ Ability to launch successful new products
- ✓ Effective new product development processes
- ✓ Good at using information about customers and competitors

H_{1-N1}: "Innovation is supported by: Capabilities; ability to launch successful new products, effective new product development processes, good at using information about customers, and competitors and superior levels of customer services"

As scales

Furthermore, there is a positive relationship between innovation and market orientation (Lado and Maydeu-Olivares 2001). Indeed, in both America and Europe, it was found that there is an overall impact of market orientation on a firm's innovation (Vazquez et al 2001). Additionally, market orientation is a contributing factor to the extent to which innovation occurs in the organisation (Martins and Terblanche 2003). Thus, for a firm to follow innovation positioning, focusing not only on customers' needs and competition but also on the internal environment in terms of employees, communication would be necessary (Ibid).

In addition, firms that are more market oriented are more aware of existing and latent customers' needs and also the efforts of the competition to satisfy them. Moreover, in order for a firm to satisfy their customers' needs, and if they wish to follow an

innovation-based approach, adopting market orientation is required (Olavarrieta and Friedmann 1999; Han et al 1998; Lado and Maydeu-Olivares 2001). Therefore:

H_{1-N2}: "Innovation competitive positioning is supported by; Market orientation"

Furthermore, firms that follow innovation as a product competitive positioning strategy are expected to emphasise continuous processes of product improvement and therefore acquire the skills needed for that (Hooley et al. 1998a). In other words, spanning capabilities are crucial for this CP.

Even more, having good operations management expertise that could produce and launch this successful new product is also very important. In other words, inside out capabilities are also expected to be important. Thus,

P_{1-N3}: " Innovation competitive positioning is supported by; Inside out and spanning capabilities"

All competitors will try to copy such a successfully achieved positioning. Therefore, sustaining such a positioning is important, though it will be difficult to maintain for long (Romaniuk, 2001). Therefore, identifying different methods to sustain the competitive positioning achieved is crucial. Indeed, firms learn from each other and adapt their strategies accordingly; therefore, the importance of defending the achieved CP is well documented in the literature (DeChernatony, 1992)

Next we turn to the second proposition. Again, as in the previous section, a discussion on the related sub-propositions will take place. However, these sub-propositions will be discussed from the point view of both individual items and the scales. The aims behind including both individual items and scales are to: 1) dis/confirm what has been found in the literature. 2) compare the results obtained from both individual items and scales, and

finally 3) examine these three CP which are the main focus of the present study in a comprehensive way.

3.4.2 The second proposition

Proposition 2: Isolating mechanism and Competitive positioning

The second proposition discusses the different methods that could be pursued to defend the achieved CP, in order to protect it against competitors. Therefore,

P₂: " There are certain isolating mechanisms associated with specific competitive positionings"

However, similar to the first proposition, a series of propositions using both items and scales will be developed for IM.

3.4.2.1.1 *Quality competitive positioning*

As items:

For quality, the product should meet the customers' expectations, as quality is mainly based on what customers perceive it to be (Hooley et al 1998a). In this connection, Franceshini and Zappulli (1998) found that the winning product results from the correct blend of functionality and customer expectation. Consequently, the product should be valued by customers, and therefore customers could encounter a high switching cost if they want to switch to the competitors' products. At the same time, the production of such high quality products could be protected through copyrights and patents. Thus:

P_{2-Q1}: "Defending high quality competitive positioning is associated positively with valuable competitive positioning from the consumers' point of view, high switching costs and legal protection such as copyrights and patents "

As scale

In quality CP, good relationships with customers should have been built up. This strong relationship with customers, and therefore loyalty, could be difficult for competitors to imitate. In other words, quality CP could be defended by barriers to imitation scale. This barriers to imitation scale consists of; valued competitive positioning from consumers' views, switching costs for customers, thus:

P_{2-Q2}: "Quality competitive positioning could be defended through barriers to imitation"

3.4.2.1.2 Price competitive positioning

As items:

When Alpert (1996), responded to Koku's (1995) comment, he emphasised that such high quality high price competitive positioning is not easy to imitate. This may be due to the difficulty the competitors encounter in terms of accessing the resources that have been used.

Furthermore, the price increases a consumer's perceptions of both quality and sacrifice, which will positively affect their perceptions of the product's value. In other words, the higher the price, the more likely it is that the consumer will value CP (Chapman and Whalers 2001).

Moreover, for high price competitive positioning, setting the right price for the product involves managerial capabilities of thorough employee training to be able to set the appropriate price level. On the other hand, low price CP is difficult to sustain, as competitors can and will cut their costs too (Lawton 1999); consequently, economies of scale and product cost advantage would be the most appropriate approaches for the defence of such CP.

P_{2-P2}: "Defending high price competitive positioning is positively associated with scarce, difficult to access resources, valuable competitive positioning from consumers' point of view and tacit knowledge".

P_{2-P3}: "Defending low price competitive positioning is positively associated with; High economies of scale".

As scale

As discussed earlier, such CP requires barriers to imitation in terms of possessing both resources that are difficult for competitors to access, and valuable products that are appreciated by consumers, as well as economies of scale barriers. Consequently,

P_{2-P3}: "Defending price competitive positioning is positively correlated with barriers to imitation".

3.4.2.1.3 Innovation competitive positioning

As items

Furthermore, for innovation, there are different skills involved to achieve this competitive positioning. Such skills are difficult to delineate, because they involve different

departments from all over the firm, and are therefore difficult to imitate. Indeed, achieving innovation competitive positioning, as discussed earlier, involves a complex mixture of resources that make it difficult for competitors to acquire the managerial capabilities, and/or have access to the resources the firm possesses, and therefore to achieve superior firm performance.

Finally, market orientation requires time to be realized, and in addition, selecting the employees, and training and motivating them to the planned competitive positioning which enhances the customer value, are all built over time, and will therefore contribute to defending innovation competitive positioning. Thus, customer service competitive positioning is best protected against competitors by having resources that are accumulated over time. Consequently,

P_{2-N1}: "Defending innovation is positively associated with complexity and path dependency"

As scale

Defending a complex CP such as innovation would require not only path dependency that would involve time dependency, but also causal ambiguity in terms of tacit knowledge, as managerial as well as complex capabilities are crucial to defend such CP. Therefore,

P_{2-N2}: "Defending innovation is positively associated with causal ambiguity and path dependency"

3.4.3 The third proposition

Firms work in an external competitive environment. Unless the firm responds to this environment, it could be outperformed by its competitors (Slater and Narver 1990). Hence, at the core of the firm's resources is its culture. A firm's culture, the philosophy of the management, which includes all its values and beliefs, may entail generation and responsiveness to market information (Kohli and Jaworski, 1990; Han et al, 1998). Therefore, the firm that can anticipate and react to changes in environmental factors before its competitors in the market will achieve superior performance. Thus, the surrounding environment can enhance the relationship between CP and achieve superior performance in the market. Furthermore, turbulence in the market and technology are generated by irresolution of industry technological standards, or heterogeneity in consumer preferences and requirements (Han et al 1998). Consequently, the firm that follows a CP that enables it to respond to and deal with the turbulences in the environment will achieve superior performance.

P₃: Turbulent environment strengthens the CP-firm performance.

3.5 Combining different competitive positionings together

In the previous section, each of the three competitive positioning profiles has been discussed thoroughly in terms of not only the resources and isolating mechanism as items and scales and their associations with the CP, but also the effect of the environmental factors as moderated variables. However, in reality, one or two of the CP could be found together. Indeed, competitive positioning options were discussed in many studies in combinations of more than one as has been discussed extensively in Chapter Two.

For example, when Aaker (1989) and Hooley et al (1998a) investigated price competitive positioning, they attached quality to it. In the light of this, an exploratory analysis will also take place in this study in Chapter Five to identify the different combinations that

could be found among those dimensions. Therefore, neither hypothesis nor propositions are developed related to this section. This is due to the fact that such propositions are not known in advance. In this case, classifying homogeneous groups together in terms of competitive positioning strategies will take place. Then, to distinguish these groups, the following step will be taken in terms of resources and isolating mechanism.

3.6 Figure discussion

Figure 3-1 illustrates the proposed relationship between the different constructs discussed earlier in this chapter.

In more detail, as discussed earlier, the first proposition is concerned with the specific resources that are most associated with specific CP. This is illustrated by the arrows from each component of the resources box (the top box) to the Competitive positioning box (the second box).

The second proposition investigates whether a CP can be sustainable when it is correlated with any of the proposed IM items. This relationship is illustrated using the double-headed arrow that goes from IM to “sustainable” CP. In other words, to examine whether this achieved CP is sustainable or not, its correlation with IM items will be tested. This is illustrated, as mentioned earlier, using the double-headed arrow from IM to CP.

Finally, it is intended to thoroughly investigate the effect of the external business environment in terms of a) level of competition, b) technological change and c) customer requirements as a moderator on the CP-Market share as the firm performance relationship. This is proposed on the lower part of the framework in figure 3-1.

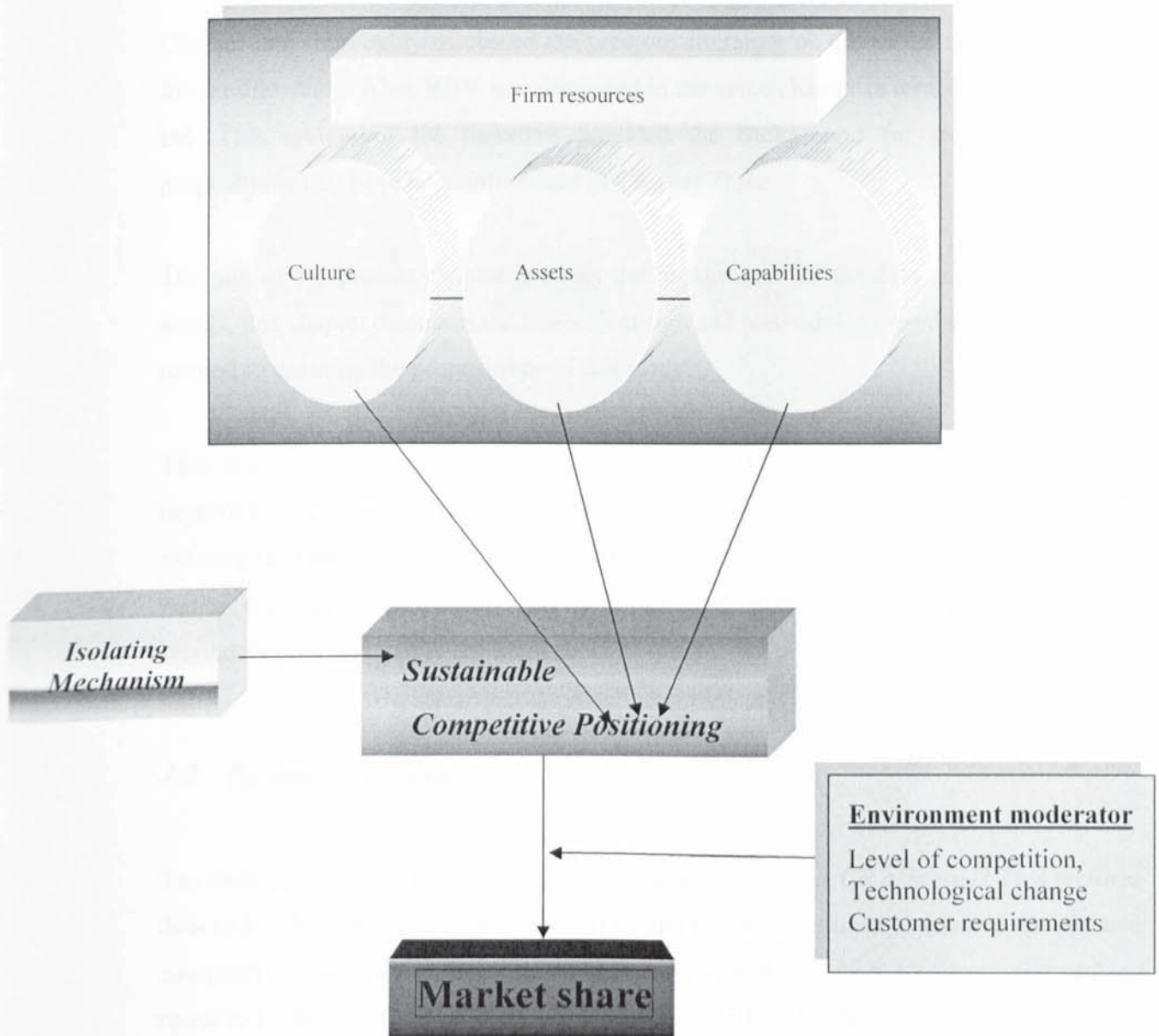
In short, the present study is concerned with three main propositions:

- 1) Resources – CP: this is illustrated on the top part of the framework.
- 2) IM-SCP: this is illustrated on the middle part of the framework.
- 3) CP- Market share relationship with environmental factors as a moderator: that is illustrated on the lower part of the framework.

Here, it is worth noting that this model is meant to be a generic model which will not only enable us to investigate each CP separately, but also to investigate all possible combinations of the CP together. To discriminate between these resulting combinations, resources and IM will be used, as will be discussed in detail in Chapter Five

Figure 3-1

Conceptual Model proposed



4 Chapter Four: Research design

4.1 Introduction

Chapter two thoroughly discussed the previous literature on CP as the main construct of the present study. Also, RBV was discussed in the same chapter in terms of resources and IM. This review of the literature provided the background for the fieldwork and propositions that have been introduced in Chapter Three.

The aim of the present chapter is to set the background for the data collection. In other words, this chapter discusses the research design and methodology used to collect the data needed to examine the propositions of this study.

This chapter consists of three main sections. The first section discusses the research objectives, including the level and unit of analysis, followed by the research context; the industry that this study took place in and why it was chosen. Finally, there are three main stages that the present study has gone through; preparation and pilot study, then secondary data and finally the main survey.

4.2 Research objectives

The main question the present study is addressing is: “*How is CP achieved?*” This requires data to be obtained from inside the firm on the resources utilised to achieve the planned competitive positioning. In other words, the question of: *what resources are utilised* needs to be answered. In addition, CP is argued to be feasible not only when obtaining the resources but also when those resources possess certain characteristics that prevent competitors from imitating or obtaining them. Thus, uncovering and knowing *what are the different IM that have been utilised* to defend the planned CP is included in the second objective.

The second objective is to do with the effect of the external business environment on the product CP-performance relationship. This involves examining the direct effect of CP-performance.

The form of the research question (how, what, where, why, who), hypothesis, and objectives affect the choice of research design (Shannak 1999). Indeed, according to Yin (1994; Table 4-1), when the research question is mainly “*what*”, survey and/or archival analysis is the most appropriate research strategy to use. Therefore, the appropriate research instruments to tackle the research questions of the present study would be survey and archival analysis.

Table 4-1
Research Strategy and the research question



Source: Yin, R. (1994), Case study research: Design and methods. Sage.

4.2.1 Level and unit of analysis

A level of analysis is “*the level of social reality to which theoretical explanations refer*” (Neuman, 1994). This definition implies that social reality could vary on a continuum from the micro level (i.e. small groups or individual processes) to the macro level (i.e. civilizations or structural aspects of society). In the present study, the main goal is to uncover how firms have achieved CP for their products. Therefore, the focus is on the firms. In other words, firms are the level of analysis for the present study. This is despite the fact that resources and firm culture could be found at Strategic Business Unit (SBU)

level, corporate, alliance or even supply chain level. Indeed, as was mentioned earlier, they are on a continuum; however, this study will focus on the firm level.

Furthermore, the unit of analysis is "*the level of aggregation of the data collected during the subsequent data analysis stage*" (Sekaran 2000: 135). The main instrument in the present study is the questionnaire, which will be answered by managers inside the firms; their responses will be recorded, and therefore the unit of analysis is those managers. In other words, the unit of analysis determines how the research measures the variables, which form the basis of any sample. It is therefore important for the research to clarify the level of the phenomena of interest (Easterby-Smith, 2002).

This research investigates the process of product positioning at firm level, in Over The Counter (OTC) products in the Cold & Flu, decongestant and analgesics markets. These markets were chosen, as discussed in section 1.4, not only because these markets are the three largest markets in the OTC pharmaceutical industry (Keynote 2002; Datamonitor 2003) but also because the competition in this market is furious (Fletcher and Hart 1990). Managers, with whom the surveys were conducted, were asked to concentrate on only one product (named on the top of page one of the questionnaire, with reminders associated with each question). Then, they were required to provide information on the competitive positioning achieved for that particular product, the resources used to achieve that competitive positioning, the different methods (if any) they follow to protect such positioning, and finally the firm's performance and the external environment.

Since managers (unit of analysis for this study) work for the firms (level of analysis for this study), the unit of analysis and level of analysis are related to each other (Neuman, 1994). In addition, market orientation culture is at both the corporate and SBU levels (Webster 1992).

At the corporate level, the roles of marketing are to promote customer orientation by being a strong advocate for the customer's point of view, to develop the firm's overall value proposition and to assess market attractiveness by analysing customer needs. At SBU level, the main marketing roles are to emphasise the three guidelines obtained from the corporate level and to get a more detailed and sound analysis of the customer, competitors and firm's resources. In other words, the main function of the SBU is

promoting the role of the corporate level, but also to decide on “how” to compete. In addition, assets and capabilities are found in both SBUs and at the corporate level. However, they could be found more in SBUs, where the production operations take place.

4.3 Research Context

The research context is the pharmaceutical industry in the UK, dealing specifically with Over The Counter (OTC) products in terms of cold and flu, analgesics and decongestion remedies. The following is a discussion on five aspects of the industry (Porter, 1994).

4.3.1 Rivalry between existing firms

One of the main methods of promotion that is followed in pharmaceutical firms is journal advertising (Reekie and Wells 1988). This allows the pharmaceutical firms to communicate directly with the consumers via the internet and/or other modes of advertising. This increase in the freedom of advertising will influence the awareness of the consumers; therefore more pressure is added to the firms to position their product in the consumer’s mind by identifying the benefit of their produce (Singh 2001).

This industry is noted for its technological intensity and Research and Development (R&D), which are important sources of advantage. (Henderson and Cockburn 1994; Yeoh, 1999). Furthermore, New Product Development (NPD) in pharmaceuticals is proven to have the longest cycle time in industry; with an average time of 9-11 years plus a further two in the regulatory approval phase, meaning that there may be a total of 12 years from synthesis to first launch. Therefore, a minor modification to an existing product will take at least two years. This puts the industry at a distinct disadvantage. (Barrie, 1994)

Also, the regulations and policies from the government could add to the rivalry among existing firms. For example, the range of policies include supply side measures such as the Pharmaceutical Price Regulation Scheme (PPRS), which was established in 1957, and demand side measures such as raising the user charge (Slater, 1998).

In 1968 the Medicines Control Agency (MCA) was established, one of its aims being to protect public health. However, in 2001, it was looked at as the driving force to provide the UK and the European Union (EU) (as the UK is part of the EU) with a European assessment of new drug submissions of high scientific quality in timely but collaborative ways, based on centres of excellence. This would make the British and EU pharmaceutical industry a competitive market. Therefore, this adds to the pressure that is faced by the pharmaceutical firms. (Butler, 2001; Slater, 1998).

4.3.2 Entry barriers

Product differentiation advantages of existing firms are the most obvious entry barriers. One of the main entry deterrents is measured by the extent of the financial sacrifice the newcomer could make in order to be able to sway existing customers towards the new products. This could be done by either selling at a cheaper price, or by emphasising the differentiation of the product in advertising. All of this will incur financial sacrifice.

4.3.3 The bargaining power of suppliers and distributors

This is increasing. Indeed, with the increasing number of drugs produced, more frequent deliveries of medicines are required. Therefore, in 1956 the government outlawed restrictive trade practices, and eight years later abolished individual resale price maintenance (Corley, 1999/2000) From 1991, the British Association of Pharmaceutical Wholesalers was established (in 1966 it was the National Association of Pharmaceutical Distributors) to protect their interests (Ibid). Furthermore, the distribution network in the UK for this industry could be divided into:

4.3.3.1 Wholesalers

These offer the widest range of products (full-line wholesalers) or limited, selected ranges of pharmaceuticals products (short-line wholesalers).

4.3.3.2 Direct distribution to retailers

Wholesalers are threatened by direct distribution to retailers from manufacturing as the greatest threat to their prosperity (Datamonitor 1998). The main reason behind this direct approach is that manufactures seek opportunities to offer greater discounts and compete in the market whilst still remaining profitable.

4.3.3.3 Direct distribution to consumers

Finally, many of the OTC products are now available direct to the consumers from the manufacturers (Ibid). This approach is also followed to allow manufacturers to keep their costs to a minimum.

Such competition suggests that although both manufacturing and distribution channels are serving the end consumers, in order to satisfy the consumer more and at the same time retain the expected profits, these two parties (manufacturers and distribution channels) have started to compete in an indirect way, which has made this distribution network system such a crucial element for this industry.

Furthermore, changes in the UK pharmacy regulations, as mentioned above, coupled with increasing competition, have resulted in lowered sales growth for the distribution channels. This is evident, for example, for UniChem, which is one of the biggest distributions in the UK pharmacy market, whose sales growth decreased by 29 percent in 1997 (Datamonitor 1998). Consequently, as will be discussed next, they adopted various strategies, such as the taking over of firms and selling cheaper/generic drugs, in order to face such intense competition.

4.3.4 Threat of substitute

Another pressure in the UK market is the increasing number of cheaper products that are imported from other members of the EU. Furthermore, the vertical integration between wholesalers and retailers has facilitated such pressure. For example, in 1997, Unichem's takeover of the French wholesaler Alliance Sante added bargaining power to the new firm with drug firms and retailers in France, Spain, Portugal and the UK. (Earl-Slater, 1998; Earl-Slater and Bradley 1996; Hancher, 1990). Because of this, the British Pharmaceutical Industry (BPI) became very competitive and therefore achieving a sustainable competitive positioning became challenging for such firms.

4.3.5 Bargaining power of buyers

In essence, the pharmaceutical market might be thought of as one in which consumer needs are relatively homogeneous. In practice, there is evidence that a degree of heterogeneity could be found in the demand for a different product mix across different countries. In addition, heterogeneity could also be found within specific sub-markets. (Doherty and Ennew 1995)

The problem peculiar to this research study is the limited number of empirical and analytical studies relating to the pharmaceutical industry, RBV and competitive positioning. Most of the literature review studies that have been found revealed that research has been done on only one or two of these points. Furthermore, most are American studies. The British studies, as will be discussed later, are exploring the pharmaceutical industry from a different angle. For example, Yeoh and Roth (1999), who examined the relationship among firm resources, capabilities and sustained competitive advantage, found that R&D and sales force expenditures have an effect on achieving Sustainable Competitive Advantage (SCA). In the UK, the literature discusses the pharmaceutical industry from the perspective of its importance to the UK economy. Earl-Slater (1998), for example, has examined the regulations and different pressures that firms in the industry face.

4.3.6 Conclusion

On the basis of these pharmaceutical industry reports, it is evident that this industry has a particular importance to the economy. It is therefore important to produce an in-depth discussion of how to best utilise the available resources, not only in order to achieve competitive positioning using such resources, but also to be able to face such a competitive market and enhance the economy.

From the foregoing discussion, it is argued that the pharmaceutical market is very competitive. Although the industry has “patent”, this protection is relatively short term (Reekie, 1988) with a duration of almost twenty years (The Patent Office 1997), and therefore the firms must look for other methods of protection to enhance their

performance. However, there is little insight into the different protection methods that such firms should follow in order to maintain firm performance. In particular, there is little insight into how such firms could best utilise the available resources in order to achieve sustainable competitive positioning.

In addition, preliminary research has indicated that different firms pursue different strategies (Cool and Schendel, 1987). Also, there have been many changes in laws that have altered the environmental context in which drug firms have to compete. Furthermore, this industry had not yet received significant attention in marketing research.

Based on the above, the present study will provide an opportunity to explore the OTC market, which has received limited attention in terms of analytical and empirical research.

Next there is a discussion of the three main stages that have been followed.

4.4 Research Stages

In the light of the above, the research consists of three stages (Figure 4-1 shows the different stages of the research):

Stage one: Pilot study

Stage two: Interviews and Secondary Data

Stage three: Consumer Questionnaire

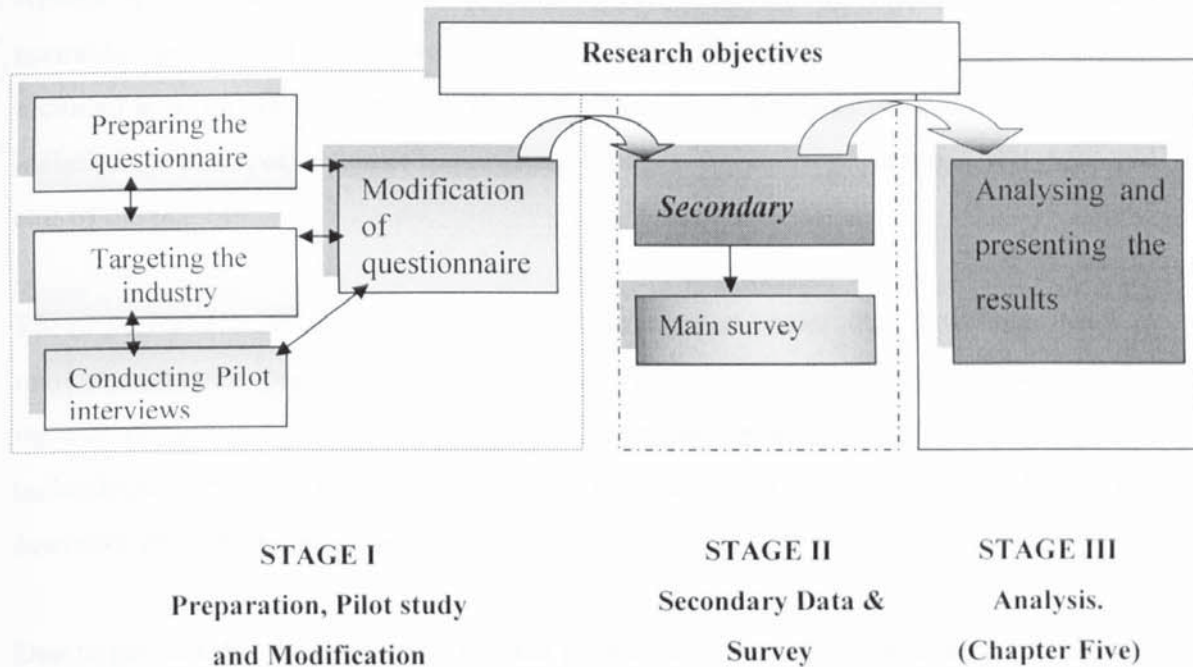
4.4.1 Stage I: Preparation, Pilot study and Modification

In discussing the layout of the questionnaire, many guidelines have been suggested. For instance, Churchill (1991) emphasises the crucial importance of the first question, which must be found interesting by the respondents. Also, the layout of the questionnaire in terms of the wording and sequence of the questions is important (Churchill 1999; Malhotra 2000). Tull (1993) went even further by producing a list of do's and don'ts in

preparing the questionnaire. These rules have been followed, as will be discussed in the following section.

Figure 4-1

Research Stages



4.4.1.1 The questionnaire

Mainly, the questionnaire is constructed with closed questions. The main reason behind that is to make it easier for the respondent, as closed questions do not take much time, and therefore encourage a high response rate. In addition, closed questions give fewer problems in standardisation in subsequent analysis (Saunders 2000).

Question one: In the present study, the effect of the environment as a moderator on the CP-firm performance relationship as the second objective was included. Due to the fact that the environmental question is easy to answer and not threatening, it was decided to make it the first question in the questionnaire, following the advice of Saunders (2000) and Churchill (1999).

The present study is based on single industry data; however, following Han et al. (1998), it is expected to find variations in the environment, for even when firms belong to the

same industry, they belong to different strategic groups, and therefore encounter dissimilar business environments and competitive conditions, i.e. environmental turbulence.

Among the different competitive positioning studies (company, brand/product) and in particular product CP that have been found, the effect of the environment was only included in a few. Hooley et al (1993), in their studies in Hungary on marketing strategy, included the effect of customer requirement changes, technological change, and entry and exit of the market.

These scales overlap with many of the environmental scales that have been used in market orientation-performance relationships. The most discussed scales in these studies include market turbulence, market growth, customer power, competitor hostility, and technological change (Greenley 1995a,b; Homburg and Pflesser 2000a; Kohli and Jaworski 1990; Slater and Narver 1994).

Due to the fact that the consumers buy the product and thus affect the firm's performance, the scale related to the consumer requirement change is included (Hooley and Saunders 1993). Also, a question about the rivalry among existing firms in terms of type of competition (established and entrenched, established but changing, and finally fluid and constantly changing) and level (intense, weak, no effective competition) was included (Ibid).

Furthermore, the pharmaceutical industry is known as a technologically intensive industry. Therefore, it is expected that technological turbulence plays a crucial role in the CP-performance relationship, and therefore technological turbulence is included.

In order to answer the first objective of the present study, which is the most important one, the next four questions were as follows:

Question two: The second question discusses the main construct of the study, "Competitive Positioning". It included three main types of competitive positioning: technical quality, price level, and finally level of innovation. The possible responses were in the form of a five-point "Likert" type scale ('much lower than competitors' to 'much

higher than competitors'). It was stressed that 'higher' or 'lower' did not imply superior or inferior positioning, merely a different competitive positioning in the market place. This scale was developed by Hooley and Greenley (Under review; 2002c), where a similar study was conducted.

Question three: Market orientation as one component of market-based resources was the third question. This question was in the form of a fourteen item summative scale developed by Narver and Slater (1990), used extensively and refined by Greenley (1995a;b) and then used by many authors such as: Bigné et al (2000).

Question four: The other two components of market-based resources, assets and capabilities, were included in the fourth question. The assets scale consisted of twelve items whereas the capabilities scale consisted of eleven items, giving a total of twenty-two items. These items were first developed by Hooley and Greenley (2002c). The respondents were asked to respond to each statement along a scale ranging from "strong competitors' advantage" to "our strong advantage" to identify in which of these assets and capabilities they have advantages or disadvantages over their competitors. A five-point Likert scale type was chosen because it is easy to use and has a good reliability (Saunders et al 2000; Nachmias and Nachmias, 1996).

Question five: The fifth question, the last component of the first objective, concentrated on how firms protect the resources they obtain to achieve the competitive positioning they planned. This question is taken from the same source as above Hooley and Greenley (2002c). Again, a five point Likert scale was used, from "strong competitors' advantage" to "our strong advantage" to identify with which of these protection methods they have advantages or disadvantages over their competitors.

Question six: In this question, respondents were asked to subjectively rate their firm's performance compared to their main competitors in terms of the firm overall profit levels, profit margins, return on investment, sales volume and market share. These last two questions were developed and used in previous studies, as discussed in the literature review chapter.

The layout of the questionnaire followed the guidelines suggest by Saunders (2000) and Churchill (1999). For example, questions of similar content were organised together so as to maintain the focus of the respondents. Also, questions were sequenced and difficult questions placed late in the questionnaire.

In addition, the questionnaire was accompanied with a covering letter that gave the respondent an idea about the research topic and the main objectives, and promised to send them a copy of the final report on the completion of the study.

Appendix 4-1 shows the piloted questionnaire, the cover page of the questionnaire and the last page and finally the covering letter.

4.4.1.2 Targeting the industry & respondents

As has been discussed before, the industry chosen for the present study is the pharmaceutical industry, specifically OTC cold and flu, analgesic and decongestant products in the UK market. The reason for choosing this industry was mainly academic, as this sector demonstrated a range of different competitor positioning strategies that can be researched. The increasing competition in this industry is also of interest.

Following many previous studies (Gray et al 2000; Camelo-Ordaz et al 2003) the single respondents from inside these firms were targeted. Following Beard and Easingwood (1992), in the present study, the single respondents for the present study were the marketing managers, who were found to be the key informants. Since the information required by the present research falls into the responsibility domain of such an executive, it was expected that reliable information regarding such firm practices would be gained, drawing upon the marketing manager's attitude, experience and beliefs.

The population: Marketing Managers. In this population, the marketing managers of all manufacturing pharmaceutical products in the UK are included. Although the nature of the research falls within the industrial sector, given the wide spectrum of the sector, it was decide to confine the research within the UK pharmaceutical manufacturers sector. The definition of this sector can be defined as follows:

Element: All firms that produce pharmaceutical OTC products.

Extent: In the UK

Time: Between 2000-2001

Information obtained: From Marketing Managers, as they are supposed to be the most informed individuals regarding the focus of this research

Sample frame: Key Note, and Mintel. Manufacturers of basic pharmaceutical products primary 1992 SIC UK code 2441 Financial Analysis Made Easy (FAME 2001). However, due to the fact that the main focus of this study is product competitive positioning, obtaining the product name on the questionnaire was essential. Therefore, the previous databases were used as well as KOMPAS, Mintel and The Proprietary Association of Great Britain (PAGB).

4.4.1.3 Pre-testing

The next step in questionnaire development is pre-testing. Pre-testing is *"the conducting of a simulated administering of a designed survey (or questionnaire) to a small, representative group of respondents"* (Hair et al. 2003: 679). Churchill (1999) went even further and described pre-testing as *"vital"* (Ibid: 364). Indeed, conducting a pilot study would identify and eliminate potential problems (Malhotra 2000).

Aaker (1998) identified two main approaches for pilot studies, debriefing and protocol. The debriefing approach is more appropriate for face-to-face interviews where the interviewer observes and notes reactions of confusion, resistance or uneasiness while answering the questionnaires. On the other hand, the protocol approach, where the respondent thinks aloud while filling in the questionnaire, is more appropriate for telephone interviews. The interviewer records these thoughts and asks for any clarification of problems faced by the respondent.

The present study followed both approaches, as during the pilot study both telephone and face-to-face interviews were conducted. During these, a checklist of the points that needed to be emphasised was compiled for each case during the pilot study. Many authors recommended points that should be checked by the interviewer (Saunders, 2000; Aaker, 1998); these points/recommendations were followed in the present study and the full list can be found in Appendix 4-2.

In terms of the size of the sample for the pilot study, Aaker (1998) argued that it should be no less than fifteen and no more than twenty-five, depending on the length and complexity of the questionnaire. However, in the light of the research question and objectives as well as the limitation that a researcher might have in terms of time and finances, Saunders (2000) emphasised that the pilot sample should not be less than ten respondents. Therefore, and given length of the questionnaire used in the present study, time limits and limited financial resources, the sample size was determined to be the first twenty respondents to agree to answer the questionnaire.

Respondents were initially approached by telephone. Six agreed to conduct the pilot study on the phone after faxing the questionnaire to them. The remaining fourteen asked to be sent the questionnaire by mail and be contacted again after at least one week to arrange for a face-to-face interview appointment. Therefore, a total of fourteen face-to-face and six telephone interviews were conducted. All the interviews were tape recorded and transcribed.

During pre-testing of the questions, respondents asserted that:

Answering the questionnaire took 20-35 minutes.

The questions are clear

All questions are reasonably easy to answer.

In terms of the questionnaire, the feedback could be summarized as follows:

The questionnaire is far too long.

The topic is interesting and important

Finally, one comment was received (as discussed in more detail in section 5.6.1.2) related to the asset item "Credibility with customers due to being market leader". One respondent recommended that the item be changed to "Customer credibility by being well established in the market" which focuses on the customers and the company's good relationship with them.

4.4.1.4 Modification of questionnaire

In the light of the above, other resource items were included due to their importance, despite the fact that the questionnaire is long. Therefore, instead of making each question into a separate page, similar questions were combined on the same page, keeping the covering letter, cover page and the last page of the questionnaire the same. The final questionnaire and the cover letter can be found in Appendix 4-3.

4.4.2 Stage II: Secondary Data & Survey

The secondary data were collected from:

- 1) Inside the firms: Documentation, such as annual reports, and
- 2) Outside the firms: using the available databases that provide information about the firms such as:

FAME: Financial data and the firm characteristics.

COBRA: Published reports on the firms and the industry

Mintel: Information about the best selling products, demographic characteristics, and information about the produced firms.

Proquest, Emerald-library: these databases provide articles from periodicals and newspapers as well as journals about the selected firms.

KEYNOTE: Information about the sales figures, demographic characteristics of buyers.

The information obtained from the secondary data was subjected to content analysis using the N4 programme. The purpose behind this technique is related to the aim of this research. Indeed, the main aim of the present study is to investigate the achieved competitive positioning and the different resources utilised to achieve this competitive positioning. In this regard, the secondary data could provide useful information that could be compared with what is obtained from the managers, and therefore confirm or contradict the answers (Saunders et al 1997). In other words, it provides us with objective data that assist us in this study.

Meanwhile, according to Silverman (1997), content analysis is an accepted method of textual investigation. This analysis involves establishing categories and then counting the number of instances when those categories are used in a particular item of text. Furthermore, it allows replicable and valid inferences from data to their context (Robson 2002). After crystallising the research question very precisely and choosing the secondary data to be analysed, the content analysis was conducted in the three steps recommended by Ramos et al. (2000), as shown in the figure below.

Figure 4-2

Stages to conduct content analysis



Source: Ramos, P., Salazar, A., and Gomes, J. (2000), "Trends in Portuguese tourism: A content analysis of association and trade representative perspectives", *International Journal of Contemporary Hospitality Management*, 12 (7), 409-16.

According to Saunders (2000) and McDaniel and Gates (1996), assessing the overall suitability of the secondary data source to the research questions and objectives is very important. Particular attention should be paid to: Measurement validity: The data used must provide information about, or even answer, the research question. If not, it will result in invalid answers.

Coverage, including unmeasured variables: Secondary data should cover the population about which you need data, for the time period you need, and contain data variables which will enable you to answer your research question.

Therefore, the following are important:

Ensuring that unwanted data are or can be excluded

Ensuring that sufficient data remain for analysis to be undertaken once unwanted data have been excluded.

By looking at the source of the data

Who was responsible for collecting or recording the information and examining the context in which the data were collected?

The process by which the data were selected and collected or recorded

As a result of the first stage and the pilot study, modifications to the questionnaire were carried out. The questionnaire was then sent to the whole population identified as producing OTC products in the UK market.

4.4.3 Stage III: Main Survey

The information from inside firms was gathered from:

4.4.3.1 Marketing managers

Following most of the studies that included marketing resources, such as Hooley and Greenley (2002c), marketing managers are sought to be the respondents for this study as mentioned earlier. This is because marketing managers are supposed to be involved in marketing planning activities. In other words, they would be well informed about the issues on which this research is focused. Furthermore, Malhotra and Peterson (2001) emphasised that the line of demarcation between marketing research and marketing is becoming thinner and thinner, as managers are acting more frequently as marketing researchers, as the availability of better decision tools and decision support systems is facilitating the transition of managers to researchers-cum-decision makers. Thus, depending on their responsibility in the firms, they are likely to be able to offer a valuable contribution to this research.

This group of managers were the main target inside the firm. However, if there were any chance to meet junior marketing managers, interviews were conducted with them as well. The reason for this is the fact that these junior managers are supporting the senior managers. Therefore, they are supposed to have information needed for this research as well as more time to spend in the interviews than the previous group.

4.4.3.2 Sample size

The final questionnaire was mailed to the marketing managers in the UK from a sampling frame supplied by Financial Analysis Made Easy (FAME), and Mintel. It contains detailed information on UK companies for research and marketing.

From the list that Mintel provided, showing 530 firms, it was found that there are 250 OTC products in the market. Due to the fact that this research will use a mail survey, a strategy that suffers from low response rates (Zikmund, 1991; Churchill, 1999), it was decided to send out the questionnaire to the whole population that was identified. Oppenheim (1996) stated that a more important factor than the sample size is the sample's accuracy. Indeed, a properly drawn sample would give more reliable estimates rather than a poorly drawn one (Ibid).

4.4.3.3 Factors influencing response rate:

However, before sending the final questionnaire, and in order to increase the response rate (Shaw, 2002), several methods were followed, identified from the literature as being likely to increase the response rate (Jobber 1990; Jobber and Saunders 1988; Jobber and Saunders 1993) Table 4-2.

In this research there was no sponsorship, due to the fact that the researcher is self-financed; thus, the credibility that could be obtained from a sponsor in the eyes of the target respondents was not possible.

4.4.3.4 Follow up

Due to the importance of follow up procedures in increasing the response rate (Saunders et al 1997; Dillman 1994) the researcher embarked on the follow up two weeks after initial mailing.

Follow up by calling the firm was chosen to speed up the response rate. During the follow up, the respondents were asked to either return the questionnaire after filling it in, or whether another copy of the questionnaire was needed. The research sent out replacement questionnaires as required. Alternatively, an interview over the phone was offered, and was conducted if the respondent expressed willingness.

Original replacement follow-up was chosen after Erdogan and Baker (2002) found in a mail survey that although this technique was expensive, it had a positive effect on the response rate.

4.4.4 Data analysis

In order to thoroughly examine each competitive positioning strategy, regression analysis will be used. Regression analysis assists in identifying the resources that can be used to predict the competitive positioning strategy achieved where a predictive model is fit to the data to predict values of the dependent variables (the competitive positioning strategy) (Field, 2000). This gives a great deal of insight into the competitive positioning under analysis. Furthermore, Pearson's correlation will be utilised to assess the correlation between each CP and IM.

Moreover, the effect of the environment on the competitive positioning achieved - firm performance relationship will be examined using moderated regression.

Furthermore, following Wong and Saunders (1993) and more recently Bigné et al. (2000), cluster analysis is used in order to group homogeneous groups together.

Finally, in order to examine the proposed propositions as scales, confirmatory factor analysis using LISREL 8.0 will be used.

4.5 Conclusions

This chapter has provided a description of the methodology employed in this study. Specifically, an instrument was designed and used to undertake a mail survey of UK pharmaceutical OTC manufacturers in relation to the research objectives. The different sources of information have been identified. Pre-testing was performed and the main survey instrument was sent to the whole identified population of OTC manufacturing in the UK after conducting the pilot study.

Table 4-2

Incentives used to increase response rate

Confidentiality	The sensitive nature of the questions asked (e.g. the detailed market-based assets and capabilities of the firm), was expected to affect the response rate. Therefore, the respondents were assured that the information obtained would not be disclosed to any other person beside the researcher. This was put in bold font for the purpose of emphasis in the covering letter (Diamantopoulos 1996). This assurance was found previously in an industrial survey to increase the response rate to 23.6% compared to 14% when no such assurance was given (Futrell and Hise 1982) cited in Jobber 1990)
Anonymity and personalisation	It has been demonstrated that personalisation on the covering letter has little or no effect on the response rate (Jobber and Saunders 1988, and more recently Diamantopoulos 1996). However, due to the focus on certain products, anonymity was not possible as the product name was printed on the first page of the questionnaire. Where possible, the covering letter was personalised: each letter was addressed to a named person. The researcher signed each letter by hand. The reason behind personalisation and hand signature is to individualise the covering letter. In all cases, as discussed

before, confidentiality was assured and emphasised.

Appeal

It was found that statements which appeal to the respondent's conscience were likely to result in a positive impact on the response rate where the response increased to 34% against control 31% (Jobber 1990). The covering letter appealed to the respondents, saying that their answers would make the difference between success or failure of the study and the researcher's doctoral thesis (Souchon 1997)

Incentive

It has been shown that small incentives would make a positive difference to the response rate (Jobber et al 2002), such as a tea pack or token (Dillman 1996). On the other hand, Diamantopoulos (1996) found no support for that. More recently, in a survey sent to physicians in the US, a two-dollar incentive was found to have a greater effect than a five dollar one (Harbaugh 2002). In addition, in a survey to the US marines with non-monetary post payment incentives, the response rate was increased by 33% (Bright 2002). In this research, the incentive offered was a brief summary of the study's main findings, which would be sent on completion of the research.

Colourful paper

The questionnaire was printed on colourful paper. Green was chosen due to its association with environmental concerns (Ibid) Furthermore, a green cover page in the beginning of the questionnaire was attached with "UK Pharmaceutical Industry Survey" statement with a photo of a microscope. All this added formality to the research and made it likely that the letters would stand out on the respondents' desks, and therefore the chance that they would be noticed, filled in and sent back would be increased. (Jobber 1990)

Returned Envelopes (Postage)

It is evident that a self-addressed envelope with a first class stamp would increase the response rate (Jobber 1990). In fact, Watson (1965) found that the response rate was increased to 29% when a commemorative stamp was used on the return envelope. However, more recently Diamantopoulos (1996) found that this really does not make a big difference, but that using a first class stamp made some difference. Therefore, a self-addressed envelope with a first class stamp was attached to the questionnaire.

5 Chapter Five: Analysis

This chapter represents stage III in figure 4-1 that has been discussed in the previous chapter (page 145).

5.1 Introduction

Having described in the previous chapter the methodological procedures used to test the research propositions discussed in Chapter Three, it is now the time to analyse the data obtained. This chapter presents the results of the data analysis, which allows us to decide whether the propositions are accepted or not. The following chapter then discusses the results in detail.

Consequently, this chapter is divided into four sections; Section One is mainly about getting closer to the data in hand. More specifically, the responses that have been obtained, including response rate and response bias, will be examined. This would include examination of early versus late respondents. In addition, this first section discusses the preliminary analysis of the sample to demonstrate its representative-ness.

The second section will switch to a more complex analysis to uncover the different scales that underlie the resources and isolating mechanism. Detailed examination of the scales including validity and reliability will take place. The main purpose behind this validation stage is to develop these scales.

These validity and reliability steps are discussed in detail despite the fact that all the scales in the questionnaire had been used previously. However, because of the fact that the marketing assets, marketing capabilities and isolating mechanism scales are relatively untested, having been used very little in the literature so far, and given the complexity of the scales, which consist of many items, and the small sample size which meant that especial attention needed to be given to investigate these scales' assessment in particular,

it was necessary to conduct factor analysis. This analysis assisted in the dimensionality and purification of these scales, and reduced the items to smaller, more meaningful factors, and also allowed us to examine discriminant and convergent validity. All this will assist us in investigating the propositions.

The following section tests the propositions that have been discussed in Chapter Three, and analyses them using regression analysis with each dimension of the competitive positioning. In other words, regression analysis will assist us in identifying the resources that can be used to predict the achieved competitive positioning. This gives a great insight into the competitive positioning under analysis and fulfils the first proposition. In addition, the second proposition will be examined in terms of the relationship between isolating mechanism and competitive positioning. These two propositions will be developed in terms of items and scales, using the scales that have been tested and developed earlier in this chapter. Then, the final proposition will be investigated in terms of the moderating effect of the external business environment on isolating mechanism, CP and firm performance using moderated regression.

Finally, when Porter (1996) discussed the three different strategies that a firm could achieve, he argued that these strategies are not mutually exclusive; in other words, a firm might achieve two or even all of these three strategies together. In the same vein, Aaker (1989) combined price and quality competitive positioning when he was discussing the competitive positioning that a firm could achieve, arguing that these two strategies are usually achieved together. In the light of this, an exploratory analysis will take place in the final section, aiming to identifying the different combinations that could be found among these dimensions. Therefore, neither hypothesis nor propositions are developed in this section, as such propositions are not known in advance. In this case, classifying homogeneous groups together in terms of competitive positioning strategies is done using cluster analysis. In addition, to discriminate between the resulting clusters, discriminant and ANOVA tests were conducted. Due to the fact that resources and isolating mechanism are looked at as both items and scales, special consideration was given to the discrimination between the clusters in terms of both items and scales.

5.2 *Preliminary analysis*

5.2.1 Response rate and bias

5.2.1.1 Response rate

In the main survey, twenty questionnaires were received without any reminders. After two weeks, a telephone call was made to all respondents who did not return the questionnaire. The results of these calls were another twenty questionnaires back. Another telephone call was made to the rest of the managers who did not send back the questionnaire. Five agreed to fill in the questionnaire on the phone after it had been faxed it to them. Another sixty expressed interest but requested another copy of the questionnaire. The rest of the population apologized for various reasons: they did not have time, and/or it contravened company policy and/or the information needed to fill in the questionnaire was confidential.

In total, one hundred and five questionnaires were received, ninety-four of which were usable. Although this response rate is not particularly high at 37 percent, other similar surveys have received similar response rates. For instance, Vorhies et al (1999) received eighty-seven percent that is a 22 percent response rate. Even more recently, Camelo-Ordaz et al (2003) received only seventy-eight questionnaires. Therefore, it is considered that the sample size at hand is more than adequate.

5.2.1.2 Response bias

Following Armstrong and Overton (1977), Blankson (1999) and more recently, White et al (2003), non-response bias was assessed by comparing early and late respondent groups. This comparison took place using independent sample t-test. Table 5-1 presents

the results of the independent sample t-test, in terms of the three dependent variables; technical quality, the price levels charged for our products, and finally the degree of innovation. Furthermore, as mentioned earlier, a sample of non-respondents were contacted to identify the reasons behind not answering the questionnaire.

Consequently, it could be said that there is no evidence of serious non-response bias in this sample, as all the results are non significant. In other words, no significant mean differences were found between these two groups on any of the variables examined. Therefore, non-response bias is not an issue of concern in this study.

A discussion on the data representativeness follows.

Table 5-1

Non-response bias analysis

Competitive Positioning	Levene's Test for Equality of variances		t-test for equality of means		
	F-value	P-value	t-value	df	2-tailed Sig.
Technical Quality	.63	.42	.57	92	.56
The price levels charged for our products	2.90	.09	.46	92	.64
The degree of innovation in our products	.00	.95	.68	92	.49

5.2.2 Representative-ness of the data

As discussed in the previous chapter, the questionnaire was sent to the whole population of marketing managers of firms making cold and flu, analgesics and decongestant products. After the follow up, a total of ninety-four useable questionnaires were obtained. In this section, checking the representative-ness of the data will take place using

descriptive analysis. This will involve investigating the results not only from firm size and market type but also from the answers related to competitive positioning.

5.2.2.1 Firm size

Company size is measured by the number of employees. The respondents had three options; less than 499, from 500 to 999 and finally 1000 and above. Table 5-2s.

shows that just over half of the respondents' responses were concentrated on company size from 500 to 999. Nevertheless, almost half of the remaining respondents worked in smaller firms (31 percent); the remaining respondents (16%) worked in larger firms. Thus, although the sample tends to be concentrated in the middle point (between 500 and 999), there are still responses from the other options.

Furthermore, to test for the concordance between the sample and population characteristics, the obtained sample was analysed and compared to the population. The Chi-square (denoted χ^2) test statistic is appropriate in this case (Pallant 2001), and the corresponding procedure in SPSS is used to accomplish this task. The population frequencies are used as the expected values and the sample frequencies as the observed values for comparison.

The Chi square value of this analysis is $\chi^2=3.35$ with 2 degrees of freedom. This result indicates that the chi-square test is highly non significant ($p<0.19$). Accordingly, there was high support to confirm that there is no statistical difference between the population and the sample in terms of firm size. Thus, it is indicated that the sample is representative in terms of firm size.

Table 5-2**Respondents by Firm size**

	<i>Less than 499</i>	<i>From 500-999</i>	<i>From 1000 and more</i>
<i>N (%)</i>	29 (31%)	50 (53%)	15 (16%)

Note: percentages are rounded

Total N=94

Mean score=1.85

Standard Deviation=0.67

Table 5-3**Results of Chi-Square for sample representativeness**

	<i>Chi-Square</i>	<i>Df</i>	<i>Significance</i>
<i>Firm size</i>	3.35	2	0.19

The mean difference is Significant at the .10 level.

5.2.2.2 Market type

As discussed previously, the main markets that this study concentrates upon are cold and flu, analgesics and decongestant. The cold and flu market is the biggest market, followed by the decongestant market (Cobra 2001). 51 percent of the answers obtained were from the cold and flu producers, while 28 percent were obtained from the decongestant producers and finally 21 percent from the analgesics, as shown in the Table below.

Table 5-4**Respondents by market type**

	<i>Cold and flu</i>	<i>Decongestant</i>	<i>Analgesics</i>
<i>N (%)</i>	48 (51%)	26 (28%)	20 (21%)

Note: percentages are rounded
Total N=94

5.2.2.3 Competitive positioning strategies

In terms of the most important variables, the dependent variables, which are the three competitive positioning dimensions, the representative-ness of the data is shown in Table 5-5 and is as follows:

For technical quality, the mean and standard deviation scores were 3.57 and .92 respectively. Most of the responses (42 percent) answered “higher than competitors”. Also, this was the top answer for the price level charged for our products (36 percent) (mean 3.32, standard deviation 1.029). However, there was quite a variety in the answers; for example, for the innovation dimension, “the same as competitor” answer received a high response rate (38 percent), followed by “higher than competitors” which scored 35 percent, while “much higher than competitors” received only 12 percent of the responses. Furthermore, for quality CP, both “low” and “much higher than competitors” answers received the same percentage (15 percent).

Finally, the lowest score in all answers for the three dimensions was taken by “much lower than competitors”. For the dimension of price, this option was selected by only five percent of respondents. Moreover, interestingly, it was found that this option of “much lower than competitors” was not selected at all (zero percent) in either technical quality or innovation. This would provide us with a sense of how competitive this industry is. As the respondents recognise the importance of both technical quality and innovation, they try not to be left behind regarding these two dimensions.

Table 5-5

Responses on each competitive positioning dimension (Percentage)

	<i>Much lower than competitors</i>	<i>Lower than competitors</i>	<i>The same as competitors</i>	<i>Higher than competitors</i>	<i>Much higher than competitors</i>
	(1)	(2)	(3)	(4)	(5)
<i>Quality</i>	0	15	28	42	15
<i>Price</i>	5	15	33	36	11
<i>Innovation</i>	0	15	38	35	12

N=94

From the above discussion, it could be realised that most of respondents claim that their offerings are “higher” than those of competitors, as the scale is relative to competitors. In other words, it could be realised that these answers have Skewness and kurtosis.

Skewness could be defined as a “*measure of the symmetry of a distribution; in most instances the comparison is made to a normal distribution. A positively skewed distribution has relatively few large values and tails off to the right, and a negatively skewed distribution has relatively few small values and tails off to the left. Skewness values falling outside the range of -1 to +1 indicate a substantially skewed distribution*” (Hair et al 1998: 38). Furthermore, Kurtosis could be defined as “*a measure of the peakedness or flatness of a distribution when compared with a normal distribution. A positive value indicates a relatively peaked distribution, and a negative value indicates a relatively flat distribution*” (Hair et al 1998: 37).

The problem with both skewness and kurtosis is that they have an associated standard error. The values of skewness and kurtosis should be zero in a normal distribution,

because a positive values of skewness indicates a pile-up of scores on the left of the distribution, whereas negative values indicate a pile-up of scores on the right of the distribution (Field 2000).

Positive values for kurtosis indicate a pointed distribution, whereas negative values indicate a flat distribution. However, the actual values of skewness and kurtosis are not, in themselves, informative. Instead we need to take the value and convert it to a z-score. A z-score is simply a score from a distribution that has a mean of zero and a standard deviation of 1. This is a standardization method; we can take any variable measured in any units and convert it to a z-score. By converting to z-score we can compare any scores, even if they were originally measured in different units (Ibid). These z-scores can be compared against values that one would expect to get by chance alone and, if the calculated z value exceeds a critical value (± 2.58 or ± 1.96) this indicates we can reject the assumption about the normality of the distribution at the .01 or .05 probability levels respectively, depending on which probability level has been chosen (Hair et al 1998)

Consequently, in the present study, these three competitive positioning have been converted to a z score, and compared with those scores with ± 2.58 , as the sample at hand is relatively small.

Using these as guidelines, the skewness coefficients and kurtosis coefficients ranges were far less than those described as guidelines and thus it is considered that these competitive positioning skewness and kurtosis levels are acceptable. Thus, this should not pose any problem in proceeding with the analysis (Tam 2000).

Even more, this skewness and kurtosis could be due to the fact that the research is conducted in an industry where there is high concern about the products produced, as it involves people's health and therefore, it seems that those firms recognize the importance of the fact that a certain level of quality and innovativeness should be maintained.

However, one of the remedies that have been suggested by Hair et al (1998) and Tabachnick and Fidell (1996) was used. The reason behind that is to ensure that the normality of the data.

This suggested remedy is transformation (Ibid). This transformation involves mathematically modifying the scores using various formulas until the distribution looks more normal; the choice of the most appropriate type of transformations depends on the shape of the distribution. Consequently, by examining the distribution at hand, it was found that using the square root is the most appropriate transformation. Thus the data have been transformed using SPSS, and the result is, as expected, normally distributed, as shown in Appendix 5-1.

In summary, it could be seen that the sample is representative of the wider population of interest in this study.

It is now time to examine the three propositions presented in Chapter Three. In more detail, the investigation of the three propositions will take place next.

However, developing scales and examining their validity and reliability will be conducted first. Indeed, having presented the preliminary analysis, following discussion and analysis in relation to the research objectives and propositions it is time now to fulfil the first objective of the present study. This is related to developing and testing scales for marketing resources and IM. The processes used for testing different propositions that involve different relationships are then uncovered.

5.3 Developing and testing the scales

All the scales (marketing assets, marketing capabilities, market orientation and isolating mechanism) that have been used in this study have been used previously in the literature. However, as discussed before, market orientation is the most established one. Indeed, market orientation has been discussed and tested extensively in the literature, as shown in the literature review chapter. On the other hand, marketing assets, marketing capabilities and isolating mechanism are not examined as extensively as market orientation in the literature. In addition, due to the complexity of these scales, it was felt that investigating

them as closely as possible in terms of validity and reliability would assist in the dimensionality and purification of the scales, and therefore reduction of the items, if needed, to smaller more meaningful factors. Thus, validating these three scales (marketing assets, marketing capabilities and isolating mechanism) was necessary. Table 5-6 presents the steps used to validate the scales.

5.3.1.1 Step 1: Define construct scale

Each construct has been discussed extensively in the literature chapter. Furthermore, as mentioned earlier, all items included in the present study have been used previously in the marketing literature.

Even more, as discussed thoroughly in the third and fourth chapters, these items have been taken mainly from Hooley and Greenley's study (2002c). However, similar items were used in other studies such as Vorhies et al (1999), Srivastava et al (1998), Fahy (1997/98), and more recently Zott (2003), Camelo-Ordaz et al (2003) and Weerawardena (2003).

5.3.1.2 Step 2: Content and face validity

Content validity “..[i]s the subjective yet systematic assessment of how well a construct's measurable components represent that construct” (Hair et al, 2003: 379). Content validity is concerned with the relevance of the scale items in capturing all aspects of the concept; assets, capabilities, market orientation and competitive positioning. The research explored marketing managers' opinions and understanding of the different resources and isolating mechanisms that they are utilising to achieve as well as protect their planned competitive positioning, and in addition, the effect of such a planned competitive positioning on the firm's performance. It also examined the moderating effect of the external environment, as will be discussed in more detail below.

Table 5-6

Validating a scale



Adopted from:

Churchill, G. (1979), "A paradigm for developing better measures of marketing constructs", *Journal of Marketing Research*, XVI, 63-74.

Souchon, A. (1997), "The use of information in an export setting: The construct, its antecedents, and its impact on export performance", Ph.D., The European Business Management School, University of Wales, Swansea.

Furthermore, in particular, the appropriateness of the scales used for each construct was preliminarily assessed during the pilot study, during which the respondents were asked to explain their understanding of the questions. Adjustments to the wording were made accordingly (Greenley and Foxall 1998).

Furthermore, as mentioned above, all items were taken from the literature. The interviews with marketing managers conducted in the pilot phase of the research ensured that the different aspects of each resources dimension were included in the item pool. For

instance, customer based assets, internal assets and supply chain assets are all aspects of marketing assets captured.

Next, a detailed discussion of each scale in terms of content and face validity is presented.

5.3.1.2.1 *Marketing assets and capabilities*

For marketing assets and capabilities, the only comment that was received was related to “Credibility with customers due to being market leader”; as it was recommended that it be changed to “Customer credibility by being well established in the market” which focuses on the customers and the good relationships with them.

5.3.1.2.2 *Isolating mechanism and environmental factors*

For isolating mechanism and environmental factors, no comments were received.

5.3.1.2.3 *Competitive positioning dimensions*

Also, for competitive positioning dimensions, no comments were received.

Therefore, in the light of the original literature and the pilot phase, which is based on qualitative research, as well as the comprehensive content of the scales, content validity would appear to be acceptable.

Attention will now turn to the third and fourth steps.

5.3.1.3 Step 3 & 4: Dimensionality and Reliability assessments

In this step, Exploratory Factor analysis (EFA) and reliability assessments were conducted. Factor analysis is "*a class of procedures primarily used for data reduction and summarization*" (Hair et al, 2003: 601). Indeed, principal component analysis is one type of exploratory factor analysis aiming to transform an original set of variables into a substantially smaller set of uncorrelated variables that represent most of the information in the original set of variables (Malhotra and Birks 1999).

The purpose of EFA is to ensure that a set of items captures just one underlying construct. Indeed, Spector (1992) suggested that exploratory factor analysis is a good technique for studying the dimensionality of a scale. The factors generated can be indicators of separate constructs or of different aspects of a single, rather heterogeneous construct. In this study, marketing assets, capabilities and isolating mechanism scales were treated as multidimensional constructs, as has been discussed in the literature review. For example, the marketing assets scale was considered to consist of customer based assets, internal assets and supply chain assets, while marketing capabilities were considered to consist of inside-out, outside-in and spanning capabilities. Depending on the above, Exploratory Factor Analysis (EFA) was conducted separately on each dimension to identify the constructs represented in the original variables (Hair et al 1998).

The following presents a discussion of the factor and reliability analysis that has been conducted on each of the components of the firm resources; assets, capabilities, market orientation and IM. In addition, as discussed in the literature review, market orientation has been dealt with either as a uni-dimensional or multi-dimensional construct. In order to decide how to deal with market orientation in this study, exploratory factor analysis was conducted on market orientation.

Principal component analysis was performed separately on each of the following: assets, capabilities, IM and market orientation. The reasons for treating the resources separately

instead of collectively are mainly the sample size and the large number of items that the three components consist of collectively. As a general rule, to be able to conduct factor analysis, at least five times as many observations as there are variables are needed (Hair et al. 1998; Coakes and Steed 1999).

Meanwhile, assets consists of twelve items, while, capabilities consist of eleven items. Isolating mechanism (IM) consists of nine items; market orientation, on the other hand, consists of fourteen items. In order to conduct factor analysis for the resources collectively, a sample size should be at least two hundred and thirty, which is much bigger than the sample at hand. However, in considering the assets alone, the sample size required should be at least sixty, which is smaller than the sample at hand. The same goes for the capabilities, IM and market orientation, where sample size required is less than the one at hand. Therefore, the most appropriate approach is to deal with each component separately.

Factors are rotated using an orthogonal rotation procedure. Varimax rotation was performed as it tends to give a clear separation of factors (Kim and Muller 1978), it is the most common rotation technique (Wong and Saunders 1993; Diamantopoulos and Souchon 1999), and finally, it simplifies the factor solutions and is easy to interpret (Ibid).

There are several methods to decide on the number of factors to extract. Two of these have been used in the present study in order to get the best focusing "*microscope*" (Hair et al, 1998: 103), one of which was using an Eigenvalue greater than one as the criteria to determine the number of factors to be retained (Ibid). Indeed, the technique where a factor is retained for interpretation only when it accounts for the variance of at least a single variable is the most used. The second method is the scree plot, which plots the latent roots against the number of factors in their order of extraction, and the shape of the resulting curve is used to evaluate the cut-off point (Ibid).

For the factor analysis that has been conducted, items that had a loading of less than 0.5 were removed from further analysis. Item loading assists in deciding which variables

make up which factors. In other words, this option is simply a decision on which factor loadings are significant and therefore worth considering (Ibid). In general, an absolute value of more than 0.3 could be considered to be important. However, this decision depends on the sample size. Stevens (1992) presented a table of critical values against which loadings can be compared; with a sample of one hundred, the loadings would be greater than 0.51. However, Hair et al (1998) emphasised that such choice is practical, not statistically significant. Therefore, following previous marketing practices as well as allowing for the limitation of the sample size of the present study, a loading of 0.5 was selected.

Each factor generated was treated as a sub-scale. Item-to-total correlation and Cronbach alpha were calculated for each sub-scale. The item-to-total correlation measures the correlation between the item score and the sub-scale score without the item. If there were items that had a low correlation with the sub-scale, they should have been removed to increase the internal consistency among the items on the sub-scale, and the iterations of the analyses should be repeated.

In addition, reliability is also assessed in this study. Indeed, reliability analysis is concerned with how stable, consistent, predictable and accurate the results obtained are (Burns 2000). Basically, the most appropriate method that could be used in this research to assess the reliability of the scales is Cronbach alpha, which is a common method for assessing internal consistency among the items on a scale. As a rule of thumb, the alpha value should be higher than .70 (Hair et al 1998). However, for exploratory research, reliability coefficients 0.60 or above could be acceptable (Chen 1999).

Next the dimensionality and reliability of marketing assets, then capabilities, market orientation and finally isolating mechanism are discussed.

5.3.1.3.1.1 Marketing Assets

Factor analysis was conducted for marketing assets, the results indicating the presence of some shared variance among the items; thus, principal component analysis proceeded comfortably with assets components. In other words, KMO and the Bartlett test of sphericity for all the components of the resources indicated the suitability of conducting factor analysis.

The initial analysis results showed that “company or brand name and reputation” has less than .50 (the cut-off point that has been discussed above) communalities level (.48) with other items; therefore, it was removed and factor analysis was re-run. The second factor analysis resulted in four factors. However, the fourth one consists of only one item, which accounted for only 9.51 percent of the variance. In addition, the scree plot that was subsequently drawn also showed a major elbow after the third factor, thus supporting the existence of only three factors. Therefore, this factor was removed and factor analysis was re-run.

The third and final analysis resulted in three factors with a reasonable KMO and communalities level among items and therefore proceeded with the analysis. This final factor analysis extracted, as expected, three factors, accounting for 65.35 percent of the total variation. Table 5-7 presents the results of both factor and reliability analysis. A label was given to each factor, based on the content of the items that loaded heavily on the respective factors. Appendix 5-2 presents the full result of both factor and reliability analysis for assets.

In essence, there were three factors representing the expected result: supply chain, the first factor, accounted for the largest percent of the variation (29.75 percent). This factor consisted of the items “Good relationship with suppliers”, “relationship with distribution channel intermediate”, “the uniqueness of our distribution approach”, and finally “Extent nature of distribution network”, therefore, it was decided to call it “**Distribution based assets**”. The second factor accounted for the second largest percent of the variation

(19.66 percent). It consisted of the items “ Superior marketing information”, “cost advantage in production” and “superior cost control system”. It was labelled **“Internal based assets”**. The third factor accounted for 15.93 percent of the variance and consisted of “ Good relationship with key target customers”, “superior levels of customer services” and “customer credibility by being well established in the market”. This third factor was named **“Customer based assets”**.

5.3.1.3.1.1 Reliability

In terms of reliability analysis, the reliability of each factor was assessed as follows:

For **“Distribution based assets”** consisting of four items, the first reliability analysis revealed that “Extent of nature of distribution network” had low item-total correlation (.43). Therefore, it was decided to delete this item. This deletion resulted in an improved alpha from .73 to .74.

For the second factor **“Internal based assets”** it was again found that the third item “Superior cost control system” had low item-total correlation (.37) and therefore it should be deleted. This deletion improved alpha to .72. from .66. Finally, the third factor **“Customer based assets”** had an acceptable level of alpha, .68.

Table 5-7

Results of reliability and Factor analyses for Assets

Assets Items ^a	Factor Analysis	Reliability Analysis		
	Loadings	Alpha if Item Removed	Item-Total Correlation ^b	Alpha (α)
Factor 1: Distribution based assets				0.74
Good relationships with suppliers	0.85	0.71	0.51	
Relationships with distribution channel intermediaries	0.81	0.60	0.70	
The uniqueness of our distribution approach	0.64	0.64	0.58	
<i>Eigenvalue</i>	2.97			
<i>Percentage of variance</i>	29.75			
Factor 2: “Internal based Assets”				0.72
Superior marketing information systems	0.82	.	0.57	
Cost advantage in production	0.80	.	0.57	
<i>Eigenvalue</i>	1.96			
<i>Percentage of variance</i>	19.66			
Factor 3: “Customer based Assets				0.68
Relationship with key target customers	0.86	0.54	0.52	
Superior levels of customer services	0.71	0.59	0.48	
Customer credibility by being well established in the market	0.66	0.61	0.47	
<i>Eigenvalue</i>	1.59			
<i>Percentage of variance</i>	15.93			
Kaiser –Mayer –Olkin (KMO) 0.59				
Bartlett test of sphericity Chi-square=333.87 (p=0.00)				

^a Mean score on five point scale where 1= strongly agree and 5=strongly disagree.^b Product moment correlations all significant at 0.001 level.

In sum, it was found that marketing assets consist of mainly three scales; distribution based assets, internal based assets and finally customer based assets.

The analysis proceeds to the second component of resources: capabilities.

5.3.1.3.1.2 Marketing Capabilities

Similar analysis was conducted for marketing capabilities. Table 5-8 depicts the results, that indicated the presence of some shared variance using KMO and Bartlett test of sphericity for all the components of the resources, indicating the suitability of conducting Exploratory factor analysis.

Principal components analysis was performed on the eleven items that constitute the capabilities. However, the initial analysis results showed that “good at setting prices that attract customers and achieve financial goals” had low communalities, with less than .50 (the cut-off point that has been discussed above) communalities level (.40) with other items; therefore, it was removed and factor analysis was re-run. In the second analysis, as expected, three factors were extracted, accounting for 69.33 percent of the total variance. Appendix 5-3 presents the full output of factor and reliability analysis for capabilities.

The first factor contained items mainly from outside-in capabilities, and one item (*production and manufacturing expertise*) from inside-out; this factor accounted for 44.09 percent of the total variance. However, the factor's internal consistency was high ($\alpha = .79$). It was decided to label it 'Outside-in'. The second factor, spanning capabilities, accounted for 14.77 percent of the variance, with $\alpha = .74$. The last factor included items mainly from Inside-Out, plus only one item from Outside-In (good at using information about markets, customers and competitors). Therefore, it was decided to label it "Inside-out". This factor explained 10.48 percent of the total variance.

5.3.1.3.1.2.1 Reliability

In addition, reliability analysis results are above the accepted level (Nunnally, 1967), therefore the three factors will be taken for further analysis.

The analysis now proceeds to examine market orientation

5.3.1.3.2 *Market orientation (MO)*

For Market Orientation, the Narver and Slater (1990) scale was used; however, in this research there were difficulties in identifying the three-factor structure that Narver and Slater referred to (customer orientation, competitors' orientation and inter-functional orientation). At the same time, Spector (1994) suggested that exploratory factor analysis is a good technique for studying the dimensionality of a scale. The factors generated can be indicators of different aspects of a single construct rather than heterogeneous constructs. The researcher's purpose would determine the choice of whether a scale is one-dimensional or multi-dimensional. For this study, market orientation was treated as one-dimensional; this was not only for validation purposes, but also followed what had been found previously by Greenley (1995b), Gatignon, (1997), Morgan (1998) and finally, Hooley (2000), who argued that these three dimensions are not independent, and the correlations between them are all positive. Therefore, one single measure for market orientation will be used. The reliability of the overall scale was high ($\alpha=0.83$). Appendix 5-4 depicts the full output of reliability analysis for market orientation as a single scale.

Table 5-8

Results of Factor and Reliability Analysis for Capabilities

Capabilities Items	Factor Analysis	Reliability Analysis		
	Loadings	Alpha if Item Removed	Item-Total Correlation	Alpha (α)
Factor 1: Outside-In				0.79
Good at enhancing and maintaining relationships with key customers	0.85	0.78	0.57	
Good at creating relationships with customers	0.79	0.64	0.70	
Production and manufacturing expertise	0.74	0.71	0.63	
<i>Eigenvalue</i>	4.40			
<i>Percentage of variance</i>	44.08			
Factor 2: Spanning Capabilities				0.74
Ability to launch new product development which is responsive to customer needs	0.82	0.66	0.56	
Good at understanding what customer needs and requirements are	0.62	0.66	0.58	
Good marketing management ability	0.64	0.67	0.55	
Effective new product development processes	0.62	0.72	0.53	
<i>Eigenvalue</i>	1.47			
<i>Percentage of variance</i>	14.76			
Factor 3: Inside-out and Outside-In				0.69
Effective human resource management	0.91	0.48	0.60	
Strong financial management	0.62	0.67	0.46	
Good at using information about markets, customers and competitors	0.57	0.62	0.50	
<i>Eigenvalue</i>	1.04			
<i>Percentage of variance</i>	10.47			
Kaiser –Mayer –Olkin (KMO) 0.76 Bartlett test of sphericity Chi-square=389.21 (p=0.00)				

5.3.1.3.3 *Isolating Mechanism*

Finally, and similar to the analyses above, principal components analysis was also performed on the nine items constituting the Isolating Mechanism scale. The results in Table 5-9 again indicated the presence of some shared variance among the items; thus, principal component analysis proceeded comfortably with IM components. However, it was found that the item “It took time to build competitive position and competitors would find it time consuming to follow a similar route” had low communalities with other items (.39), thus it was removed and factor analysis was re-run. A label was given to each factor, based on the content of the items that loaded heavily on the respective factor

5.3.1.3.3.1 Reliability

Three factors were extracted, accounting for 72.68 percent of the total variation. Each factor generated was treated as a sub-scale. Item to total correlation and Cronbach alpha were calculated for each sub-scale. Appendix 5-5 presents the full output of factor and reliability analysis for the IM.

Reliability is necessary but not sufficient for validity assessment (Tam 2000). Next, there is a discussion on the last step of validating a scale, which is assessment of the quality of the data at hand and validity assessment.

Table 5-9

Results of Factor and Reliability Analysis for IM

IM Items	Factor Analysis	Reliability Analysis		
	Loadings	Alpha if Item Removed	Item-Total Correlation ^b	Alpha (α)
Factor 1: “legal and economic ”				0.93
We protect our resources legally through copyrights and patents	0.94	0.85	0.92	
Competitors find it difficult to see how we created our competitive positioning in the market in the first place	0.97	0.85	0.92	
Competitors could copy our competitive position but it would be uneconomic for them to do so	0.82	1.00	0.76	
<i>Eigenvalue</i>	3.29			
<i>Percentage of variance</i>	36.63			
Factor 2: “ Scarce/unique resources”				0.58
Only we have the access to the resources we use	0.71	0.45	0.41	
Our products are highly valued by our customers creating a barriers against competitors’ products	0.71	0.44	0.41	
There would be significant cost for customers if they switched from our products to those of competitors	0.69	0.54	0.35	
<i>Eigenvalue</i>	1.46			
<i>Percentage of variance</i>	17.88			
Factor 3: “Tacit Knowledge and skills based isolation”				0.55
Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage	0.83	.	0.38	
Our employees are the source of our competitive advantage and we won’t lose them to competitors	0.82	.	0.38	
<i>Eigenvalue</i>	1.33			
<i>Percentage of variance</i>	16.49			
Kaiser –Mayer –Olkin (KMO) 0.60				
Bartlett test of sphericity Chi-square=163.68 (p=0.00)				

5.3.1.4 Step 5: Quality of information & Validity Assessment

5.3.1.4.1 *Quality of information*

This section assesses the quality of the information obtained in the research, in order to ensure that the scales developed for measuring assets, capabilities, and isolating mechanism are measuring what they intended. Otherwise, measurement errors will occur (Whitley 1996). Measurement errors arise because of imperfections in the measuring instrument. Measurement errors come in two types: random and systematic errors (Churchill 1999). Random errors fluctuate each time a measurement is taken, and thus lead to lower reliability estimates. Generally, random errors arise from transient aspects of the observed respondent such as respondent's mood at the time of the interview, or measurement situations such as whether a respondent is accompanied by other people when the questionnaire is administered (Churchill 1979; Malhotra 2000; McDaniel and Gates 1996).

Systematic errors, on the other hand, cause measurement errors in a systematic way. Therefore, the observed score is stable but it is inaccurate as an indicator of the true score. For random errors, Bagozzi (1994) argues that the intention of multiple item scales is to minimise random errors. Indeed, *"according to the law of large numbers, the use of multi-items can offset biases that might be caused by the situational factors and variations within a respondent"* (Tam 2000: 155).

In this research, the questionnaire was sent to the whole population in order to avoid random errors arising from the variation between the sample mean value and the true mean value of the population of interest (McDaniel and Gates 1993). Furthermore, the population was defined in a clear and precise way in order to avoid systematic errors. Both face to face and telephone interview techniques were used to offset the weaknesses of each method by the strengths of the other.

In addition, careful attention was paid to questionnaire design, and a pre-test was used before embarking on the actual test. Therefore, it could be said that measurement error is not of major concern here.

In the following section, the validity of the scales will be discussed.

5.3.1.4.2 *Validity Assessment*

As mentioned earlier, although reliability is important, it is not sufficient on its own for validity assessment (Tam 2000). In fact, reliability could be looked at as the prerequisite to the validity. Validity is “*the degree to which a research instrument serves the purpose for which it was constructed; it also relates to the extent to which the conclusions drawn from an experiment are true*” (Hair et al, 2003: 686). Validity is related to the degree of association between what is measured and what is meant/supposed to be measured (Churchill 1999, Lehmann et al 1998). In section 5.3.1.2, content validity was discussed. Thus, this section will focus on construct validity in terms of criterion, nomological and discriminant assessments.

5.3.1.4.2.1 Criterion validity

Criterion validity measures whether the measurement scale is performing, predicting or correlating with scores on another measure as expected (Malhotra 2000). To this end, evidence of criterion validity was obtained by examining the correlations of the market orientation and capabilities, because as has been discussed in the literature review chapter, these two dimensions are known to be correlated. Market orientation showed significant correlations (at the 0.01 level) with two of the three capabilities dimensions (spanning capabilities and inside-out); the correlations were 0.42 and 0.62 respectively, as shown below. Thus, it could be said that criterion validity is not violated.

Table 5-10

Correlation of the market orientation and capabilities as evidence of criterion validity

	<i>Spanning Capabilities</i>	<i>Outside- in</i>	<i>Inside- out</i>
<i>Market orientation</i>	0.42	0.02	.62
<i>Sig.(2-tailed)</i>	.00*	.84	.00*

N=94

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

5.3.1.4.2.2 Construct validity

Construct validity is most directly concerned with “*the question of what the instrument is, in fact, measuring*” (Churchill 1995: 535). Construct validity is established by determining the extent to which the construct behaves as expected with respect to the other constructs to which it is theoretically related, and is consequently refereed to as nomological validity. In addition, construct validity is established by examining the extent to which the measure is distinct and is not simply a reflection of some other variable (discriminant validity). Next, a discussion of these two assessments will take place.

5.3.1.4.2.2.1 Nomological validity

This addresses the degree to which a measure is correlated in theoretically predicted ways with measures of different but related constructs (Malhotra 2000). Following Hooley et al (2000), the nomological validity of the scale was assessed through testing

the propositions that have been discussed in Chapter Three, as will be discussed in the following sections.

5.3.1.4.2.2 Discriminant validity

In this study, the discriminant analysis was checked using several methods.

Following Diamantopoulos and Souchon (1999) and Lings and Greenley (2001), to provide evidence of discriminant validity, a Confirmatory Factor Analysis (CFA) model employing structural equations modelling using LISREL 8.30 (Jöreskog, and Sörbom, 1999) took place. Indeed, exploratory factor analysis is useful to develop preliminary scales and to reduce a large number of items to a more manageable size (Gerbing and Anderson 1988). However, as CFA has been suggested as an analytical tool, the structure of the factor model needs to be specified based on some underlying theory or previous research and the goal is to assess how well the empirical data conform to the hypothesized factor model (Sharma 1996). Thus, it could be used as evidence of discriminant validity (Diamantopoulos and Souchon 1999).

In this study, the main purpose behind conducting CFA is to examine discriminant validity. In this regard, there are several measures that can be used to evaluate the overall fit of the model; χ^2 test, Normed fit index (NFI), Goodness-of-fit, Root Mean Square Residuals (RMSR), or Total Coefficient of Determination (R^2); A large χ^2 value indicates a good fit, and a small χ^2 indicates a bad fit (Jöreskog, and Sörbom, 1999). However, the test is sensitive to sample size. As the sample size gets large, the chance of rejecting a model increases. On the other hand, a small sample size may lead to acceptance of an invalid model. Therefore, other measures were sought (Kaplan 2000).

For example, Normed Fit Index (NFI) is based on a comparison of the fit of the hypothesised model to the null of independence model. $NFI > 0.90$ indicates an adequate fit. The index represents the percentage improvement in fit over the independence model.

For example, if the NFI = 0.95, then the hypothesised model is 95 percent better fitting than the independence model (Ibid).

Furthermore, Goodness-of-fit index (GFI) is a measure of the relative amount of variances and co-variances jointly account for by the model (Jöreskog, and Sörbom, 1999). Moreover, Adjusted Goodness-of-fit (AGFI) adjusts the GFI for degrees of freedom in the model. The values of GFI and AGFI range from 0 to 1. There are no guidelines regarding how high GFI and AGFI should be; however, researchers have typically used GFI values above 0.90, or at least .8 (Mueller 1996), and AGFI values above 0.80 as the cut-off point (Sharma 1996). However, Kelloway (1998) noted that these guidelines are based on experience and are highly arbitrary, and thus should be treated with caution (Tam 2000).

In addition, Root Mean Square Residuals (RMSR) indicates the average of the residual variance and covariance. The larger the RMSR, the less is the fit between the model and the data, and vice versa. Further, careful inspection of individual residuals and Q-plots of normalised residuals can also suggest possible sources of model mis-specification.

Finally, Root Mean Square Error of Approximation (RMSEA) is generally regarded as one of the most informative fit indices (Diamantopoulos and Siguaw 2000). It shows how well the model, with unknown but optimally chosen parameter values, would fit the population covariance matrix if it were available. Values less than 0.05 are indicative of good fit, between 0.05 and under 0.08 of reasonable fit, between 0.08 and 0.10 of mediocre fit and >0.10 of poor fit.

Other fit indices; there are many other measures. However, their usefulness remains questionable. An example is the critical N (CN) index, where the value of the CN indicates the size a sample must achieve in order to accept the fit of a given model on a statistical basis. However, the criterion for a good fit is less clear (Tam 2000).

Next, a brief discussion on each of the CFA that have been conducted on assets, capabilities and isolating mechanisms will take place.

However, before proceeding and in order to be ready to apply CFA, the scales developed in section 5.3.1.3 using exploratory factor analysis were used as the starting point. In essence, these scales were used as a basis to specify the structure of the measurement models.

5.3.1.4.2.2.1 Confirmatory Factor Analysis for Assets

As mentioned above, the results of EFA were used as the starting point for specifying the measurement models. It has been found in this research that marketing assets consist of three scales (Distribution-based assets, Internal-based assets and finally Customer-based assets). 1) The Distribution based assets scale contains three items: Good relationships with suppliers, Relationships with distribution channel, and Uniqueness of our distribution. 2) The Internal based assets scale contains two items: Superior marketing information systems and Cost advantage in production. Finally, 3) the Customer based assets scale consists of three items: Relationship with key target customers, Superior levels of customer services and Customer credibility by being well established in the market. Each of these scales was regarded as a sub-scale of the marketing assets scale, and they were examined together.

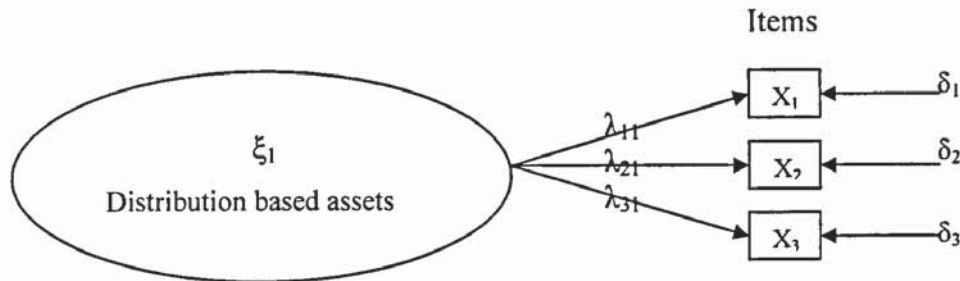
Each measurement (distribution based assets, internal based assets and customer based assets) was specified in LISREL. For example, Figure 5-1 presents an example of the measurement model for distribution-based assets that have been specified in section 3.3 page 115. In more details, supply chain assets, as one component of marketing assets, consists of (as shown in the figure below):

1. Good relationship with suppliers,
2. The uniqueness of the distribution approach, and
3. Relationships with distribution channel intermediaries.

All other measurements were specified in a similar way.

Figure 5-1

Measurement model for “Distribution based asset”



The above measurement model can be represented mathematically as follows:

$$X_1 = \lambda_{11} (\text{Distribution based assets}) + \delta_1$$

$$X_2 = \lambda_{21} (\text{Distribution based assets}) + \delta_2$$

$$X_3 = \lambda_{31} (\text{Distribution based assets}) + \delta_3$$

a) Assess the identification of the model

The main purpose of this step is identification of whether unique values for the parameters of the proposed model can be obtained using the information provided by the data. A necessary condition for identification is when the number of parameters to be estimated is less than or equal to the number of non-redundant elements of the sample matrix of covariance among observed variables (Long 1994a,b). This could be calculated using the following equation:

$$T \leq [(p+q)(p+q+1)] / 2$$

Where

T is the number of parameters to be estimated

P= number of observed y variables

q= number of observed x variables

In this study, using the above equation, and using the rule discussed earlier, the model is said to be over identified. According to the estimation, the analysis could proceed.

b) First model

The first results to be obtained suggested that the model was a poor fit to the data. The Chi-square statistic was significant, and was large (86.08) relative to the degree of freedom (17). Further, the values of other fit measures were all outside the bounds that indicate a good fit (e.g. GFI<0.90, AGFI<0.80, NFI<0.90 and RMSR > 0.10) (Kelloway 1998). In order to decide on the appropriate modification there are two main methods; 1) standardized residuals and 2) modification indices (Appendix 5-6 shows the full output).

The standardized residuals matrix was examined first to identify any possible causes for the model mis-specification. An examination of the standardized residuals matrix revealed that the covariance among the indicator x_{12} and x_6 was not adequately explained by the model. In addition, the modification indices were large for the path linking indicator x_{12} to the factor “customer based assets”. Reviewing the content of the indicator (relationships with distribution channel intermediaries) suggest that deletion of indicator x_{12} would improve the model.

c) The second model

The model was then re-specified and analysed with only one indicator less. The results gained were improved. (Normal Theory Weighted Least Squares Chi-Square (χ^2) 31.46, Degree of freedom 10, NFI 0.83, GFI 0.91, AGFI 0.75, RMSEA 0.15). In fact, there was possibility for improvement as suggested by LISREL. However, there was no theoretical justification for the suggested changes and deletion. Thus, although the measures are not very good, because there was no theoretical justification for the suggested changes, no more analysis was conducted on the assets model (Diamantopoulos and Siguaw 2000).

In the subsequent analysis, each scale of capabilities and isolating mechanism was assessed using CFA, as described previously.

5.3.1.4.2.2.2 Confirmatory Factor Analysis for Capabilities

The same analysis has been conducted on the capabilities scale.

d) First model

In the first model, all the ten items that have been obtained from exploratory factor analysis were entered in the confirmatory factor analysis (see Appendix 5-7) for complete output). Again, the results suggested that this first model is a poor fit to the data. It was also suggested the deletion of indicators x_7 and x_9 would make sense and accord with literature.

e) The Second model

Thus, such modifications took place and the model improved significantly (Normal Theory Weighted Least Squares Chi-Square (χ^2) 43.43, Degree of freedom 14 , NFI 0.90, GFI 0.90, AGFI 0.73, RMSEA 0.15).

5.3.1.4.2.2.3 Confirmatory Factor Analysis for Isolating Mechanism

The same story goes for the isolating mechanism, in terms of applying the three scales that contain in total eight items to confirmatory factor analysis. The results of the first model were satisfied and the model is a good fit to the data (Normal Theory Weighted Least Squares Chi-Square (χ^2) 23.61, Degree of freedom 17, NFI 0.93, GFI 0.94, AGFI 0.87, RMSEA 0.06) (Appendix 5-8).

Table 5-11 compares the different results obtained for assets, capabilities and isolating mechanism. Despite the fact that the result for the latter is the best result, it can be argued that the results are within acceptable limits, since it is an exploratory analysis.

Table 5-11

Results of Confirmatory Factor Analysis for Assets, Capabilities and Isolating Mechanism

	Assets	Capabilities	Isolating Mechanism
No. of items/indicators	7	8	8
Normal Theory Weighted Least Squares Chi-Square (χ^2)	31.46 (p = 0.00)	43.43 (p = 0.00)	23.61 (P = 0.13)
Degree of freedom	10	14	17
Normed Fit Index (NFI)	0.83	0.90	0.93
Goodness-of-fit index (GFI)	0.91	0.90	0.94
Adjusted Goodness-of-fit index (AGFI)	0.75	0.73	0.87
Root Mean Square Error of Approximation (RMSEA)	0.15	0.15	0.06

5.3.1.4.2.2.4 Single Factor

Furthermore, following Greenley and Foxall (1997) single factor analysis as another piece of evidence of discriminant validity was used. Thus, an exploratory factor analysis was performed (Ibid). All three scales for both assets and capabilities were included. Due to the sample size (as discussed earlier), factor loadings below 0.5 were suppressed (0.05 significance level, 80% power level, and allowing for inflation of the standard errors). The results are given in Table 5-12 and show three factors with eigenvalues greater than one, accounting for 66.63 percent of the variance.

Table 5-12**Test for discriminant validity : Exploratory Factor Analysis (Single Factor)**

	Factor 1	Factor 2	Factor 3
Spanning capabilities	.79		
Inside – out	.79		
Outside-in		.78	
Customer based assets		.77	
Internal based assets			.77
Distribution based assets			.76
<i>Eigenvalue</i>	1.75	1.22	1.01
<i>Percentage of variance</i>	29.23	20.44	16.95
<i>K-M-O statistic 0.25</i>			
<i>Bartlett static 78.64 (significant 0.00)</i>			

In more detail, the analysis resulted in three factors. The first factor represents Capabilities (spanning and inside-out). The third factor represents assets (distribution based assets and inside-out). However, a second factor included one item of assets (customer based assets) and one capability item (outside-in).

Furthermore, this second factor accounted for 20.44 percent of the variance. Moreover, this correlation is expected due to the fact that, as discussed in the literature review chapter, almost all assets, capabilities and market orientations are related to each other. Furthermore, this factor is not very significant, owing to the large number of factors in

the solution and compared to other loadings on factor 1 (Hair et al 1998). Thus, it could ultimately be said that discriminant validity is not of major concern.

This is the end of section one of this core chapter. In this section, a thorough examination of the validity and reliability of the scales that will be used in this study has taken place (Table 5-13 presents a summary of these scales). Indeed, confirming the suitability of the scales that will be used to test the propositions is crucial to any research. Therefore, having discussed the validity and reliability of the scales, it is the appropriate time to conduct the analysis to test the propositions that have been formulated in Chapter Three. This proposition testing will be the main subject of the next section. Then, as discussed in the introduction, cluster analysis will be the main topic of the final section.

Table 5-13

Summary of the results of Factor analysis of Assets, Capabilities, Market Orientation and Isolating mechanism

Assets	
Factor 1: Distribution based assets	The relationship with distribution channels intermediaries The uniqueness of our distribution approach
Factor 2: Internal based assets	Superior marketing information Cost advantage in production
Factor 3: Customer based assets	Good relationships with key target customers Superior levels of customer services Customer credibility by being well established in the market
Capabilities	
Factor 1: Outside-In	Good at creating relationships with customers Production and manufacturing expertise
Factor 2: Spanning Capabilities	Ability to launch new product development which is responsive to customer needs Good at understanding what customer needs and requirements are Good marketing management ability
Factor 3: Inside-out	Effective human resource management Strong financial management Good at using information about markets, customers and competitors
Market orientation	
	Our firm's objectives are driven by customer satisfaction Commitment to serving customer needs is monitored Competitive advantage strategy in our firm is based on customer needs Strategies are driven by creating customer value beliefs Customer satisfaction is frequently and systematically measured Close attention is given to after sales services Employees share information on competitor's strategies Rapid response to competitors' actions Top managers regularly discuss competitors' strengths and weaknesses Customers are targeted for competitive advantage Top functional managers regularly visit customers Inter-functional communication of information about customer experience Business functions are integrated to serve target market needs Managers understand how everyone can contribute to creating customer value
Isolating mechanism	
Factor 1: Legal and economic	We protect our resources legally thorough copyrights and patents Competitors find it difficult to see how we created our competitive positioning in the market in the first place Competitors could copy our competitive position but it would be uneconomic for them to do so
Factor 2: Scarce/unique resources	Only we have the access to the resources we use Our products are highly valued by our customers creating barriers against competitors' products There would be significant cost for customers if they switched from our products to those of competitors
Factor 3: Tacit knowledge and skills based isolation	Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage Our employees are the source of our competitive advantage and we won't lose them to competitors

5.4 Proposition testing

Now that the dependent and therefore substantial variables in the study have been identified, this is the appropriate time to test whether the relationships that have been hypothesized do or do not exist, by testing these associations in a scientific way.

“Logically conjectured relationships between two or more variables are expressed in the form of a testable statement. Relationships are conjectured on the basis of the network of associations established in the theoretical framework formulated for the research study. By testing the propositions and confirming the conjectured relationships, it is expected that solutions can be found to correct the problem encountered” (Sekaran 2000: 108).

As discussed earlier, multiple regression will be used to test the first proposition. However, each component of the resources will be tested separately because of the sample size. Indeed, the sample size used in multiple regression is perhaps the most influential single element. Furthermore, the sample size is seen most directly in the statistical power of the significance of the testing.

In more detail, it is argued strongly in terms of sample size for multiple regression that as a general rule, the ratio should never fall below 5 to 1 (Hair et al 1998; Tabachnick and Fidell 1996), otherwise, the researcher will encounter the risk of “over fitting” the variate to the sample, which would make the results too specific to the sample and thus affect generalizability.. In other words, there should be five observations for each independent variable in the variate (Ibid).

Consequently, as “assets” consist of twelve items, the sample size should be at least sixty observations. In addition, “capabilities” consists of eleven items; therefore, the sample required should be at least fifty five, which is smaller than the sample at hand. However, if all resources were considered together, a sample of at least one hundred and fifteen observations would be required, which is much bigger than sample size at hand. Therefore, it was decided that in order to conduct the regression analysis, the resources would be treated separately instead of collectively. In that vein, “assets” items will be

included in the first regression analysis, and then “capabilities” items will be included in a separate regression analysis.

Accordingly, testing the first proposition will take place. The first proposition is divided into the three dimensions; quality, price and innovation. Consequently, this first proposition will include these three dimensions. Furthermore, testing this first proposition will take place using both items and scales as discussed in chapter three.

Furthermore, before the regression equations are estimated, and the results interpreted, the assumption pertaining to linear regression are tested (Pallant 2001). Specifically,

- (a) Outliers refer to the extreme case (Hair et al 1998). However, Coakes and Steed (1999) argued that deletion of outliers should be made with extra care as this could result in the generation of new outliers. However, as will be discussed in section 5.5.1.2, close examination to these outliers is required in order to investigate such cases. Such cases could be not representative of the general population and/ or an under-sampling of the actual group. Due to the small sample size as well as to the fact that extreme cases could be examples of the most successful case, extreme care was given to the outliers, and none were deleted.
- (b) Multicollinearity and singularity. Multicollinearity refers to the relationship between two or more independent variables (Hair et al 1998), while singularity occurs when perfect correlations among independent variables exist. This was examined by tolerance and its inverse Variance Inflation Factor (VIF). Tolerance is “ *is the amount of variability of the selected independent variable not explained by the other independent variables*” (Ibid: 193). Therefore, tolerance should be large while VIF should be small. Hair et al (Ibid) argue that a common cut-off threshold for tolerance is a value of .10, which corresponds to a VIF value above 10. However, they strongly recommend in cases of expected high collinearity, that this threshold should be increased.

In the present study, as part of the multiple regression programme, tolerance and VIF were executed, as I will be discussed in each regression analysis.

(c) Normality, linearity, and independence of residuals. This was done by conducting residual scatter plots and normal probability plot. Indeed, an examination of these plots ensure the above assumptions. In more detail, the independent variables should be normally distributed, the residuals should have a linear relationship with the predicted dependent variables scores and finally, the variance of the residuals is the same for all predicted scores (Coakes and Steed 1999).

In short, all regression assumptions have been tested, as will be discussed under each regression analysis. No violation has been identified and therefore results suggest that these assumptions are not of major concern.

5.4.1 The first proposition

5.4.1.1 Quality competitive positioning

As items

P_{1-Q1}: "High quality product competitive positioning is supported by;

Assets: Company or brand name reputation, Good supply chain management, Good relationship with suppliers, Exclusive distribution system, The extent or nature of the distribution network, The uniqueness of the distribution, Good relationship with distribution channel intermediaries. Capabilities: Good at understanding what customers' needs and requirements are, Good at setting prices which both attract customers and achieve financial objectives, Produce products that customers really want, Production and manufacturing expertise"

Testing the assumptions took place as follows: For multicollinearity: As mentioned in section 5.4, tolerance and VIF were examined. The decided threshold was not exceeded for both tolerance and VIF. In other words, in this regard, no violation of this assumption has been found.

For normality, linearity, and independence of residuals, both a normal probability plot and a residuals scatter plot were examined. For the former, it was found that most of the points lie in a reasonably straight diagonal line from bottom left to top right, which suggests no major deviations from normality. For the latter, most of the residuals were found in a roughly rectangular distribution, with most of the scores concentrated in the centre which suggest no clear systematic pattern to the residuals.

In other words, no major violation for the assumptions was identified. Thus, the analysis will comfortably proceed.

To test this proposition, two separate regression analyses were run. In all cases, the dependent variable was technical quality. Whereas in the first analysis the independent variables were the asset items, in the second regression analysis, capabilities items were used as the independent variables. In both cases, stepwise regression was followed.

Table 5-14 (A) represents the results gained from the first analysis where assets were the independent variables, while Table 5-14 (B) states the results gained from the second analysis where capabilities were the independent variables.

For assets: As expected, “Extent or nature of distribution network” was significant. However, surprisingly, it was the only item among all the assets items to be significant. Furthermore, the asset item results of the F-test (9.97; $p=0.00$) show that the overall model is statistically significant. In addition, the multiple R indicates that the model explains 31 percent of the variance in technical quality. However, because multiple R could be an overestimation of the true value in the population due to the small sample size, the Adjusted R^2 could provide a better estimate of the true population value (Pallant 2001). Therefore, according to the Adjusted R^2 , only 9 percent of the variance is explained, which is a low percentage. Appendix 5-9 (1) presents the full output for technical quality.

For capabilities: Furthermore, in terms of capabilities, only Production and manufacturing expertise was found to be significant. The overall model was also statistically significant (F-test = 13.54; $p=0.00$). In addition, multiple R indicates that the model explains 36 percent of the technical quality variance, while adjusted R^2 , capabilities model provided slightly better explanation variance (12 percent) than the assets (9 percent); however, this is despite the fact that assets and capabilities regression were conducted in two different analyses. Furthermore, the production and manufacturing expertise item had a slightly larger Beta value (.36) than the asset one (Extent or nature of the distribution network; Beta .31) which, despite that fact that assets and capabilities regression were conducted separately, shows that production and manufacturing expertise would be expected to be slightly more important than the distribution network.

Consequently and following from the results in respect of assets and capabilities, P_{1-Q1} is supported partially as, surprisingly, many assets items, including company or brand name, that could attract customers and achieve financial objectives, were not significant. Only one expected item was found to be statistically significant.

Table 5-14

Results of regression analysis for technical quality (Items)

A) Assets

<div> <div>Multiple $R=.31$ $\Delta R^2=.09$ $F=9.97$</div> <div> $R^2=.09$ Constant (intercept) =5.63 $p=0.00$ </div> <div>Adj. $R^2=.09$</div> </div>				
Item	B	Beta	t-value	Sig.
*Extent or nature of the distribution network	1.21	.31	3.16	.00

Dependent variable: Technical Quality

*Was included in the proposition

B) Capabilities

<div> <div>Multiple R=.36 $\Delta R^2 = .13$ F = 13.54</div> <div> $R^2 = .13$ Constant (intercept) = 5.35 p=0.00 </div> <div>Adj. R² = .12</div> </div>				
Item	B	Beta	t-value	Sig.
*Production and manufacturing expertise	1.19	.36	3.68	.00
Dependent variable: Technical Quality				
*Was included in the proposition				

For scales

Here, the association between the resources in terms of assets and capabilities will be tested as scales, using the scales that have been tested and developed in the previous section, in relation to quality competitive positioning dimensions. Therefore, the following proposition will be tested:

P_{1-Q2}: "Quality competitive positioning is supported by; supply chain assets and outside-in capabilities"

The dependent variable was the technical quality dimension. The independent variables were entered simultaneously. Appendix 5-10 represents the results of this regression analysis.

Surprisingly, only outside-in capabilities (in terms of: Good at creating relationships with customers and Production and manufacturing expertise) were significant in the results as can be seen from Table 5-15. The results of the F-test (3.26, p=.01) show that the overall model is statistically significant. In more detail, the Multiple R indicates that the model explains 25 percent of the variance in technical quality. However, because Multiple R could be an overestimation of the true value in the population due to the small sample size, the Adjusted R² could provide a better estimate of the true population value (Pallant

2001). Therefore, according to the Adjusted R^2 , only 5 percent of the variance is explained, which is a low percentage.

Table 5-15

Results of multiple regression analysis for technical quality (Scales)

<div> <div>Multiple $R=.25$ $\Delta R^2=.06$</div> <div>$R^2=.06$</div> <div>Adj. $R^2=.05$ Constant (intercept) =12.44</div> </div>				
<i>Items</i>	<i>B</i>	<i>Beta</i>	<i>t-value</i>	<i>Sig.</i>
<i>Outside-in</i>	<i>.24</i>	<i>.26</i>	<i>2.57</i>	<i>.01</i>
<i>Dependent variable: Technical Quality</i>				

Depending on the results, it could be said that P_{1-Q2} was partially supported; surprisingly, it was expected that supply chain would be significant as well. However, outside-in in terms of good at creating relationship with customers and production and manufacturing expertise was the only item that became significant.

The analysis proceeds to the second competitive positioning under the first proposition.

5.4.1.2 Price competitive positioning

As items

P_{1-P1} : "High price product competitive positioning is supported by; Assets; company or brand name and reputation, credibility with customers due to being the market leader,

providing superior levels of customer services and High quality. Capabilities; Being good at creating/enhancing and maintaining relationships with key customers is crucial, produce products that customers really want and building relationship with key target customer."

P_{1-P2}: "low price product competitive positioning is supported by: Assets; Advantage in production, cost advantage. Capabilities; Effective human resources management, good marketing management ability, good operations management expertise, having strong financial management, integrated logistics and planning capabilities"

For assumption testing: Again, as mentioned in sections 5.4 and 5.4.1.1, here also regression assumptions were tested before processing the analysis.

As before, in terms of tolerance and VIF no violation has been identified. Also, for normality, linearity, and independence of residuals, both residuals' normal probability plot and scatter plot were examined, and found to be as expected and therefore, no major violation for the assumption was identified. Thus, the analysis proceeded comfortably.

Regression analysis takes place as follows:

For assets: As in the above, regression analysis was conducted to test P_{1-P1} and P_{1-P2} Full details of the output of this test could be found in Appendix 5-9 (2).

As can be seen from Table 5-16, F-test (15.34, p=0.00) that shows that the overall model is statistically significant. In more detail, the model explains 56 percent of the variance. This is a much better result than the result obtained for technical quality positioning. However, this result should be considered with care because of the small sample size (Souchon 1997; Hair et al 1998).

Surprisingly, seven "assets" items were found to be statistically significant, out of which only two were expected and included in the proposition. These two items are: Company or brand name and reputation and Customer credibility by being well established in the market. Other unexpected asset items were included in the results; such as "Extent or

nature of the distribution network”, “The uniqueness of our distribution approach”, “Relationships with distribution channel intermediaries”, Superior levels of customer services” and “Superior cost control system”.

More surprisingly, the strongest unique contribution to explaining the price competitive positioning, according to Beta values, was “the uniqueness of our distribution approach” which had a Beta value of .75. This was followed by Relationships with distribution channel intermediaries, which had a Beta value of .40, which could show how important this relationship is. The next item was “superior levels of customer services “ which had very a close beta value to the previous one, at .39. Then, again, “extent or nature of the distribution network” follows, with a beta value of .37. This last result accords with Mavondo (1999) who emphasised the importance of having a good relationship with the supply chain, as they could lead to satisfying the end consumers. The final three items were, “Company or brand name and reputation”, “Customer credibility by being well established in the market” and “Superior cost control system” with Beta values of .29, .28 and .19 respectively.

In addition, it is realized that a negative sign means low price, while a positive sign means high price. In that sense, and according to the results obtained, it seems that charging and therefore achieving high price competitive positioning requires, for example, a high distribution approach, as will be discussed in the discussion chapter.

Capabilities: Furthermore, out of the expected capability items, only one capability item was actually found to be significant - “ strong financial management”; however, it was the second in terms of strongest unique contribution to explaining the price (Beta = .44). Surprisingly, the strongest unique contribution to explaining the price competitive positioning was “Effective new products development processes” (Beta = .52). This is followed by “Good at understanding what customer needs and requirements are” and “Production and manufacturing expertise”(Beta = .27, .25), as will be discussed in more detail in the next chapter.

However, depending on the results obtained and due to the fact that not all expected assets items were statistically significant, P_{1-P1} is partially supported, while P_{1-P2} is not supported, as none of the expected items was significant.

Table 5-16

Results of regression analysis for price competitive positioning (Items)

A) Assets

<div> <div>Multiple R=.75 $\Delta R^2 = .03$ F test = 15.34</div> <div> $R^2 = .56$ Constant (intercept) = 5.63 P = 0.00 </div> <div>Adj. $R^2 = .52$ </div> </div>				
Items	B	Beta	t-value	Sig.
Extent or nature of the distribution network	1.60	.37	4.47	.00
The uniqueness of our distribution approach	3.16	.75	6.66	.00
*Company or brand name and reputation	.97	.30	3.71	.00
Relationships with distribution channel intermediaries	2.90	.40	3.91	.00
Superior levels of customer services	1.37	.39	4.35	.00
Customer credibility by being well established in the market	1.02	.28	3.30	.00
Superior cost control system	1.22	.19	2.53	.01
Dependent variable: Price				

*Item was included in the proposition

B) Capabilities

<div> <div>Multiple R=.61 $\Delta R^2 = .04$ F test = 13.21</div> <div> $R^2 = .38$ Constant (intercept) = 4.35 P= 0.00 </div> <div>Adj. $R^2 = .35$ </div> </div>				
Items	B	Beta	t-value	Sig.
Effective new products development processes	1.40	.53	5.02	.00
*Strong financial management	2.33	.44	4.70	.00
Good at understanding what customer needs and requirements are	.38	.27	2.85	.01
Production and manufacturing expertise	.91	.25	2.52	.01
Dependent variable: Price				

*Items were included in the proposition

For Scales:

P_{1-P3}: " High price competitive positioning is supported by customer based assets"

P_{1-P4}: " Low price competitive positioning is supported by internal assets and inside-out capabilities"

As in the above section, regression analysis was conducted to test P_{1-P3}: and P_{1-P4}. Full details of the output of this test could be found in Appendix 5-10 (2).

As can be seen from Table 5-17, the F-test (8.33, p=.00) shows that the overall model is statistically significant. In more detail, the model explains 14 percent of the variance. This is a better result than the result obtained for technical quality positioning.

Table 5-17

Results of Regression analysis price-resources (Scales)

<i>Multiple R=.39</i>		<i>R²= .16</i>		<i>Adj. R²= .14</i>	
<i>ΔR² = 04</i>		<i>Constant (intercept) = 3.31</i>			
<i>F test= 8.33</i>		<i>p=0.00</i>			
<i>Items</i>	<i>B</i>	<i>Beta</i>	<i>t-value</i>	<i>Sig.</i>	
<i>Internal based assets</i>	<i>.38</i>	<i>.37</i>	<i>3.79</i>	<i>.00</i>	
<i>Dependent variable: Price level</i>					

As expected, a price positioning could be obtained through internal based assets in terms of superior marketing information and cost advantage in production.

In addition, it is realized that a negative sign means low price, while a positive sign means high price. In that sense, and according to the results obtained, it seems that charging and therefore achieving high price competitive positioning requires high internal based assets. On the other hand, low price competitive positioning would require

lower internal based assets, as will be examined in the discussion chapter. Depending on the results obtained, it could be said that P_{1-P3} not supported, while P_{1-P4} is partially supported.

Switching to the final CP in relation to the first proposition, innovation CP will be tested next.

5.4.1.3 Innovation Competitive positioning

As items:

P_{1-NI} : "Innovation competitive positioning is supported by; Capabilities: Ability to launch successful new products, Effective new product development processes, Good at using information about customers, and competitors and superior levels of customer services"

For regression assumptions: As in sections 5.4.1.1 and 5.4.1.2, regression assumptions were tested before proceeding with the analysis. For the tolerance and VIF, the result did not exceed the decided threshold. Also, for normality, linearity, and independence of residuals, both residuals' normal probability plot and scatter plot were examined, and found to be as expected and therefore, no major violation for the assumption was identified. Thus, the analysis proceeded comfortably.

Regression analysis proceeds as follows:

For assets, the overall model explains 21 percent of the variance in innovation. The result of the F-test is 13.14 ($p=0.00$), which is in a similar range to those obtained for both technical quality and price, and also shows that the overall model is statistically significant. Table 5-18 A, and B represent the results obtained. The full output is in Appendix 5-9 (3) A and B. Interestingly, despite the fact that the overall model is significant, only one item that was expected and included in the proposition was actually

significant, which is “superior levels of customer services”. However, the relationship with supplier was also statistically significant. Moreover, both of these items had similar contributions to explaining the variation of innovation (Beta = .33 & .32).

For capabilities: On the other hand, for capabilities the model was also significant (F test = 17.59, p = 0.00). However, most of the expected capabilities items were found to be statistically significant. This includes “Effective new products development processes” which had the second highest unique statistical contribution to explaining the innovation. This is followed by “Ability to launch new product development which is responsive to customer needs” which had also a considerable share in explaining the innovation, with Beta = .45.

In addition, “Good at enhancing and maintaining relationships with key customers” was statistically significant and had the highest unique contribution to explaining the innovation. Finally, “Good at understanding what the customer needs” had the lowest unique contribution to explaining the innovation.

Table 5-18

Results of regression analysis for innovation competitive positioning (Items)

A) Assets

<div> <div>Multiple R= .47</div> <div>$\Delta R^2 = -.02$</div> <div>F test = 13.14</div> </div> <div> <div>$R^2 = .22$</div> <div>Constant (intercept) = 6.99</div> <div>P = 0.00</div> </div> <div> <div>Adj. R² = .21</div> </div>				
Items	B	Beta	t-value	Sig.
*Superior levels of customer services	.99	.33	3.53	.00
Good relationship with suppliers	1.19	.32	3.40	.00

Dependent variable: Innovation

*Item was included in the proposition

B) Capabilities

Multiple R= .67 Δ R ² = -.01 F test = 17.59				R ² = .44 Constant (intercept) =1.00 P=0.00		Adj. R ² = .42	
Items				B	Beta	t-value	Sig.
*Effective new products development processes				1.07	.47	4.84	.00
Good at enhancing and maintaining relationships with key customers				2.00	.65	5.73	.00
*Ability to launch new product development which is response to customer needs				.57	.45	4.54	.00
Good at creating relationship with customers				.31	.27	2.76	.01
<i>Dependent variable: Degree of innovation competitive positioning</i>							
*Items were included in the proposition							

For scales:

P_{1-N2}: "Innovation competitive positioning is supported by; market orientation"

P_{1-N3}: " Innovation competitive positioning is supported by; Inside-out and spanning capabilities"

More interestingly, as expected, consistent with *P_{1-N2}* and similar to the findings of Han et al (1998) achieving innovative competitive positioning could be viewed as a significant market orientation as shown in the table below.

Table 5-19

Results of Regression analysis innovation-market orientation

<i>Multiple R</i> = .33		<i>R</i> ² = .11	<i>Adj. R</i> ² = .10	
ΔR^2 = .11		<i>Constant (intercept)</i> =3.48		
<i>F test</i> = 11.03		<i>P</i> =0.00		

<i>Item</i>	<i>B</i>	<i>Beta</i>	<i>t-value</i>	<i>Sig.</i>
*Market orientation	.29	.33	3.32	.00

Dependent variable: Degree of innovation competitive positioning

*Item was included in proposition

Table 5-20

Results of Regression analysis innovation-resources (Scales)

<i>Multiple R</i> = .50		<i>R</i> ² = .25	<i>Adj. R</i> ² = .23	
$\Delta R^2 = .08$		<i>Constant (intercept)</i> = 14.99		
F = 15.22		p = .00		
<i>Items</i>	<i>B</i>	<i>Beta</i>	<i>t-value</i>	<i>Sig.</i>
Spanning capabilities	.37	.41	4.61	.00
Inside out	.25	.28	3.03	.00
<i>Dependent variable: Degree of innovation competitive positioning</i>				

As expected, consistent with P_{I-N3} and similar to the findings of Wong and Saunders (1993), achieving innovative competitive positioning is supported by spanning capabilities in terms of "ability to launch new product development which is responsive to customer needs", and "good at understanding customer needs". Indeed, such competitive positioning is expected to locate and exploit new product and market opportunities in a similar manner to the "prospectors" that Miles and Snow identified (Olson and Slater 2002).

Thus, this P_{I-N3} proposition received full support. This is because not only were the spanning capabilities significant, but also, inside-out capabilities contributed significantly to the result of the analysis. Inside-out capabilities such as strong financial management and effective human resource management were statistically significant. It is notable that

spanning contributes more, according to its Beta value of .41 than inside – out (Beta = .28).

In the section above, the findings supported what has been found in the previous literature, in terms of the link between IM and MO. However, in order to look at further resources as well as MO, another analysis will take place. In this next analysis, all scales - assets, capabilities and MO - will be included together in the analysis to identify the abilities of all three scales together to explain the variation in the innovation CP, as shown in Table 5-21.

Surprisingly, MO, which was significant with innovation CP when it was included in the analysis alone, dropped out. However, inside – out and spanning capabilities were still significant. In other words, despite the fact, as suggested by the literature, that there is a relationship between innovation and MO, when examining the full picture in a more detailed manner, by also looking at capabilities and assets as well as MO together in one analysis, it is actually found that capabilities and assets are able to explain innovation CP better than MO (Appendix 5-10, 3-C).

In more detail, the analysis that included all resources scales could explain 25 percent of the variation of innovation CP, which is close to the results obtained when assets and capabilities scales were included alone, without the MO scale. These results are much better than the one obtained for market orientation alone (10 percent). Furthermore, when all resources were included in the analysis, both spanning and inside-out had similar unique contributions to explaining the innovation CP. Nevertheless, when assets and capabilities were included alone without MO scales, spanning had a stronger unique contribution to explaining the innovation CP than inside-out (.41, .28).

These results would suggest that, 1) MO may be important when it is considered in isolation from other components of resources. However, when MO is considered in conjunction with the rest of the resources, its significance drops out, because other resources such as inside – out and spanning capabilities are more crucial. In addition, 2) spanning and inside-out are more important than MO, as will be discussed in more detail in chapter six.

Table 5-21

Results of Regression analysis innovation-resources (Scales)

<div> <div>Multiple R=.52</div> <div>$R^2 = .27$</div> <div>Adj. $R^2 = .25$</div> <div>$\Delta R^2 = .1$</div> <div>Constant (intercept) = 3.49</div> </div>				
Items	B	Beta	t-value	Sig.
Inside out	.34	.38	4.07	.00
Spanning capabilities	.28	.31	3.41	.00
<i>Dependent variable: Degree of innovation competitive positioning</i>				

Next, the findings of testing the second proposition are presented. However, similar to the first proposition, testing this second proposition will take place using both items and scales.

5.4.2 The second proposition

In testing the second proposition, the correlation between isolating mechanism in terms of items and scales and each of the three dimensions of competitive positioning is examined. Indeed, in order to examine the second proposition, which is concerned with the relationship between each competitive positioning and isolating mechanism, the Pearson correlation matrix will be used. The Pearson correlation coefficient is the most appropriate technique in this case, not only because it is an extremely robust statistical technique (Field 2000), but also because it is “a statistical measure of the strength of linear relationship between two metric variables” (Hair et al 2003: 567).

Moreover, the correlation coefficient that results from the correlation technique informs how well the variables are related (Field, Ibid). Furthermore, the significance level (probability value), indicating the probability of that value occurring by sampling error, is also included in the results.

5.4.2.1 Quality competitive positioning

For items:

P₂₋₁: "Defending high quality competitive positioning is associated positively with valuable competitive positioning from the consumers' point of view, high switching costs and legal protection such as copyrights and patents "

The testing of this second proposition was initiated via the calculation of Pearson product competitive positioning-isolating mechanism correlation coefficients between each dimension of CP and the nine measures of IM. The results of this test are presented in Table 5-22 (Appendix 5-11 depicts the complete output). It was found that three positive and significant correlations were identified at the 0.01 and 0.05 level of significance.

The first significant correlation ($r=0.24$, $p<.01$) was between the quality dimension and "Our products are highly valued by our customers creating a barrier against competitors' products". Secondly, there was a statistically positive correlation ($r=0.22$, $p<.01$) between quality dimension and "there would be significant cost for customers if they switched from our products to those of competitors". Finally, the third positive correlation ($r=0.25$, $p<.05$) was found between quality competitive positioning and "competitors could copy our competitive positioning but it would be uneconomic for them to do so".

In other words, by examining the results, it was realised that the quality dimension was correlated with value, switching cost, and copy, all of which are related to barriers to imitation. Thus, there is no correlation between either path dependency, or tacit knowledge and quality. Furthermore, however, it is realized that all of these correlations are weak as they are less than 0.5.

Based on the results obtained it could be said that P₂₋₁ is partially supported.

Table 5-22

Pearson correlation matrix for isolating mechanism items and the three competitive positioning dimensions

	Our products are highly valued by our customers creating a barrier against competitors' products	There would be significant cost for customers if they switched from our products to those of competitors	Only we have access to the resources we use	It took time to build competitive position and competitors would find it time consuming to follow a similar route	Competitors would find it difficult to acquire managerial capabilities needed to create a similar competitive advantage	Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors	We protect our resources legally through copyrights and patents	Competitors could copy our competitive positioning but it would be uneconomic for them to do so	Competitors find it difficult to see how we created our competitive positioning in the market in the first place
<i>Quality competitive positioning</i>									
Pearson Correlation	.24*	.22*	NS	NS	NS	NS	NS	.25**	NS
<i>The price levels charged for our products</i>									
Pearson Correlation	NS	NS	NS	NS	NS	NS	NS	NS	NS
<i>Innovation competitive positioning</i>									
Pearson Correlation	.37**	NS	NS	.55**	NS	NS	NS	NS	NS

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

**Correlation is significant at the 0.05 level (2-tailed).

For scale:

P_{2-Q2}: "Quality competitive positioning could be defended through barriers to imitation"

The testing of this proposition was also initiated via the calculation of Pearson correlation coefficients between each dimension of CP and the three scales of IM . The results of this test are presented in Appendix 5-12, which depicts the complete output.

Surprisingly, it was found that no significant correlation was identified at either the 0.01 or the 0.05 level of significance for technical quality.

5.4.2.2 Price competitive positioning

For items:

P_{2-P2}: "Defending high price competitive positioning is positively associated with difficulty accessing resources, valuable competitive positioning from consumers' point of view and tacit knowledge".

P_{2-P3}: "Defending low price competitive positioning is positively associated with high economies of scale".

Surprisingly, no isolating mechanism was found to correlate significantly with price competitive positioning. However, this result accords with Hooley and Greenley (2002c) who found that no IM was followed by price leaders, as will be discussed in more detail in the next chapter.

Based on the results obtained, it could be said that *P_{2-P2}* is not supported.

For scale:

P_{2-P3}: "Defending price competitive positioning is positively correlated with Barriers to imitation".

Again, surprisingly, no significant correlation was identified at either the 0.01 or the 0.05 level of significance for price competitive positioning.

5.4.2.3 Innovation competitive positioning

For items

P_{2-N1}: "Defending innovation is positively associated with tacit knowledge, complexity and path dependency"

Finally, using the Pearson correlation coefficient between innovation CP and the nine IM items, two significant correlations were found. However, these correlations were also weak.

As expected, the first correlation was between "Our products are highly valued by our customers creating a barrier against competitors' products" and innovation competitive positioning; the correlation was ($r = 0.37$, $p < 0.05$). In the same vein, however, a slightly stronger correlation was found between innovation competitive positioning and path dependency in terms of "It took time to build competitive position and competitors would find it time consuming to follow a similar route ($r = 0.55$, $p < 0.01$).

For scale

P_{2-N2}: "Defending innovation is positively associated with causal ambiguity and path dependency"

Surprisingly, no significant correlation was identified at either the 0.01 or the 0.05 level of significance for innovation competitive positioning

The analysis proceeds to the third proposition.

5.4.3 The third proposition

The testing of the third hypothesis requires an investigation of the influence of external variables on the association between each of the competitive positionings and performance; in particular, the effect of each competitive positioning (technical quality, price, and innovation) on the dependent variable which is, in this study, market share.

In addition, the effect of the environment as a moderator is included. In this study, environmental factors are level of competition, technology change and finally customer requirements. This requires that each dependent variable (firm performance) will be tested three times; with level of competition, customer requirements and finally technological change.

In other words, in total, there will be nine regression analyses to test this third proposition: three regression analyses for each of the CP with the three environmental factors. The dependent variable throughout will be market share as the firm performance.

The appropriate statistical technique for such investigations is hierarchical moderated regression (Arnold 1982, Hair et al 1998, Sharma et al 1981; Cadogan, 1996; Greenley and Foxall 1998; Greenley 1999). The technique requires the examination of the two equations of multiple regression as discussed below:

Equation 1:

$$Y = a + b_1 X_1 \text{-----} (1)$$

where Y is the dependent performance variable (i.e. market share). X_1 is the predictor variable, which in this case is each competitive positioning strategy (i.e. technical quality).

Equation 2:

$$Y = a + b_1 X_1 + b_2 X_2 + b_{1a} X_1 X_a \text{-----} (2)$$

where Y is the dependent performance variable (market share), X_1 is the predictor variable, which is for example quality competitive positioning, $X_1 X_a$ is the interaction between technical quality and, for example, level of competition as an environmental factor, and b_{1a} is the regression coefficient of the interaction term between the competitive positioning and the environmental factor.

In this study, three environmental factors are included: level of competition, technological change and finally customer requirements. As discussed earlier in this chapter, and due to the small sample size, each environmental factor will be examined separately. In other words, for each competitive positioning strategy three separate models were created. For example, for the first model, market share was the dependent variable, and technical quality competitive positioning and environmental factor were entered. Then, as described in the second equation, the interaction between level of competition and technical quality was tested.

The following regression analysis: the environmental factor was customer requirements. Thus, the interaction term in this second analysis was between customer requirements and technical quality. Finally, still for technical quality, a similar regression analysis was run for the third environmental factor; technological change.

Where an interaction term is significant, it identifies that more examination is required; in other words, more complex work is needed (Greenley 1995b, Greenley and Foxall 1997). In that case, there is either a quasi or pure moderator affect on the form of the relationship between the respective competitive positioning dimension and performance, from the moderator variable.

Therefore, if the environment variable corresponding to the significant interaction term in model 3 is not significant in model 2, then it is a pure moderator; if it is significant in model 2, then it is a quasi moderator (Greenley and Foxall 1997).

Moreover, identifying whether the interaction is monotonic or non-monotonic could be determined from the partial derivative of the second equation, for example:

$$dY/dX_1 = b_1 + b_{1a} X_2 \text{-----}(3)$$

where b_1 , b_{1a} are the un-standardised regression coefficients. As un-standardised coefficients are used in the analysis, multi-co linearity is not of major concern (Ibid). Consequently, $X_2 = -b_1 / b_{1a}$

Also, it is worth noting here that all the items were tested on a five point Likert scale; however, environmental items were measured on three point scales. Therefore, standardizing the variable was necessary. Consequently, in calculating the value of the moderator (environment variable) as discussed above, and in order to get the actual value on the scale, we used this value above and below the mean. This actual value was put into practice.

Next, examination of the related propositions will take place using the discussion above.

5.4.3.1 Technical quality

The first CP to be examined is technical quality. (Appendix 5-13 depicts the output)

The main effect was not significant. Also, there was no significant interaction term identified. One possible explanation for this result is the fact that quality CP is affected by many other aspects, as will be discussed further in the following chapter.

In that sense, the expected interaction terms were not significant; consequently, P₃ has received no support for technical quality CP.

Next, price competitive positioning will be examined.

5.4.3.2 Price competitive positioning

Again, similar to technical quality CP, the main effect was not significant. In addition, as indicated in the table below, surprisingly, only one interaction term was identified, which was from level of competition with respect to market share. This model explains only nine percent of the variance, which is not a high percentage. Furthermore, all other expected interaction terms were not significant. It is notable that price competitive positioning has a positive correlation with market share in the second proposition. Consequently, P₃ has received limited support for price CP.

In more detail, and following on from the earlier discussion, further analysis is required. Following Greenley and Foxall (1997), we depict the coefficient of the first interaction that has been identified, which is price CP and level of competition into the third equation that has been discussed earlier. Thus, for this interaction term the partial derivative is:

$$d \text{ market share} / d \text{ price} = .92 + (-.69) \text{ Level of competition} = 0 \dots \dots \dots (4)$$

Then, Level of competition = $d \text{ market share} / d \text{ price} = .94$ (1.88 on the three point level of competition where the variables are standardized).

This value is the inflection point in the moderator effect. If value of level of competition above .94 is substituted into equation (4) the answers are negative, whereas values below .94 are positive. Thus, the relationship is nonmonotonic; price is only positively associated with market share at medium and low levels of competition, and negatively associated with market share at high levels of competition.

Table 5-23 depicts this relationship; when, for example, there is a high level of competition, there is a negative relationship between high price CP and market share. This is true for values above .94 (1.88 on the three point level of competition where the variable are standardized).

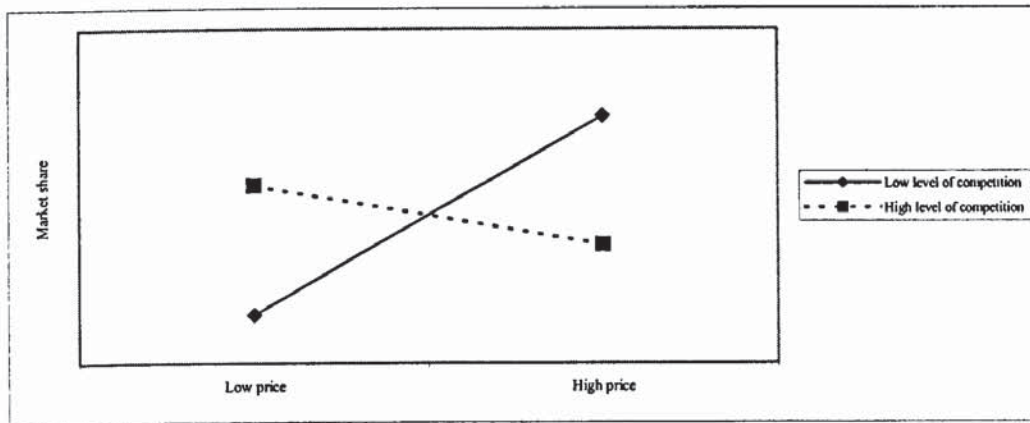
Table 5-23

Results of Regression analysis market share – price competitive positioning and level of competition as environmental factor moderator

<div> <div>Multiple R= .37 $\Delta R^2 = .10$ F test = 3.34</div> <div> $R^2 = .14$ Constant (intercept) = -.01 Sig. = .00 </div> <div>Adj. R² = .09</div> </div>				
Items	B	Beta	t-value	Sig.
The price levels charged for our product	.94	1.19	3.10	.00
Level of competition	2.44	1.29	2.75	.01
Level of competition & price	-.69	-1.60	-2.77	.01
Dependent variable: Market share				

Figure 5-2

The effect of level of competition on the relationship between price competitive positioning and firm performance in terms of market share



Finally, the third proposition in terms of innovation CP will be tested.

5.4.3.3 Innovation competitive positioning

Finally, the innovation competitive positioning was examined in relation to any related possible interaction terms. Again, similar to the other two CP, the main effect was not significant. However, two interaction terms were found to be statistically significant; these are from level of competition and customer requirements with respect to market share. As indicated in Table 5-24, the first interaction model explains six percent of the variance, while the second interaction explains twenty percent. Appendix 5-13 depicts these results.

Table 5-24

Results of Regression analysis market share–innovation competitive positioning and Level of competition as moderator

<div> <div>Multiple R= .32 Δ R²= .07 F test = 2.45</div> <div>R²= .10 Constant (intercept) = 1.71 Sig. = .00</div> <div>Adj. R²= .06</div> </div>				
<i>Items</i>	<i>B</i>	<i>Beta</i>	<i>t-value</i>	<i>Sig.</i>
The degree of innovation in our product	1.38	.56	1.53	NS
Level of competition	2.32	.92	2.18	.03
Level of competition & innovation	.74	1.24	2.17	.03
<i>Dependent variable: Market share</i>				

For this first interaction term that has been identified, as in the previous interaction, the partial derivative was investigated as follows:

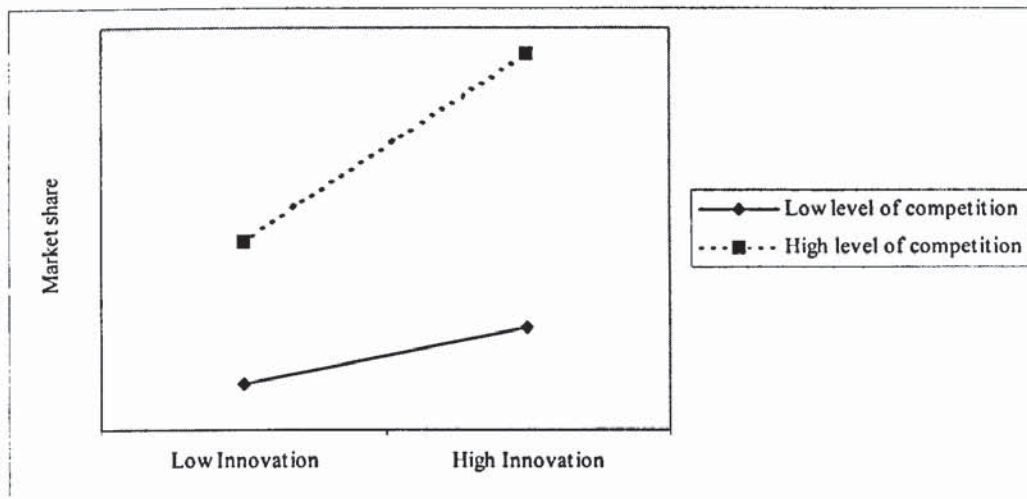
using: $dY/dX = b_1 + b_3X_2 = 0$, in more details:

$$d \text{ market share} / d \text{ innovation} = 1.38 + .74 \text{ Level of competition} = 0$$

So, level of competition = 1.86 (2.76) on the three point level of competition where the variables are standardized. This value is the inflection point in the moderator effect. If values of level of competition above 1.86 are substituted into the equation above, the answers are positive, whereas values below 1.86 are negative. Thus, the relationship is nonmonotonic; innovation is positively associated with market share at high levels of competition and slightly less positively associated with market share at medium and low levels of competition. Figure 5-2 depicts this relationship.

Figure 5-3

The effect of level of competition on the relationship between innovation competitive positioning and market share



Similar to the above, the second significant interaction term identified was customer requirements. Table 5-25 shows the significant interaction term. Thus, further analysis will be needed.

The partial derivative was investigated as follows:

using: $dY/dX = b_1 + b_3X_3 = 0$, in more details:

$$d \text{ market share} / d \text{ innovation} = .66 + .43 \text{ customers' requirements} = 0$$

So, customers' requirements = 1.53 (2.76) on the three point customers' requirements where the variables are standardized. This value is the inflection point in the moderator effect. If values of customer requirements above 1.53 are substituted into the equation above, the answers are positive, whereas values below 1.53 are negative. Thus, the relationship is nonmonotonic; innovation is positively associated with market share at high levels of customer requirements and negatively associated with market share at medium to low customer requirements. In fact, the relationship between innovation and market share is not affected by customer requirements at low levels, as shown in 5-27.

Table 5-25

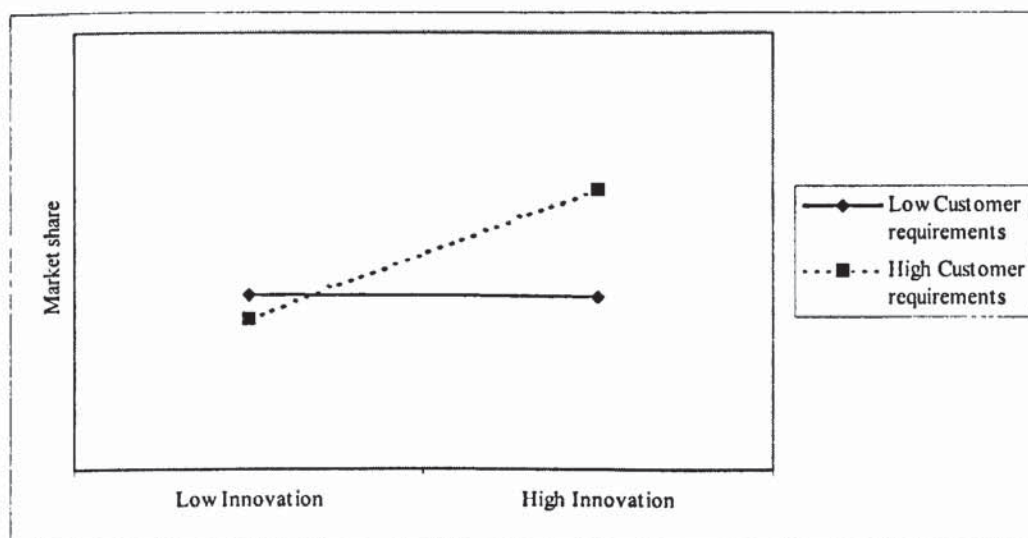
Results of Regression analysis market share–innovation competitive positioning and Customer requirements as moderator

Multiple R= .49 $\Delta R^2 = .06$ F test = 6.73		$R^2 = .24$ Constant (intercept) = 2.37 Sig = .00		Adj. $R^2 = .20$
Items	B	Beta	t-value	Sig.
The degree of innovation in our product	.66	.86	1.79	NS
Customers' requirements	.79	.64	1.38	NS
Customers' requirements & innovation	.43	1.47	2.26	.03

Dependent variable: Market share

Figure 5-4

The effect of customer requirements on the relationship between innovation competitive positioning and market share



In the previous section, each of the three competitive positioning profiles has been examined thoroughly in terms of not only the resources and isolating mechanism as items and scales and their associations with the CP, but also the effect of the environmental factors as moderated variables. Indeed, in the previous sections, a comprehensive analysis took place to examine the propositions proposed in the third chapter. However, as discussed in the introduction to this chapter, in reality, one or two of the CP could be

found together. Indeed, when many authors discussed, for example, price, attached quality to it (Aaker 1989). In the light of this, an exploratory analysis will be the subject of the next section of this chapter, aiming to identify the different combinations that could be found among those dimensions.

5.5 Cluster analysis

In order to do this, it is necessary to group homogenous observations together. Furthermore, the main objective here is to identify the resources and isolating mechanism used across the three competitive positioning dimensions. Here, cluster analysis would be the most appropriate technique to use. Indeed, cluster analysis is an empirical tool whose purpose is to group objects, such as individual consumers, firms, plants, and/or animals (Tull and Hawkins 1993; Johnson 2001) based on their similarity along certain dimensions (Vorhies et al. 1999).

Furthermore, cluster analysis has been widely used in marketing in general (Dobni, 2000), and particularly in competitive positioning studies (Hooley and Greenley 2002c; Wong and Saunders 1993). Moreover, as resources and isolating mechanism were discussed previously in this chapter in two ways, as items and scales, consequently, in this section, cluster analysis was performed on the basis of a set of three dimensions examining the competitive positioning strategies that could be used (price, quality, and innovation). Moreover, when discriminating among the resulted clusters,

- Resources were analysed on one hand as items, and on the other hand, in another discriminant and ANOVA analysis, as scales
- Similarly, isolating mechanism was used in one technique as items, and in another discriminant and ANOVA technique as scales.
- Finally, environmental factors and firm performance appeared as items.

Finally, cluster analysis was followed using the four steps suggested by Saunders (1999) and Hair et al (1998), which will be discussed next.

5.5.1 Step 1: Data preparation

At this stage, observations with missing data should be deleted. In other words, the data should be screened.

Here, Tabachnick and Fidell (1996) and Hair et al (1998) emphasised the importance of screening and proofreading the original data against anything that could affect the analysis, for example, computerized mistakes, missing data and/or outliers.

5.5.1.1 Missing data

The pattern of missing data (how much is missing and why it is missing) was checked as recommended by Tabachnick and Fidell (Ibid). No serious grounds for concern related to missing data were found. Instead, a few data points were missing which had no pattern. Missing data was handled following Tabachnick and Fidell (Ibid): analysing the data both with and without the missing data-points. No difference was found, and therefore, there was no violation in this regard.

5.5.1.2 Outliers

Despite the fact that cluster analysis is very sensitive to the inclusion of irrelevant variables, Hair et al (1998) argued strongly for the importance of examining the outliers (if found) because they might be *"1) truly aberrant observations that are not representative of the general population, or 2) an under sampling of actual group (s) in the population that causes an under presentation of the group(s) in the sample."* (Hair, Ibid: 482: 3). Indeed, examining such observations is essential; however, the researcher should be cautious in deleting them, as this deletion might distort the actual structure of

the data. The outliers identified in this study were not of major concern; consequently, it was decided to keep them.

5.5.2 Step 2: Process selection

This step is concerned with distance measurement and the method to be used. Distance measurement measures the distance between two observations that have been joined and any other observation; the “Euclidean” method, which is the most common distance method that selects the shortest route between two observations, was used.

For the cluster method, the most commonly used method is Ward’s method, which looks for clusters with a reasonable degree of internal homogeneity, and external high level of heterogeneity (Lehmann et al 1997). Indeed, Ward’s method could identify groups holding similarities and generate compact spherical clusters more effectively than other methods. Furthermore, Ward’s method could be most effectively used with the Euclidean measure (Wong and Saunders 1993) because it effectively minimizes intra-cluster differences and at the same time maximises inter-cluster differences among the variables used for clustering (Vorhies et al. 1999).

However, the Centroid method, has an advantage which is it is less affected by outliers than are other hierarchal methods. Therefore, the analysis was performed twice using these two methods (Ward’s and Centroid).

5.5.3 Step 3: Cluster solution

Conducting hierarchical cluster analysis first and then K-means analysis is highly recommended by (Saunders 1999), as it is the method followed by many marketing scholars (Hooley and Greenley 2002c; Wong and Saunders 1993).

Indeed, conducting hierarchical cluster analysis with Ward's and Centroid methods helps to identify the stress of bringing two clusters together. One way to do that is to examine the jump of coefficients in the Agglomeration Schedule; another way is to examine the dendrogram. Then, as recommended by Saunders (1999), the K-means cluster method could be used to closely examine the clusters produced. Using the hierarchical method in conjunction with K-means would avoid degenerate solutions.

Based on the above, Hierarchical cluster analysis was used as follows (Hair et al. 1998; Johnson 2001; Lehmann et al. 1998; O'Roarty et al. 1998; Saunders 1999):

Essentially, hierarchical cluster analysis begins by treating each case as a separate cluster and ends with all individual cases being fused into a single cluster. However, identifying the correct number of clusters is problematic and is a matter of interpretation. Therefore, examination of the coefficient value at each step provides an indication of the relevant number of clusters. Small coefficients indicate that fairly homogeneous clusters are being formed, while large coefficients indicate dissimilarity between cluster members. Furthermore, in the dendrogram, distances between large clusters at successive steps serve as a useful guide to the appropriate number of clusters, particularly where there is a large escalation in the value of the coefficient. In addition, scree diagram elbows were observed (Hooley and Greenley Under-reviewing).

In other words, use of statistics as well as judgment is needed to determine the most appropriate number of clusters. In addition, regarding the number of clusters, *"having clusters that are interpretable and are of sufficient size to be worth tracking are two key criteria"* (Lehmann et al 1997: 583). Therefore, judgement is used to a great extent in this

case. Indeed, the number of clusters will be determined by some prior theory or knowledge. However, the dendrogram is the most common method used to decide on the appropriate number of clusters. The dendrogram is a tree-like structure, often used to represent the results of a cluster analysis, which provides a visual representation of the cluster solution and is often easy to interpret (Johnson 2001).

In this research, it could be seen from Appendix 5-14 which illustrates the dendrogram, that there are two main horizontal lines; the first one was formed consisting of thirty-three cases, while the other horizontal line consists of sixty-one cases. These lines could be divided into clusters according to the vertical lines. Examining the dendrogram and agglomeration schedule suggests that the three groups solution is the most appropriate solution. Therefore, three clusters have been selected as providing acceptable levels of both internal homogeneity and a useful degree of external heterogeneity, therefore confirming that three would be the most appropriate number. As a consistency check on the results, cluster analysis was re-run under the average linkage between groups and single linkage. Based on the above and on the previous studies (Wong and Saunders 1993), and by comparing the results with those, the three-cluster solution was accepted as representative.

Quick clustering was then employed using the K-means method in SPSS 11 and 3,4,5 and 6 cluster solutions examined. Appendix 5-15 presents K-means with 3 clusters. The three cluster solutions produced interpretable clusters that were statistically distinct.

Next follows a discussion on profiling clusters.

5.5.4 Step 4: Profiling Clusters

The profiles of the three cluster solutions will be examined using ANOVA, including 'compare means' and discriminant analysis.

Due to the fact that the scope of this study is the investigation of the achieved CP and resources utilised as well as performance and isolating mechanism, in all cases the

dependent variable was the three-cluster solutions obtained from cluster analysis, while the independent variable included resources, isolating mechanism, firm performance and environmental factors.

5.5.4.1 Determining Group Profiles: ANOVA and Multiple Comparison Tests

When more detailed comparison between clusters is needed, ANOVA is the test to be used (Hair et al 1998). The basic logic behind ANOVA is to determine whether a statistically significant difference exists between the means for the clusters created in this research. ANOVA with post hoc test using Scheffe's method was used. Scheffe's test is the most conservative in the sense that it is least likely to find significant differences between groups and therefore type I errors. (Bryman and Cramer 2001, Hooley and Greenley, under-reviewing). Indeed, George and Mallery (2003) emphasised that "*Scheffe is still more conservative....[a]nd uses F tests (rather than the t test in the least significant difference)* This is a fairly popular test" (Ibid: 299).

The ANOVA test confirmed that the clusters were distinct. When significant differences may exist, a further test would be conducted to determine precisely how many statistically significant differences actually exist and which they are. On the other hand, if there were no significant differences, then no further test would be conducted. In this research, significant difference was detected and therefore, a multiple comparison test was used (Burns and Bush 2000).

5.5.4.1.1 Result of ANOVA significance difference between groups

It is evident from Table 5-26 that there is significant difference between all the clusters in terms of the technical quality of products produced, the price level charged for the products, and the degree of innovation in the products. In more detail, there is a significant difference between the first cluster and the other two clusters in terms of the price they charge, which is very low. In fact, they charge the least of all the three clusters. At the same time, the technical quality of the first cluster products is not as high as the second cluster, but at the same time it is slightly higher than the third cluster. However, when it comes to the degree of innovation, this first cluster is the worst of all. That is possibly why they charge the lowest price of all the three clusters. As a result of this, this

first cluster is labelled “ Low price.”, while the second one, which scored the highest in both technical quality and degree of innovation, is labelled “Superior cluster”. Finally, the third cluster, which, although it scored the lowest in terms of technical quality, still charges the highest price, is labelled “High price cluster”.

In order to examine more closely the difference between the clusters, ANOVA was conducted, followed by discriminant analyses.

Next, a detailed discussion of the results obtained from ANOVA including multiple comparison using Scheffe’s test will take place to distinguish among clusters in terms of resources, IM and performance.

Table 5-26

Result of ANOVA significance difference between groups

	<i>Technical Quality</i>	<i>The price level charged for the product</i>	<i>The degree of innovation in the product</i>
<i>Cluster 1 (Low Price Cluster)</i>			
<i>Mean</i>	3.17	2.39	2.86
<i>N: 36</i>			
<i>Cluster 2 (Superior Cluster)</i>			
<i>Mean</i>	4.17	3.85	4.07
<i>N: 41</i>			
<i>Cluster 3 (High Price Cluster)</i>			
<i>Mean</i>	3.00	4.00	3.12
<i>N: 17</i>			
<i>F</i>	22.55	48.43	32.13

5.5.4.1.2 ANOVA results with resources as scales and as items

Here, in order to get a comprehensive picture, six ANOVA tests were conducted; the first one included all scales (assets, capabilities and market orientation) used in the first ANOVA. In more detail, this consisted of the seven factors that had been produced by the factor analysis of assets (three factors), capabilities (three factors) and finally market orientation (one factor).

This was followed by the second ANOVA, where assets only were entered as items. Then, Capabilities items were entered in the third ANOVA as will be discussed next. Then, the fourth and fifth ANOVA were devoted to IM as a scale (three factors) and in a separate ANOVA, IM was entered as items. Finally, the sixth ANOVA included the firm performance, which was conducted as items only. Given the study's interest in the CP, all these ANOVAs were conducted to examine the variance for the resulting three clusters.

5.5.4.1.2.1 Marketing Assets

Here, it was evident that relationships with distribution and supply systems play a crucial role in distinguishing between clusters. The results obtained from assets as both items and scales support this. Indeed, when assets as scales were entered into an ANOVA, (Table 5-27), and then into another ANOVA as items (Table 5-28), the results obtained were similar in this regard. For example, in assets as scale, there was a significant difference between cluster two and three in terms of distribution based assets scale. This scale included, for example, "the uniqueness of our distribution approach". When assets were entered in ANOVA as items, the "uniqueness" item was also statistically significant between not only cluster two and three, but also between clusters one and three.

However, the distribution based assets also included the "relationships with distribution channel intermediaries" item, which was not significant. Furthermore, the customer based assets scale was statistically significant; this included the "relationship with key target customers" item which was also statistically significant when assets were considered as items. Moreover, it is notable that (as shown in Appendix 5-16 a) other items that has

been deleted during the scale development process were also statistically significant. For instance, "copyright and patent" and "good relationship with suppliers". This could indicate that considering items rather than scales would lead to a wider picture.

Table 5-27

Assets, capabilities, market orientation (as scales): Significance of Between Cluster Differences (Scheffe test)

	<i>1,2</i>	<i>1,3</i>	<i>2,3</i>
<u><i>Assets</i></u>			
<i>Customer based Assets</i>	ns	.00*	ns
<i>Internal based assets</i>	ns	ns	ns
<i>Distribution based assets</i>	ns	ns	.03*
<u><i>Capabilities</i></u>			
<i>Spanning capabilities</i>	ns	.01*	.00*
<i>Outside-in capabilities</i>	ns	ns	ns
<i>Inside-out capabilities</i>	ns	ns	ns
<u><i>Market orientation</i></u>	ns	.00*	.01*

*The mean difference is significant at the .05 level

Table 5-28

Marketing Assets (as items): Significance of Between Cluster Differences (Scheffe test)

	<i>1,2</i>	<i>1,3</i>	<i>2,3</i>
<i>Cost advantage in production</i>	ns	ns	ns
<i>Superior marketing information systems</i>	ns	ns	ns
<i>Superior levels of customer services</i>	ns	ns	.00*
<i>Relationship with key target customers</i>	ns	.00*	ns
<i>Company or brand name and reputation</i>	ns	ns	ns
<i>Customer credibility by being well established in the market</i>	ns	ns	ns
<i>Good relationships with suppliers</i>	ns	ns	.04*
<i>Copyrights and patents</i>	ns	.00*	ns
<i>Superior cost control system</i>	ns	ns	ns
<i>Extent or nature of the distribution network</i>	.01*	ns	.01*
<i>The uniqueness of our distribution approach</i>	ns	.00*	.00*
<i>Relationship with distribution channel intermediaries</i>	ns	ns	ns

*The mean difference is significant at the .05 level

5.5.4.1.2.2 Marketing Capabilities

Turning to capabilities, again it was found that when marketing capabilities were considered as scales, spanning capabilities were statistically significant, as shown in Table 5-27. In the same vein, the “effective new product development process” item, which is one component of the spanning scale, was found to be significant when marketing capabilities were considered as items as shown in Table 5-29.

However, other components of spanning capabilities (such as ability to launch a successful new product), were not found to be significant when capabilities were considered as items (Appendix 5-16b)

Furthermore, many other items were found to be statistically significant. On this point, it was also found that many of these items distinguished between the three clusters.

However, “strong financial management” and “good at creating good relationship with customers” were the only items to distinguish between clusters one and three. As discussed earlier, one of the main differences between clusters one and three is that the former charges the lowest price, while the latter charges the highest one.

On the other hand, it seems that such marketing capability is also essential for the second cluster, which is superior in terms of technical quality and degree of innovation. Even more, “good at using information about markets, customer and competitors” distinguished only between clusters one and two. Finally, many items such as “good marketing management ability” “effective human resource management” and “production and manufacturing expertise”, were found to distinguish between clusters one and three, and at the same time between clusters two and three.

Table 5-29

Marketing Capabilities (as items): Significance of Between Cluster Differences (Scheffe test)

<i>Items</i>	<i>1,2</i>	<i>1,3</i>	<i>2,3</i>
<i>Strong financial management</i>	ns	.00*	.00*
<i>Effective human resource management</i>	.04*	ns	.00*
<i>Production and manufacturing expertise</i>	.01*	ns	.04*
<i>Good marketing management ability</i>	.02*	ns	.01*
<i>Good at using information about markets, customer and competitors</i>	.00*	ns	ns
<i>Good at understanding what customer needs and requirements are</i>	ns	ns	ns
<i>Good at enhancing and maintaining relationships with key customers</i>	ns	ns	ns
<i>Good at creating relationships with customers</i>	.01*	.03*	ns
<i>Effective new products development processes</i>	.01*	ns	.00*
<i>Ability to launch new product development which is responsive to customer needs</i>	ns	ns	ns

*The mean difference is significant at the .05 level

5.5.4.1.2.3 Market orientation

Finally, it was found that market orientation distinguishes among clusters three and one, as well as between cluster three and two.

As will be discussed in more detail later, it seems that such differences among clusters in terms of resources is the main explanation for the distinctions among these clusters. Indeed, it seems that these results enhance the difference between the clusters.

5.5.4.1.3 Isolating mechanism as scale

Switching to the different mechanisms that a firm would utilise to defend its positioning, it was found that as scales, as shown in Table 5-30, IM could not distinguish between the three clusters (Appendix 5-17). However, as items, Table 5-31, it was found that only “Our products are highly valued by our customers creating a barrier against competitors' products” and “It took time to build competitive position and competitors would find it

time consuming to follow a similar route” were found to distinguish between clusters two and three (Appendix 5-16,C). It is notable that cluster two offers superior technical quality as well as a superior degree of innovation, while the third cluster offers the least technical quality, but is slightly above average in terms of innovation.

5.5.4.1.4 Firm performance

Finally, ANOVA results indicate that there is a significant difference in terms of sales volume between clusters one and two, as well as between clusters one and three. Moreover, none of the other firm performance items such as, for example, ROI and market share, offer any explanation of the difference between the three clusters, as is shown in Table 5-32 (Appendix 5-18)

Table 5-30

Isolating Mechanism (as scale): Significance of Between Cluster Differences (Scheffe test)

	1,2	1,3,	2,3
<i>Legal and economic isolation</i>	ns	ns	ns
<i>Scarce and unique resources</i>	ns	ns	ns
<i>Tacit knowledge and skills based barriers</i>	ns	ns	ns

Table 5-31

Isolating mechanism (as items): Significance of Between Cluster Differences (Scheffe test)

	1,2	1,3	2,3
<i>Our products are highly valued by our customers creating a barrier against competitors' products</i>	ns	ns	.05*
<i>There would be significant cost for customers if they switched from our products to those of competitors</i>	ns	ns	ns
<i>Only we have the access to the resources we use</i>	ns	ns	ns
<i>It took time to build competitive position and competitors would find it time consuming to follow a similar route</i>	ns	ns	.04*
<i>Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage</i>	ns	ns	ns
<i>Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors</i>	ns	ns	ns
<i>We protect our resources legally through copyrights and patents</i>	ns	ns	ns
<i>Competitors could copy our competitive positioning but it would be uneconomic for them to do so</i>	ns	ns	ns
<i>Competitors find it difficult to see how we created our competitive positioning in the market in the first place</i>	ns	ns	ns

*The mean difference is significant at the .05 level

Table 5-32

Firm Performance: Significance of Between Cluster Differences (Scheffe test)

	1,2	1,3	2,3
<i>Overall profit levels achieved</i>	ns	ns	ns
<i>Return on investment</i>	ns	ns	ns
<i>Sales volume achieved</i>	.00*	.02*	ns
<i>Market share achieved</i>	ns	ns	ns

*The mean difference is significant at the .05 level

Given the scope of this study, separating between cluster centroids to get a more detailed picture of the clusters is essential. In this regard, discriminant analysis was conducted next.

5.5.4.2 Discriminant Analysis

Discriminant analysis is a multivariate technique that can be used to create a system of equations to discriminate between different groups within a certain sample. These groups have already been ascertained. (Tomlison 1994).

This analysis could also be used to see which variables served to discriminate most efficiently between groups. Such variables are called discriminating variables (Ibid); in other words, they explain how these groups may vary on relevant dimensions. Here the researcher utilises data not previously included in the cluster procedure, to profile the characteristics of each cluster.

Discriminant analysis was used for this research mainly to determine which of the independent variables account most for the differences in the average score profiles of these three clusters (Green and Tull 1979).

There are several types of discriminant function (CF: Hair et al. 1998; Hair et al. 2003; Loehlin 1998; Stevens 1996; Tacq 1997). However, in this research, the Canonical discriminant function will be used. This method results in a set of $n-1$ equations in conjunction to predict which group each case belongs to. This method has many advantages including: a) the coefficients can be presented in a standardized form allowing comparison of the discriminate power of the variables. b) The functions can be interpreted as “factors” which distinguish between the groups and may have an easily interpretable meaning, depending on the size and direction of the coefficients and the average scores on each function by group (Norusis 1986).

In order to reduce the number of variables in the analysis to allow easier interpretation, a stepwise method is used in discriminant analysis. This method is achieved by adding the variables one at a time in a stepwise fashion, and excluding those that do not have great

discriminatory power, or those that are highly correlated with others and consequently explain no more than those variables that are already in the analysis. Given the fact that this research contains many variables, stepwise would be the most appropriate method in this case. Appendix 5-19 depicts the output of the discriminant analysis stepwise for scales, while Appendix 5-20 presents the output of the same analysis for items.

Furthermore, Appendix 5-21 and Appendix 5-22 present the output of discriminant analysis following the 'enter' method for both scales and items, and finally a summary of the results obtained for this enter analysis respectively. This 'enter' method was also conducted to present the full discriminatory power of all items/scales as well to get as detailed a picture as possible to allow discrimination among the clusters. Moreover, the relative importance of the variables was obtained by examining the absolute magnitude of the standardised discriminant function coefficients by following "Enter", then "Stepwise". Even more, variables with larger standardized coefficients contribute more to the discriminating power of the function than those with smaller coefficients.

Finally, the hit ratio is the percentage of cases correctly classified. It can be determined by summing the diagonal elements and dividing by the total number of cases. In addition, the Jackknife method was conducted as a cross validation method and its results are included in the tables.

5.5.4.2.1 *Assets, capabilities and market orientation as scales (stepwise)*

5.5.4.2.1.1 Marketing assets

Assets were examined as scales with capabilities and market orientation (Table 5-33). Then, in another discriminant analysis, assets items were entered (Table 5-34)

The canonical correlation of the resources as scales revealed that the first function has a larger canonical correlation and Eigenvalue than the second one. In other words, the first function explains 48 percent of the variance, which is very close to the result obtained for the first function for assets alone as items (47), while the second function for assets as scale, along all other scales, explains 29 percent. However, the canonical correlation of assets as items alone was 33 for the second function. This would indicate that the first

function has a larger canonical correlation and Eigenvalue than the second one. Also, it sheds light on the fact that assets have more power in explaining the variance when considered as items than when they are considered scales.

In terms of the three clusters, the results indicate that the second cluster is not performing so well in internal based assets nor in the extent or nature of the distribution network. However, the third cluster is doing well in relation to the uniqueness of the distribution approach. The hit ratio in terms of stepwise for assets as items, the classification accuracy is 61.7 percent using the Jackknife method, which means that the classification could be correct sixty times out of a hundred. In other words, it gets it right more than half the time. Also, the Jackknife method was conducted as a cross validation method and its results (60.6 %) are included in the figure and reveal high validation.

Table 5-33

Discriminant analysis Structure Matrix, and Cluster Centroid (Step-wise) for all resources as scales

	<i>Function 1</i>	<i>Function 2</i>
<u>Resources</u>		
<i>Market orientation</i>	.99	.16
<i>Internal based assets</i>	-.04	1.00
 <i>Wilks' Lambda (sig.)</i>	.71 (.00)	.92 (.01)
 <i>Cluster 1 Centroid</i>	.70	.28
<i>Cluster 2 Centroid</i>	.09	-.39
<i>Cluster 3 Centroid</i>	-.64	.18
<i>Percent correct classification</i>		
<i>Cluster 1 (72%), Cluster 2 (51.5%), Cluster (56.6%)</i>		
<i>59.3% of original grouped cases correctly classified</i>		
<i>54.9% of cross-validated grouped cases correctly classified</i>		

Table 5-34

Discriminant analysis Structure Matrix, and Cluster Centroid (Step-wise) for assets items

	<i>Function 1</i>	<i>Function 2</i>
<i>The uniqueness of our distribution approach</i>	.98	.18
<i>Extent or nature of the distribution network</i>	.37	.93
<i>Wilks' Lambda (sig.)</i>	.69 (.00)	.89 (.00)
<i>Cluster 1 Centroid</i>	-.45	.48
<i>Cluster 2 Centroid</i>	-.39	-.39
<i>Cluster 3 Centroid</i>	.67	.02
<i>Percent correct classification</i>		
<i>Cluster 1 (60%), Cluster 2 (42.4%), Cluster (80.6%)</i>		
<i>61.7% of original grouped cases correctly classified</i>		
<i>60.6% of cross-validated grouped cases correctly classified</i>		

5.5.4.2.1.2 Marketing Capabilities

Surprisingly, marketing capabilities as scale were not revealed to hold any discriminating power among the three clusters. However, when capabilities as items were entered into another discriminant analysis, it was found that three items in particular had this discriminating power, as shown in Table 5-35. The results indicated that the first cluster is doing very well in terms of "good at understanding what customer needs and requirements are", where the third cluster is doing badly. In addition, both of these clusters are doing less well for the other two items "Strong financial management" and "effective new products development processes"; that is possibly why they charge the lowest price, as this would meet the customers' needs they serve. On the other hand, the second cluster is following a different approach, and is doing very well in it; they are very good in "effective new product development processes".

Perhaps this would explain the highest degree of innovation that this cluster is offering. However, this second cluster is doing less well in the other two items. Perhaps that is because they cannot charge such low prices as the first cluster.

5.5.4.2.1.3 Market orientation

As shown in Table 5-33, market orientation could discriminate among the three clusters. In more detail, cluster one is doing very well in market orientation, which is opposite to the third cluster, while the second cluster is following a different approach, as discussed earlier, where they do badly in terms of internal based assets, but slightly better in terms of market orientation.

Table 5-35

Discriminant analysis Structure Matrix, and Cluster Centroid (Step-wise) for capabilities items

	Function 1	Function 2
<i>Good at understanding what customer needs and requirements are</i>	.88	.24
<i>Strong financial management</i>	.53	.12
<i>Effective new products development processes</i>	-.35	.88
<i>Wilks' Lambda (sig.)</i>	.61 (.00)	.83 (.00)
<i>Cluster 1 Centroid</i>	.62	.57
<i>Cluster 2 Centroid</i>	.33	.55
<i>Cluster 3 Centroid</i>	-.76	.11
<i>Percent correct classification</i>		
<i>Cluster 1 (56%), Cluster 2 (51.5%), Cluster (50%)</i>		
<i>52.1% of original grouped cases correctly classified</i>		
<i>50% of cross-validated grouped cases correctly classified</i>		

5.5.4.2.2 Isolating mechanism:

Then, in another model, the three isolating mechanisms that have been identified from factor analysis were entered (Table 5-36). However, in IM, no scale was identified as crucial in stepwise analysis. Nevertheless, when isolating mechanism items were entered, "It took time to build competitive position and competitors would find it time consuming to follow a similar route" was the only crucial item. In this regard, only the second cluster was found to do very well in this IM, while the other two clusters did not.

Table 5-36

Discriminant analysis Structure Matrix, and Cluster Centroid (Step-wise) for isolating mechanism items

	<i>Function 1</i>
<i>It took time to build competitive position and competitors would find it time consuming to follow a similar route</i>	.88
<i>Wilks' Lambda (sig.)</i>	.79 (.00)
<i>Cluster 1 Centroid</i>	-.08
<i>Cluster 2 Centroid</i>	.44
<i>Cluster 3 Centroid</i>	-.97
<i>Percent correct classification</i>	
<i>Cluster 1 (56%), Cluster 2 (51.5%), Cluster (50%)</i>	
<i>57% of original grouped cases correctly classified</i>	
<i>57% of cross-validated grouped cases correctly classified</i>	

5.5.4.2.3 Firm performance

Finally, the firm performance items were entered in a third model. However, in firm performance, no item was identified as crucial in stepwise analysis, therefore no table was presented. Thus, the 'enter' method was followed, and Table 5-37 presents the results. Surprisingly, it is realized from the results that both the first and the second clusters are doing well in sales volume, but less well in ROI, market share and overall profit levels achieved. On the other hand, the third cluster is doing very well in market share and

overall profit levels achieved, but in contrast to the other two clusters, it is doing less well in terms of sales volume achieved as shown in the table below.

Furthermore, there have been many studies examining market orientation. Here, the focus will concentrate not only on the most recent studies that have been found but also on studies that included other components of resources as well as MO. In more detail, there have been many studies investigating the MO–performance relationship; for comprehensive details on the older studies see C.F. Greenly (1995a,b) and more recently Tse et al (2003).

Table 5-37

Discriminant analysis Structure Matrix, and Cluster Centroid (Enter)

	<i>Function 1</i>	<i>Function2</i>
<i>Sales volume achieved</i>	.74	.15
<i>Return on investment</i>	-.05	.03
<i>Market share achieved</i>	.11	.64
<i>Overall profit levels achieved</i>	.26	.58
<i>Eigenvalue</i>	.15	.03
<i>Cluster 1 Centroid</i>	.81	.18
<i>Cluster 2 Centroid</i>	.32	-.15
<i>Cluster 3 Centroid</i>	.02	.22
<i>Percent correct classification</i>		
<i>Cluster 1 (50%), Cluster 2 (54.8%), Cluster (39.3%)</i>		
<i>47.8% of original grouped cases correctly classified</i>		

The following is a discussion of the profiling of the clusters, based on the results obtained from ANOVA and discriminant analysis

5.5.5 The three positioning clusters

5.5.5.1 Cluster 1

"Low Price" (n=36, 38%)

The results obtained from ANOVA and discriminant analysis indicate that this cluster is characterized by the lowest degree of innovation, relatively low levels of technical product quality, but very low prices. In fact, this cluster charges the lowest prices of all, compared with the other two clusters.

It was evident from the results that there is a significant difference between this cluster and the third one in terms of customer-based assets, spanning capabilities and market orientation as scales. In more detail, it seems that this cluster has better MO than the other two clusters. This is evident in its ability to understand what customers' wants and requirements are. In other words, this group is serving the needs of certain segment of customers, and therefore the producers of these products have understood their customers well. Surprisingly, although the first cluster has a low degree of innovation, it has a good understanding of customers' needs and requirements, possibly due to charging them the low prices they are looking for. Actually, this may be the low price sensitive sector of the market that Hooley et al (Hooley et al 1998a) have discussed.

Furthermore, this cluster is doing particularly well in terms of internal based assets. These include superior marketing information systems and cost advantage in production. Indeed, for low cost positioning, it is expected that it would require the use of techniques such as activity based costing within the firm's own operations and the suppliers (Hooley et al 1998a). This was supported in this present study.

The results further indicate that this cluster has a certain ability in terms of the uniqueness of their distribution approach. However, the third cluster is doing better than this cluster in terms of "extent or nature of distribution network". In more detail, it seems that charging a lower price than all other competitors would not create any difficulty in maintaining such activity with distribution channels and the suppliers, as has been discussed in the literature (Ibid). One possible explanation for this, as suggested by

Hilleke and Butscher (1997), is that low price producers would look for new, creative distribution approaches not only to keep the costs to a minimum, but also to avoid confrontation with well established products in the market, and would therefore build a unique type of distribution.

Furthermore, not surprisingly, this cluster did very badly in NPD. Indeed, they scored the lowest not only in degree of innovation in the product but also in NPD.

However, when it comes to isolating mechanism, the results revealed that they are not doing well in this regard. In fact, they are doing the worst among all clusters in relation to isolating mechanism, which make their positioning vulnerable.

The main obstacle that this cluster cannot overcome is the isolating mechanism that the second cluster is pursuing; although both of the CPs pursue IM in terms of path dependency, the second is much higher. As discussed below, the second cluster follows a path dependency that is difficult for the first cluster to imitate.

In terms of firm performance, sales volume and ROI, there are significant differences between this cluster and the second one. This confirms the rivalry between these two clusters.

5.5.5.2 Cluster 2

“Superior Cluster” (n=41, 44%)

The second cluster could be called “superior cluster”, because despite the fact they charge relatively low prices (average price = 3.85 compared with the first cluster = 2.39), they still score highly on product quality, and innovation. Actually, this second cluster is the best in terms of technical quality of the product as well as the degree of innovation.

Furthermore, as has been discussed above, this cluster is doing particularly well in terms of producing products that customers really want, having relationships with key target customers, and providing a superior level of customer services. Furthermore, with path

dependency, such a superior cluster with its high technical quality and degree of innovation would be likely to protect its products from competitors.

Furthermore, not surprisingly, the results also indicate that this cluster is doing particularly well in terms of NPD process. Consequently, this cluster is the best in terms of innovation, as mentioned earlier.

The results further revealed that this cluster is relying mainly on path dependency in terms of "it took time to build our competitive positioning and competitors would find it time-consuming to follow a similar route" to protect its product CP. In addition, there is substantial difference between this cluster and the third one in terms of not only path dependency but also valuable resources in terms of "Our products are highly valued by our customers, creating a barriers against competitors' products"

Finally, in terms of firm performance, there is a significance difference between this cluster and the first cluster in sales volume. Indeed, it is expected that a superior cluster with high score in technical quality, and innovation would out-perform other clusters in terms of sales volume.

5.5.5.3 Cluster 3

"High Price" (n=17, 18%)

For this cluster, results revealed that it is characterised by charging the highest price of all the clusters, coupled with performing significantly differently in terms of spanning and market orientation as well as customer based assets. Indeed, in order for a firm to be able to charge high prices, it has to be able to serve the customers and give them what they want; in other words, it must know how to create value for the customers especially if these clusters do not offer much. In fact, the degree of innovation is relatively low, (second among the three clusters), while in terms of technical quality, they scored the lowest. However, the results of discriminant analysis suggest that this cluster is doing particularly well in terms of MO. One possible explanation for that is that this cluster is satisfying certain needs and requirements for certain customers that have not been met by the other clusters or competitors.

In terms of isolating mechanism, there is a significant difference between this cluster and the second cluster in terms of path dependency. However, it has been suggested that such a cluster has strong financial management, and this might be the reason for charging high prices. However, due to the fact that the second cluster obtains resources that are costly for other clusters to obtain, this may be another reason for this cluster to charge high prices. However, it has been found in the literature that a few firms may also charge high prices to create an image of exclusivity (Hooley et al 1997, 1998a).

5.6 Summary and Conclusion

The main purpose behind this chapter was not only to analyse the data obtained, but also to examine the different propositions that have been developed in Chapter Three.

This chapter discussed the resources and isolating mechanism that underpin each dimension in order to achieve the planned competitive positioning. Furthermore, the effect of the environment as a moderator between the competitive positioning and firm performance has been tested.

Consequently, the chapter goes through an extensive analysis and deploys different techniques in order not only to test the propositions mentioned earlier, but also to get as close as possible to the data and therefore get a detailed and thorough understanding of the results.

The analysis that has been conducted has shed light on the moderating effect of the environment, though not in every case. Indeed, during the analysis, it was noted that although the environment was found in some cases to have affected the competitive positioning-firm performance relationship in some areas, in other areas this relationship could not be found.

In this regard, what Hansen and Wernerfelt (1989) tried to confirm in their studies was found to be true to a great extent in this study. In more detail, they tried to emphasise that firm performance is affected by many variables. These variables are both inside and outside the firm. They examined the effect of a few of them, for example, in economic terms, industry profitability defined as “*the sales weighted average return on assets across the firm’s lines of business*” (Ibid: 404); also, firm variables such as decision making practises, emphasis on human resources, job design, and goal emphasis. They found, however, that the firm variables were twice as significant as the economic variables. Indeed, attainment of a position is only the first step in creating a superior performance (Slater 1996).

Similarly, Cool et al (1999) emphasised that the main reason behind the reduction of firm profitability over a twenty-year period in the American pharmaceutical industry was the increasing rivalry among firms. Indeed, there is competition and some degree of differentiation in this industry.

Having critically reviewed the previous literature, developed the propositions, selected the context of the research and collected data from the fieldwork to examine and test these propositions, it is now appropriate to discuss the results that have been obtained in the light of not only previous literature but also the secondary data, as well the comments received during the interviews. Consequently, the following chapter’s main purpose is discussing the results.

Table 5-38

Summary of hypothesis test results

<i>P_{1-Q1}: "High quality product competitive positioning is supported by; <u>Assets</u>: Company or brand name reputation, Good supply chain management, Good relationship with suppliers, Exclusive distribution system, The extent or nature of the distribution network, The uniqueness of the distribution, Good relationship with distribution channel intermediaries. <u>Capabilities</u>: Good at understanding what customers' needs and requirements are, good at setting prices which both attract customers and achieve financial objectives, Produce products that customers really want, Production and manufacturing expertise"</i>	Supported Partially
<i>P_{1-Q2}: "Quality competitive positioning is supported by; supply chain assets and outside-in capabilities"</i>	Supported Partially
<i>P_{1-P1}: "High price product competitive positioning is supported by; <u>Assets</u>: company or brand name and reputation, credibility with customers due to being the market leader, providing superior levels of customer services and High quality. <u>Capabilities</u>: Being good at creating/enhancing and maintaining relationships with key customers is crucial, produce products that customers really want and building relationship with key target customer."</i>	Not Supported
<i>P_{1-P2}: "low price product competitive positioning is supported by; <u>Assets</u>: Advantage in production, cost advantage. <u>Capabilities</u>: Effective human resources management, good marketing management ability, good operations management expertise, having strong financial management, integrated logistics and planning capabilities"</i>	Supported Partially
<i>P_{1-P3}: "High price competitive positioning is supported by; customer based assets"</i>	Supported Partially
<i>P_{1-P4}: "Low price competitive positioning is supported by; internal assets and inside-out capabilities"</i>	Supported Partially
<i>P_{1-N1}: "Innovation is supported by;: <u>Capabilities</u>: Ability to launch successful new products, Effective new product development processes, Good at using information about customers, and competitors and superior levels of customer services"</i>	Supported Partially
<i>P_{1-N2}: "Innovation is supported by; market orientation"</i>	Supported
<i>P_{1-N3}: "Innovation competitive positioning is supported by; Inside-out and spanning capabilities"</i>	Supported Partially
<i>P_{2-Q1}: "Defending high quality competitive positioning is associated positively with valuable competitive positioning from the consumers"</i>	Supported

point of view, high switching costs and legal protection such as copyrights and patents "

P_{2-Q2}: "Quality competitive positioning could be defended through barriers to imitation" Not Supported

P_{2-P2}: "Defending high price competitive positioning is positively associated with scarce difficult to access resources, valuable competitive positioning from consumers' point of view and tacit knowledge". Not Supported

P_{2-P3}: "Defending low price competitive positioning is positively associated with high economies of scale". Not Supported

P_{2-P4}: "Defending price competitive positioning is positively correlated with barriers to imitation ". Not Supported

P_{2-N1}: "Defending innovation is positively associated with complexity and path dependency" Supported

P_{2-N2}: "Defending innovation is positively associated with causal ambiguity and path dependency" Not Supported

P₃: Turbulent environment strengthens the CP-firm performance.

<i>Quality</i>	Not Supported
<i>Price</i>	Supported partially
<i>Innovation</i>	Supported partially

6 Chapter Six: Discussion

6.1 Introduction

This chapter discusses the results of the analysis conducted in the previous chapter. It deals with the ways in which the conceptual model has been introduced and tested and the results obtained in the present study.

Given the study's interest in the different competitive positioning that a firm achieved, three CPs (technical quality, price, and innovation) are investigated in terms of resources and isolating mechanism. In addition, the moderated effect of the environment is examined. This discussion will include an examination of how the findings accord with or differ from the literature as discussed in Chapters Two and Three. Furthermore, the aggregate results are examined in terms of the extent to which they support the proposed interactive product competitive positioning model for the manufacturing sector in general.

The last point in this chapter is a discussion about the proposed changes and modifications that should/could be made to the conceptual model. In other words, the chapter concludes with the presentation of a revised model incorporating the research findings.

6.2 Technical quality competitive positioning

The first CP to be discussed is technical quality. With regard to this, “production and manufacturing expertise” was significant. Actually, this item in particular was significant in both cases; items and scales. This result accords with Workman (1998) when he highlighted that a highly technical firm would need technical and production expertise which would not only be able to understand opportunities, but also to explain capabilities and interpretation of market information, competitor actions and market development. Indeed, he emphasised the importance of having a range of different sorts of expertise, including technical expertise, as well as allocating tasks to functional groups; for example the product management function is not part of marketing but rather part of R&D, while customer services is part of sales. In short, an integration of the different departments inside the firm as well as having the required expertise is crucial to achieving the planned technical quality competitive positioning. Furthermore, this was evident in the reply obtained from the marketing manager of Anadin “..... in a competitive market like analgesics you need to have expertise not only in manufacturing but also in production, without it you are unable to be the first to the marketand being second is not good enough; you can only be a discounted and we do not want to be that”¹.

Furthermore, due to the fact that in this industry, one of the main aspects of the products is their technical quality, maintaining this quality at a high level is crucial. In that sense, many studies have examined the communication patterns between marketing and engineering and its correlation to product success, such as Cooper and Kleinschmidt (1987) who found that one of the main reasons behind a product’s success is the connection and communication between marketing and R&D and engineering departments.

Moreover, the results extensively suggest the importance of technical expertise, as shown in Figure 6-1 and Figure 6-2. Indeed, the formula for a winning product that Franceschini

¹ An interview with the marketing manager of Anadin on 23rd August 2001 14:00.

and Zappulli (1998) discussed includes that set of technical and engineering characteristics that would assist in producing the product with the required level of technical quality that consumers need.

Even more, it was expected that cost advantage would be difficult when pursuing such competitive positioning, and this was evident as the same marketing manager mentioned: *"...our employees are of a certain standard of knowledge and living, and they have good salaries for their work, whereas own labels can employ anybody on minimum wages; we have certain standards we like to maintain so we can not be that cost effective, but we are trying ..."*²

On the top of that, the result regarding the distribution network was expected because distribution channel plays a pivotal role in satisfying the final consumer needs (Hilleke and Butscher 1997). Actually, this was evident in the reply obtained from the marketing manager of Anadin about the distribution network *"We need them to keep our product in a good place in the shelf, as having a good place is a premium, also we need the consumers, so we must understand what they want in terms of the product..."*.

Marketing was not expected to be of great importance to the pharmaceutical firms (Pelham 1997). However, the results indicated that OTC firms seem to realize its importance as well as the significance of creating a good relationship with customers. Furthermore, it seems that OTC firms have listened to other marketers, including Workman (1998) as they emphasised the importance of merging the marketing department with other departments, as well as creating a good relationship with customers. Nevertheless, for the former, it is clear that the degree of market orientation in OTC firms that pursue quality competitive positioning still differs from other firms in different industries that also pursue quality competitive positioning. Indeed, Lai (2003) found in Hong Kong that firms that pursuing quality management would follow market orientation culture. In other words, those firms seem to know the importance of market orientation; however OTC firms try to take what would suit them, and therefore, would not pursue the whole concept of market orientation but instead, select what they can do.

² An interview with the marketing manager of Anadin on 23rd August 2001 14:00.

On the top of that, the results shed light on the fact that switching costs and valuable resources are important IM for defending quality CP. Indeed, not only acquiring the information but also protecting it is a crucial factor in this competitive positioning. In general, this is discussed by Bouchet et al (1998) who argued that pharmaceutical firms provide information for in-house research and supply information not only on the drugs they manufacture to extend doctors and chemists' ability to exploit new opportunities and maintain competitive edge, but also on the different resources and competitors of the firm. Furthermore, firms have to rely on accurate and up to date information that can be supplied quickly. The company must be both proactive and reactive in its provision and dissemination of information. In more detail, they found that 79 percent of managers in pharmaceutical firms sought information themselves using in-house sources such as internal memos, reports, databases, internal colleagues associates, newspapers, journal magazines and personal use of external databases (e.g. chemical abstracts). This information would enable the managers to exploit new opportunities, decide upon a course of action, and proceed to the next steps on a project. In addition, such information would assist those managers to avoid poor business decisions and legal problems.

Interestingly, no moderator effect was detected in the technical – market share as firm performance relationship. One possible explanation would be: Technical quality CP is very complicated and it is affected by many other factors. Indeed, in general, Hawawini et al (2003) and Hansen and Wernerfelt (1989) argued that there is a great possibility that performance could be driven by industry or firm specific factors. In other words, there could be many other factors that affect a firm's performance.

In general, these results indicate the complexity of such competitive positioning. Indeed, when the competitive positioning is planned and achieved, it is half of the story; the other half that determines the firm performance would include the effect of the external environment. For example, on the one hand, it is found to be the consumers themselves. This accords with Franceschin and Zappulli (1998) who argued that the winning product results from the correct blend of functionality and customer expectation. Indeed, a

product can be thought of as a set of technical/engineering characteristics that are able to satisfy a set of customer requirements.

In sum, the propositions related to technical quality competitive positioning received mixed support. A few of these were expected, but others were surprising, which calls for more investigation to uncover more of these complicated relationships as will be discussed in both section 6.5, “The original model revisited & modified” and again in the future research section (7.5).

This discussion now moves on to the second competitive positioning in this present study, which is price CP.

Figure 6-1

Technical quality competitive positioning (Scale)

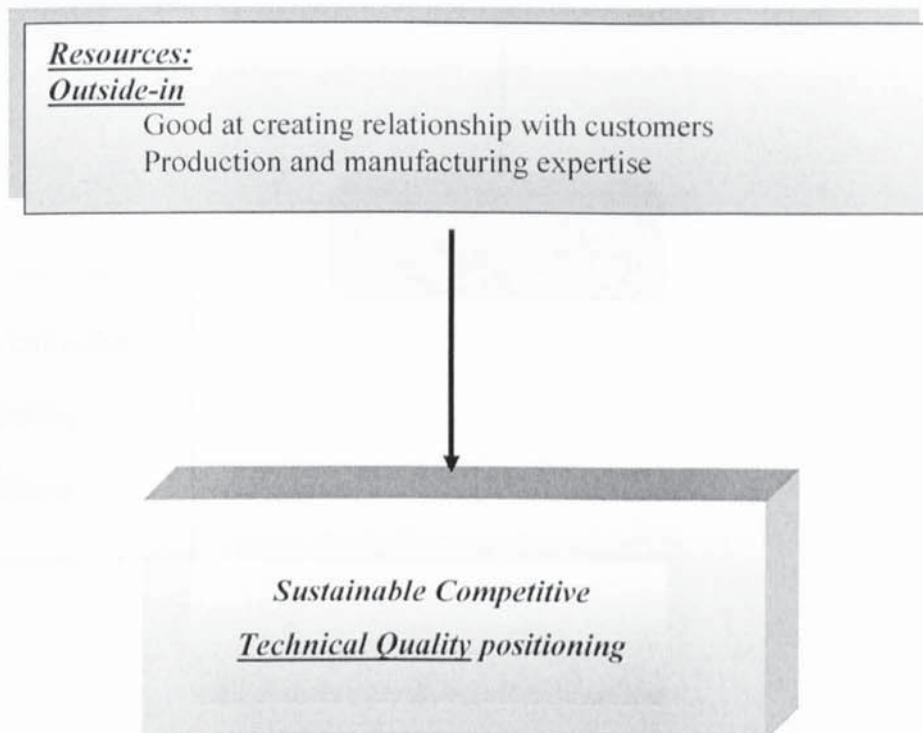
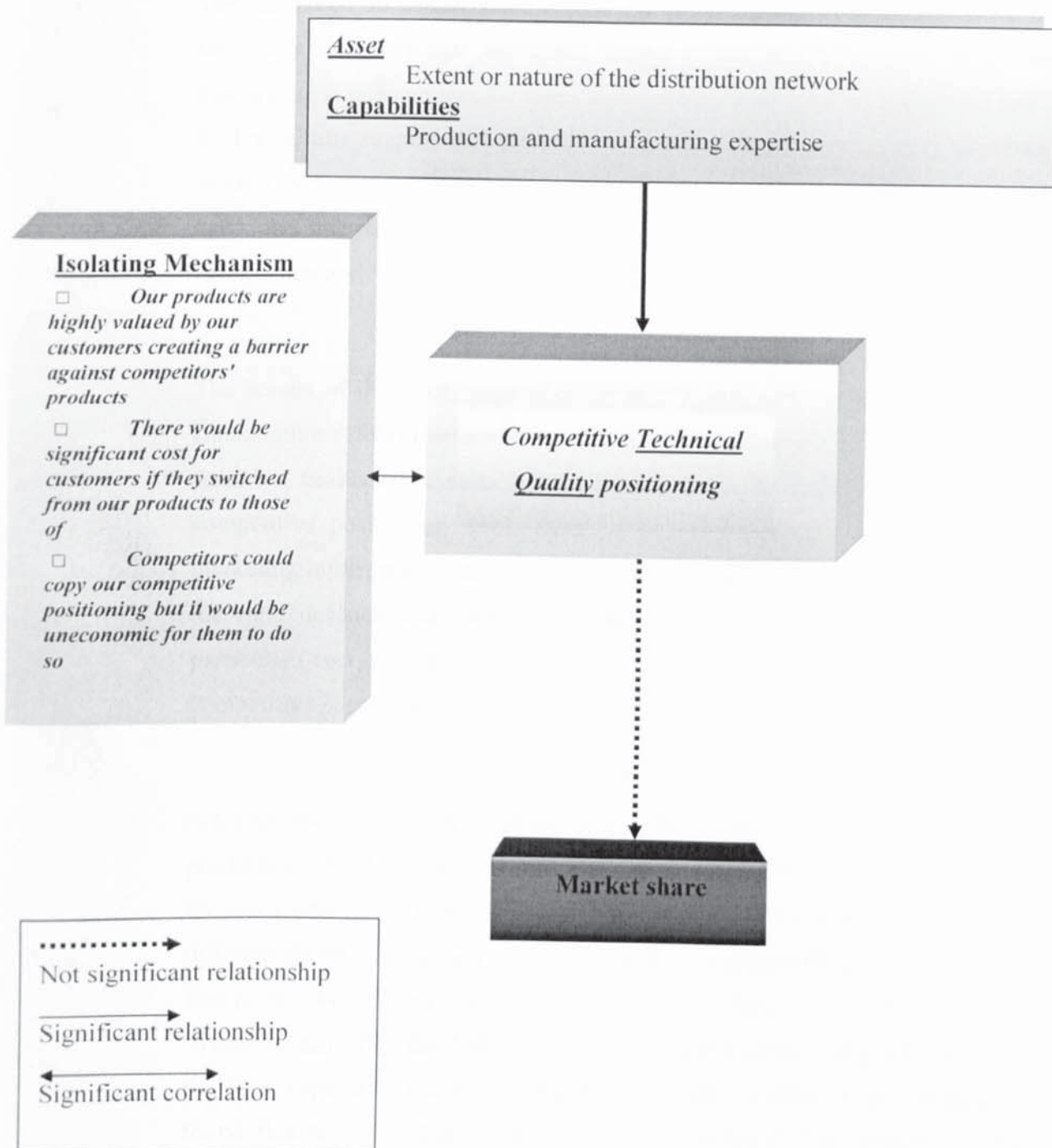


Figure 6-2

Technical quality competitive positioning (Items)



6.3 *Price Competitive positioning*

The second CP to be discussed is price CP. With regard to this CP, the main findings of the study indicated that the major resources that are used when price competitive positioning is pursued involve many resources as shown in both Figure 6-3 and Figure 6-4. The results suggest that price CP is complex and involves many activities. This is evident in the many items obtained from the analysis. Furthermore, when scales were used, the internal based assets scale was significant in terms of “superior marketing information and “cost advantage in production”.

The results of this study regarding the price competitive positioning accord with what Datamonitor (1998) mentioned in terms of the fact that the UK is perhaps the most cost sensitive healthcare system within Europe. This is reflected in the fact that such competitive positioning would need to be associated to being superior in acquiring marketing information which would enable the firm to have enough information to take the right decision and therefore set the right price (Nagle and Cressman 2002). In particular, cost advantage in production was found to be crucial in pursuing such competitive positioning.

For example, in general, Shufeldt et al (1998) found that in America, prices of OTC products might affect the decision of purchasing depending on the type of the consumer; the quiet introverted group (the elderly who enjoy a shopping centre, and try new and different places to shop) are relatively sensitive to price, whereas elderly people who are family oriented (enjoy spending time with the family) and care less about prices. Therefore, attracting the different types of consumer might also affect the market share of the firm, especially when the competition is high. Similar to this, Erdem et al (2002) found that brand credibility decreases price sensitivity for consumers across product categories.

The findings of the study generally indicted that achieving price competitive positioning to achieve high market share was complex and not an easy step, given the turbulent changing external and competitive environment. However, the research findings indicate that there are many factors which play a crucial part, and therefore make it necessary that not only a managerial control perspective, but also monitoring the customers as well as competitors, is crucial.

To add more to the complexity of the situation, OTC producers face competition in term of generic products. Indeed, the UK market is reported to be the highest user of cheaper generic drugs in Europe and the lowest user of new drugs (Reuters Ibid). Indeed, generic drug prescribing has risen from 41 percent in 1991 to more than 60 percent in 1997 (Datamonitor 1998). Furthermore, there is a well-known price war going on in the OTC industry in the UK. This case was solved when the UK OTC trade association supported the Community Pharmacy Action Group (CPAG) in its decision to withdraw a court case regarding the price fixing of OTC drugs after the judge said there was little evidence that abolition of price maintenance would harm community pharmacists. The withdrawal brought an end to a long running court battle pitting the pharmaceutical industry against an equally powerful corporate enemy; the supermarket retailers including Boots and Asda were swift to announce a reduction of up to 50 percent in the prices of branded OTC medicine in a market worth £1.5 billion a year (Pharmaceutical Executive 2001). This means that OTC producers are facing competition not only from other OTC producers, but also from the cheap generic products. In this regard, GSK threatened that it might consider slashing prices if it faces fierce generic competition (Financial Times 2003a). However, due to the increasing threat from the generic products, GSK eventually cut the cost, which resulted in a rise in pre-tax profits by a better than expected 15 percent in the second quarter (Financial Times 2003b).

Furthermore, the conventional wisdom in the literature believes that cost advantage could not contradict with having cost advantage in production. Indeed, given what is facing the OTC producers now, as discussed above, it was evident that with such competition, major pharmaceutical firms are unlikely to lose out while the smaller firms are more likely to suffer. The reason behind this is the fact that such OTC products would present a small part of those bigger firms, while this is not the case with smaller manufactures

(Pharmaceutical Executive Ibid). Indeed, this accords with the announcement that one of the main leaders of the OTC market (GlaxoSmithKline) (Keynote 2002), as mentioned above, will consider slashing prices if it faces fierce generic competition over its best selling drugs in the coming months (Financial Times 2003).

Consequently, in general having superior marketing information system as well as cost advantage in production would be crucial in facing such a competitive market.

Depending on the argument above, not surprisingly when examining the effect of the external environment as a moderator, one interaction term was found to be significant: level of competition. Once more, it shows the complexity of pursuing such competitive positioning, as it illustrates the huge effect of the external environment, especially the competition, on the firm's performance.

Indeed, in general, when there is a price war among firms, as is the situation now between Novartis and AstraZeneca over the ulcer treatment Prilosec, a sharp fall in the price is expected to be the approach that firms would follow; otherwise, great losses could occur, as Schwarz suffered with its shares falling 18 percent to £8.8 million. As a result of this, Schwarz announced it would reduce the price of its product to be able to face such competition (Financial times 2003).

In more details, the results indicated that the external environment in terms of level of competition places pressure and moderates the price competitive positioning – market share relationship. In that sense, results indicated that when the level of competition is high, price charged positively affects market share, whereas a low level of competition moderates this relationship less strongly. This results is expected as Taylor (1998) highlighted the importance of such pressure which makes it increasingly necessary for managers to be aware of how they need to adjust to such pressure to maintain present and future strategic “fit”, as achieving a match is important because the success of an organization depends on its ability to survive in a turbulent environment. Actually, Swink and Hegarty (1998) shed light on the fact that product pricing is almost certainly influenced not only by manufacturing costs and promotion but also by competition, which may exert an even greater influence.

This result also accords with Beard and Easingwood (1992) who found that in technologically intense industries, including pharmaceuticals, two main factors affect product competitive positioning; price and technological performance. They found that a mixed balance of strategies such as value for money and pure quality would be required in the pharmaceutical industry.

Even more, surprisingly, when examining the association between price competitive positioning and IM, in both situations (items and cases), none of the expected terms were found to be significant.

Next, we switch to the third and final CP that has been included in this present study; innovation competitive positioning.

Figure 6-3

Level of price competitive positioning (Scales)

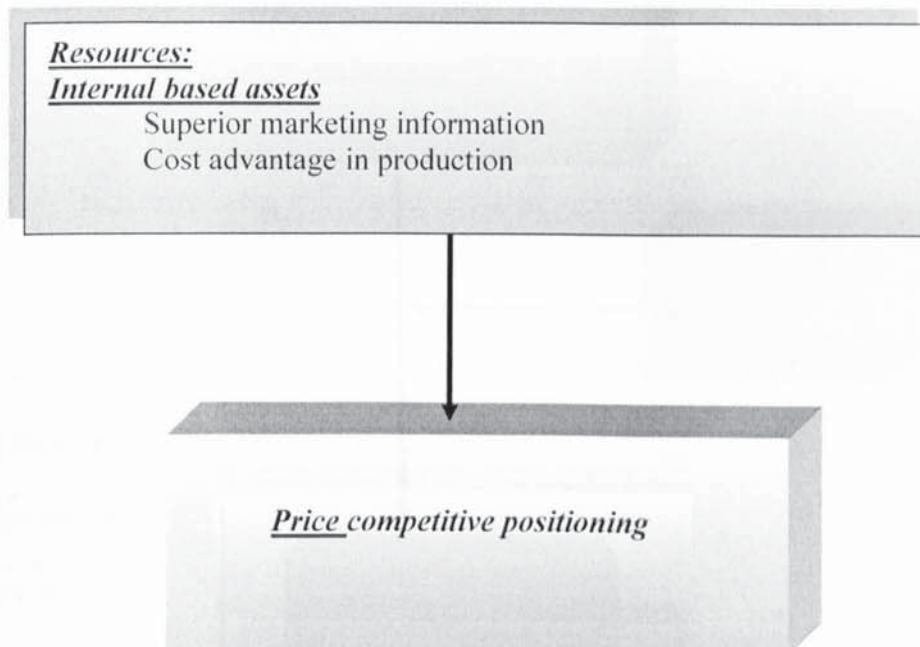
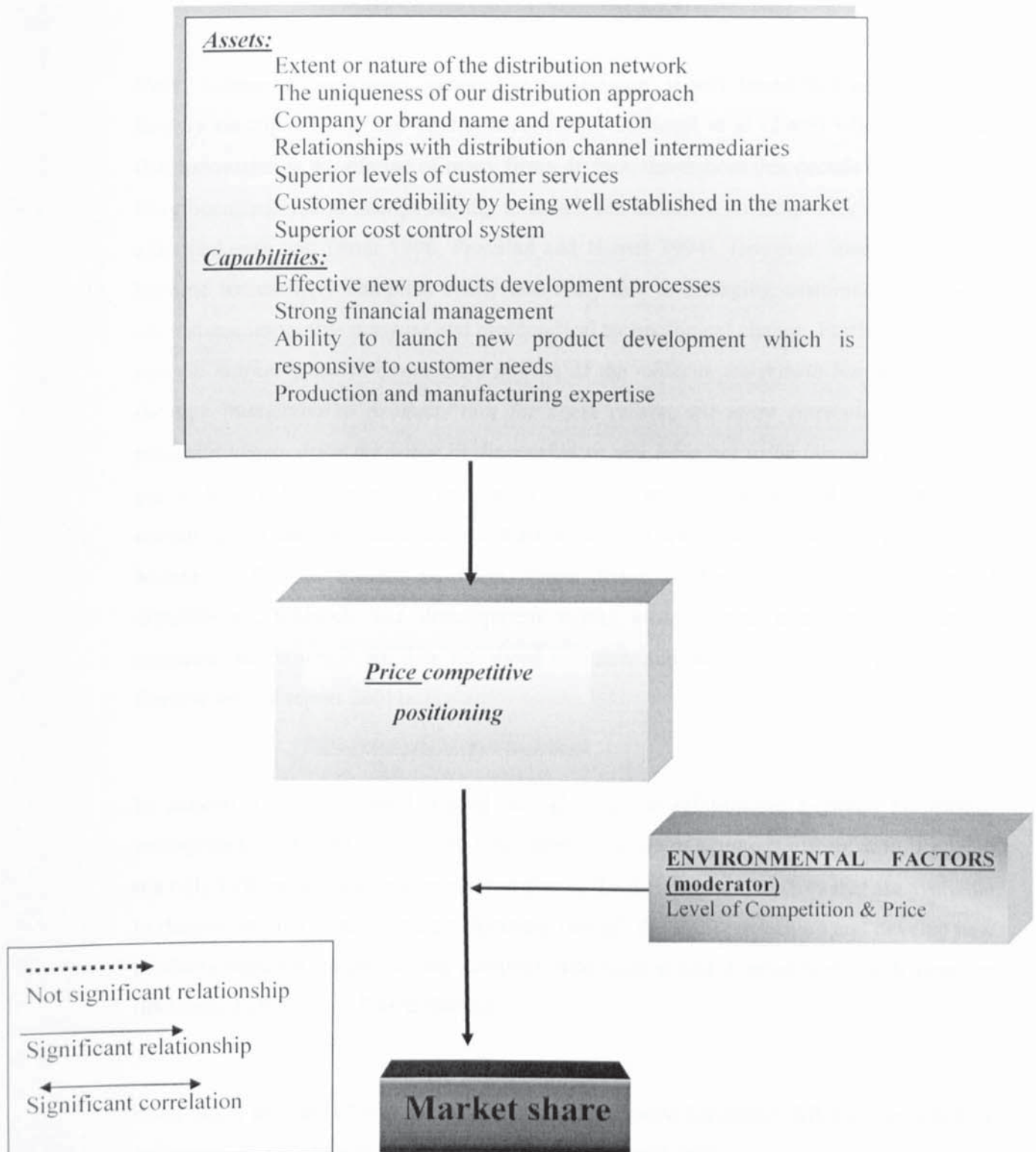


Figure 6-4

Level of price competitive positioning (Items)



6.4 Innovation competitive positioning

Now, turning to innovation competitive positioning, it was found that such CP relies heavily on capabilities. The results accord with Cavusgil et al (2003) who emphasised that innovation is the lifeline of many firms. In fact, throughout this decade organizations have been required to change rapidly to match the turbulent environments in which they exist (Inkepen and Dinur 1998; Prahalad and Hamel 1994). However, innovations have become increasingly complex, costly and risky due to changing customer preferences, extensive competitive pressure and rapid radical technological change. Furthermore, “ *the current market is worth about £300 million at the moment, its growth has usually been through innovation so products that for some reason are more convenient to use or powerful nearly drive the value of the market so you have got to be innovative you have got to have a huge spend on innovation...*”³ ; the results indicate that there are many resources that are significant and most are associated with such competitive positioning. Moreover, this is evident in P&G where there is deep involvement of several departments; research and development works closely with marketing to identify consumer needs which are then translated into new and improved products (Proctor and Gamble annual report 2001).

In general, Carneiro (2000) argued strongly for the relationship between knowledge management, competitiveness, and innovation. The use of adequate information is related not only to their task and customers, but also to the different alternatives that are available to them to be able to take the right decision. Indeed, the ability to exploit and develop new products depends on possessing adequate information and a reliable network between intellectual effort as well as technology.

Even more, in terms of MO, as has been discussed in the literature, different firms follow different degrees of market orientation. This might explain the results gained in this study in relation to innovation competitive positioning. The results indicated that market

³ An interview with the marketing manager of Nurofen on 22nd August 2001 14:40pm.

orientation is one of the main resources that a firm uses when planning for innovation competitive positioning. In addition, inside out and spanning would be associated with innovation competitive positioning. However, surprisingly, when all scales were included in one analysis, MO dropped out while inside out and spanning are significant. This would suggest the ultimate importance of capabilities for innovation CP, especially inside out and spanning. Indeed, it is recognised that inside out, as discussed in Chapter Two, is the link between customers and the firm, while spanning capability is the mix between inside out and outside in. In other words, it seems that pharmaceutical firms follow market orientation, but in a limited way, not as extensively as other firms in different industries.

Here, for the moderator, again, similar to price competitive positioning, results suggested the effect of not only level of competition but also customer requirements on the innovation CP-firm performance relationship. This accords with Hunt and Morgan (1995, 1999) who emphasised that *“sustained superior financial performance occurs only when a firm’s comparative advantage in resources continues to yield a position of competitive advantage despite the actions of competitors”*.(Ibid 1995: 8).

Indeed, customers may express some ideas that may represent the foundations for a new product. This is the reason for continuous comparison process among competitors, customers and their needs (Franceschin and Zappulli 1998). Consequently, it was expected that there would be a moderating effect in terms of customer requirements. On the top of that, it was found that when customer requirements are high, high innovation would lead to higher market share. In addition, when customer requirements are low, there is hardly any relationship between innovation and market share as suggested by the results obtained. In other words, when customer requirements are high, it plays crucial role in the innovation-market share relationship. However, on the other hand, this moderator has almost no effect on the innovation-market share relationship when it is low.

Moreover, it was found that firms in this industry follow not only path dependency but also non-transferability in order to defend the competitive positioning that has been achieved.

This goes in line with Takayama and Watanabe (2002) who argued that in pharmaceuticals, the market leader has a stronger position to make an innovative product because of its marketing and technological competence to know market needs as well as technology. Indeed, such leaders could have existed in the market for long time and therefore could possess path dependency. In other words, well established firms have the advantage, rather than smaller firms. However, it was also found that non-transferability is another method that firms in this industry might be following to protect such CP. This is evident in Olbas products. Olbas is a decongestant herbal product which was launched five years ago. Despite the fact that herbal products are set to become more mainstream and of interest to those looking for a milder or green alternative to "chemical" medicines (Chemist & Druggist 2003), it satisfied customers' needs. Therefore, Olbas is the fifth top decongestant after such big products such as Lemsip Max Strength, Night Nurse, and Sudafed. However, it is evident that such less well established products are trying to catch up with big, well-established ones, for example by advertising; Olbas is supported by a £2m TV ad campaign (Community Pharmacy 2002). This was evident in the following comment: *"the market is very very competitive, it is characterised by large firms...this market depends on the activity of people becoming ill, therefore it is not the same as for example the food market where you can't encourage more people to buy your brand because they think they like the taste..."*⁴.

In general, such competition is evident in the firm performance results. The results suggest that the innovation CP- market share relationship is moderated by not only level of competition but also by customer requirements. This would suggest a degree of complexity when pursuing such CP.

In general, however, the crucial factor is the product itself, and whether it satisfies the consumers' needs. In addition, in general, firms in this industry should have the ability to adopt new technology, and more importantly, they should be well established in the market, and therefore have creditability with consumers.

⁴ An interview with the marketing manager of Olbas on 10th August 2001 10:00am.

Having discussed the results obtained in the present study, it is the time to revisit the original model for any possible modifications.

Figure 6-5

Degree of innovation competitive positioning (Scales)

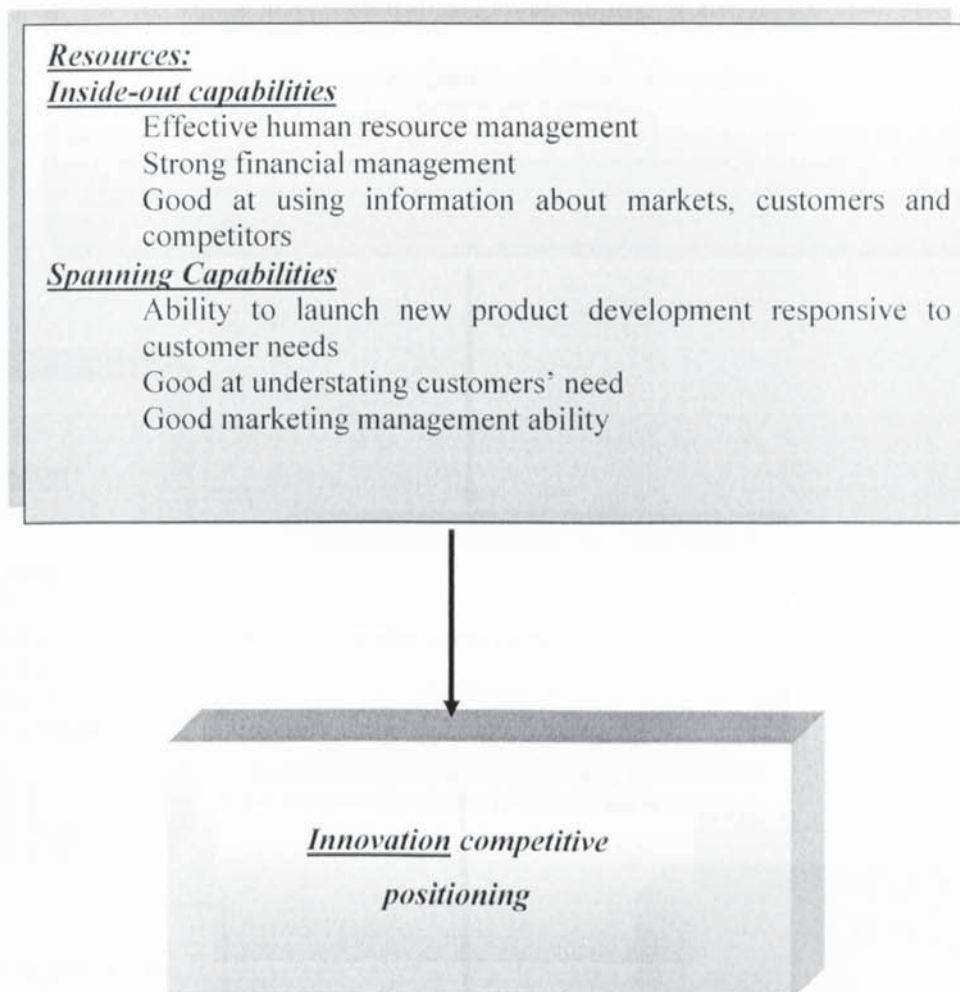
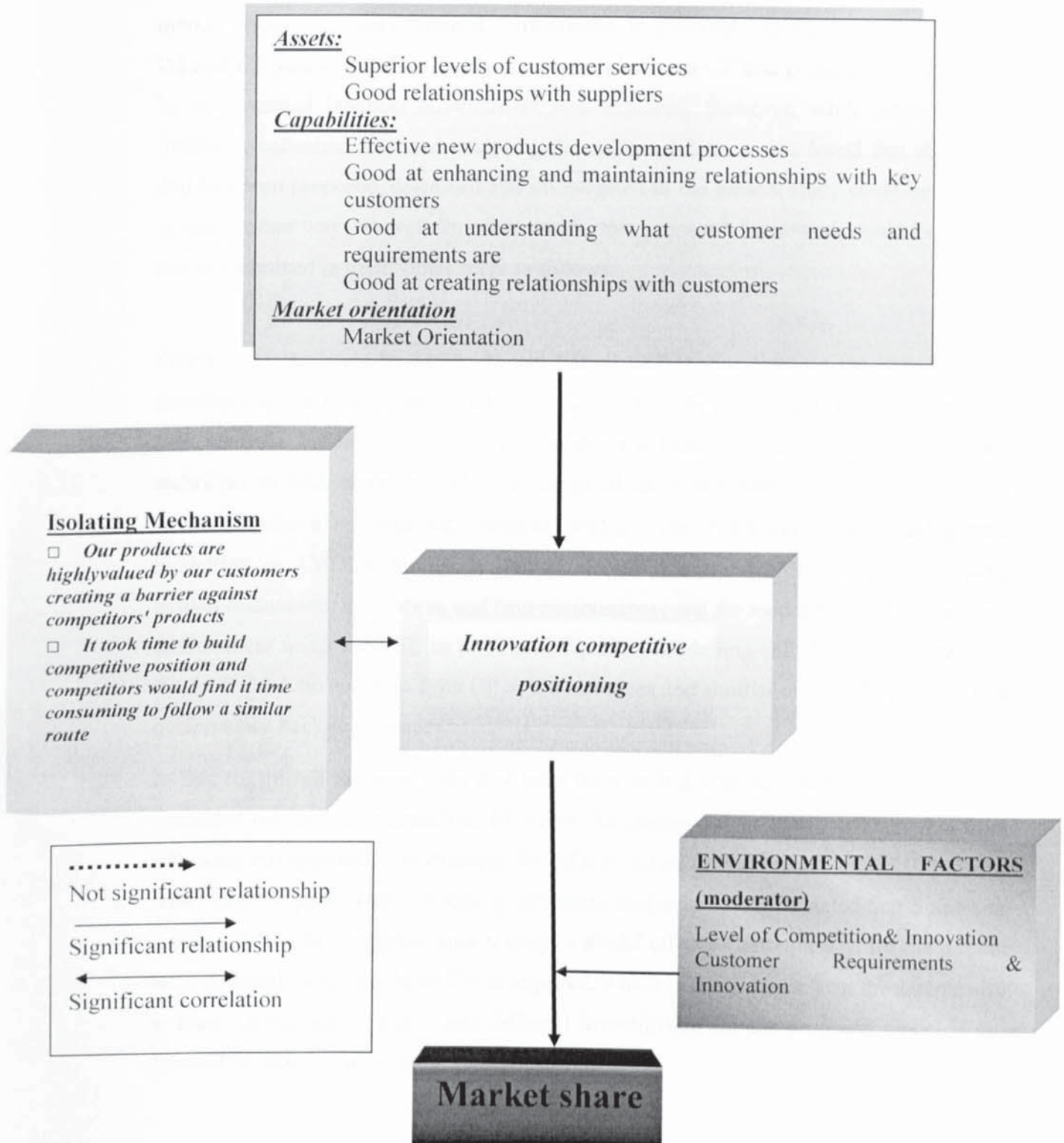


Figure 6-6

Degree of innovation competitive positioning (Items)



6.5 The original model revisited & modified

In the present study the association between CP and resources (assets, capabilities and market orientation) was examined. Furthermore, in a second step the correlation between IM and CP was tested. Finally, the association between CP and performance moderated by the external business environment was explored. However, while reviewing the literature, collecting data and analysing the collected data, it was found that the model that has been proposed, discussed and investigated in the present study could be handled in many other ways as well. In other words, this proposed framework could be revised and re-examined in many other ways as follows:

Firstly, a recent study by Mavondo and Farrell (2003) shed light on the importance of investigating the relationship in a holistic perspective. In more detail, these authors used path analysis. Indeed, in this case path analysis is believed to be the most appropriate technique in such situations. They investigated the relationship among: organizational culture, business environment, business strategy, and functional strategy using path modelling in AMOS4. Similarly, Han et al (1998) examined the relationship among market orientation, innovation, and firm performance, and the moderator was the business environment using LISREL in Structural Equation Modelling (SEM). In the same vein, the feedback loop could go from CP to the resources and another one would go from firm performance back to resources.

In this regard, all the constructs that have been included in the present study could be examined in a holistic perspective. However, the sample size at hand would prevent from following this approach. For example, for AMOS, Kline (1998) recommended 10 times as many cases as parameters (or ideally 20 times), and in addition, he stated that 5 times or less is insufficient for significance testing of model effects. Consequently, for the present study a sample size of at least 230 is required, which is much larger than the sample size at hand. In that sense, a new and different investigation for the proposed model is put forward as recommendation for future research.

Moreover, it is believed that firm size could play a crucial rule in the relationship that has been investigated and depicted in the framework. Despite the fact that a firm size question was included in the questionnaire for this present study, dividing the sample size, which is basically small, into groups would result in an even smaller sample size coupled with many items for the resources which would make it difficult to investigate the different relationships adequately. Consequently, again such a suggestion would be put forward as future research.

Finally, the remaining suggested modification, depending on the work that has taken place in the present study is to also include the external business environment as moderator on the relationship between resources and CP. In this regard, again, due to the huge amount of 'resources' items, even if the resources are to be considered individually, as well as the huge number of interaction terms, such modification could not be followed. Depending on this, such interaction terms could be also added as suggestions for future research.

6.6 Summary and conclusions

In general, it is realized that "Our employees are the source of our competitive advantage and we won't lose them to competitors" and "Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage" in IM were not found to be statistically significant in any CP. It seems that despite the fact that the OTC industry depends heavily on R&D, which relies mainly on researchers and employees, pharmaceutical firms did not pay much attention to retaining their employees despite the capability and/or skills they might have.

On the other hand, as results indicated in quality and innovation CP, it seems that firms paid more attention to the competitors' actions and consumers, or perhaps they relied more on the industry regulation in protecting their CP. In general, this is evident in the case that took place in America between GlaxoSmithKline (GSK), the world's second largest drugs group, and Switzerland's Novartis. The latter launched onto the market a generic version of Augmentin, which is introduced mainly by GSK. This generic drug

destroyed GSK's sales of the drug. Surprisingly, GSK believes that the formula used (specifically, the bacterium that is needed to develop this drug) was stolen by one of its former staff. It is worth noting here that GSK won the case (The Times 2003). However, if the firm had recognized the importance of such IM before, such a problem could have been avoided.

Furthermore, from the results obtained, it seems that technical quality CP is more complicated, where many other factors could affect the quality CP-market share relationship. This is evident in the non-significant results that have been gained. Moreover, price CP could be the least sustainable CP, as none of the IM items/scales were significant. Moreover, results also suggest that innovation and technical quality are more sustainable CP.

In sum, the present study mainly examined three types of product competitive positioning that could be pursued by firms; price, quality and innovation. The main objective of this study is to identify the different resources that have been utilised to achieve the product positioning planned. It has been found that the industry within which this study took place concentrates mainly, for technical quality, on outside-in capabilities. For price competitive positioning, internal based assets were significant. In addition, for innovation competitive positioning, inside-out and spanning capabilities were significant.

Table 6-1

Summary of the results obtained

Competitive Positioning	Resources		IM		Moderated Regression (Interaction)	
	Assets	Items	Capabilities	Scales (All)	Items	Scales
Quality	✓ Extent or nature of the distribution network	✓	Production and manufacturing expertise	✓ Outside-in Good at creating relationship with customers Production and manufacturing expertise	✓ Our products are highly valued by our customers creating a barrier against competitors' products	✓
					✓ There would be significant cost for customers if they switched from our products to those of competitors	✓
					✓ Competitors could copy our competitive positioning but it would be uneconomic for them to do so	✓
Price	✓ Extent or nature of the distribution network	✓	Effective new products development processes	✓ Internal based assets Superior marketing information Cost advantage in production		
	✓ The uniqueness of our distribution approach	✓	Strong financial management			
	✓ Company or brand name and reputation	✓	Ability to launch new product development which is responsive to customer needs			
	✓ Relationships	✓	Production and manufacturing expertise			
						Sig. ✓ Level of Competition & Price

with distribution channel intermediaries		Superior levels of customer services		Customer credibility by being established in the market		Superior cost control system	
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓

7 Chapter Seven: Conclusion

7.1 Introduction

This chapter begins with a summary of the research, including a review of the objectives of the research, and the methods utilised to achieve them. This is followed by a discussion of the findings obtained in the previous chapters and a revisiting of the model. Then, the contributions of this research to marketing literature, and its managerial implications, are given. Finally the limitations of this research are noted and the chapter concludes with some thoughts on future research.

7.2 Summary of the research

In this thesis, in particular three types of competitive positioning were examined; technical quality, price and innovation CP.

The first CP to be discussed is technical quality. It was found that “production and manufacturing expertise” was significant. Indeed, having a range of different sorts of expertise is crucial for this CP. In this regard, Workman (1998) emphasised that a highly technical firm would need technical and production expertise which would not only be able to understand opportunities, but also to explain capabilities and interpretation of market information, competitor actions and market development.

The second CP to be discussed is price CP. With regard to this CP, the main findings of the study indicated that the resources that are used when price competitive positioning is pursued involve many resources (Including; Extent or nature of the distribution network, The uniqueness of our distribution approach, Effective new products development processes, Strong financial management, and Ability to launch new product development

which is responsive to customer needs). These results suggest that price CP is complex and involves many activities.

Finally, for innovation CP, Interestingly, MO was significant with innovation CP when it was included in the analysis alone. However, when all resources (as scales) were included in another analysis MO dropped out. Inside – out and spanning capabilities were still significant. In other words, despite the fact, as suggested by the literature, that there is a relationship between innovation and MO, when examining the full picture in a more detailed manner, by also looking at capabilities and assets as well as MO together in one analysis, it is actually found that capabilities and assets are able to explain innovation CP better than MO.

In addition, Spanning capability was the prime resource to be utilized for achieving innovation CP (the third competitive positioning). Indeed, in order for a firm to be innovative and produce new innovative products, it must be able to have an NPD process and the ability to launch successful new products. For instance, Achilladelis and Antonakis (2001) found that despite the fact that there are thousands of pharmaceutical companies all over the world, more than 70 percent of innovations within their sample were introduced by only 30 firms. Most of these sustained their creativity with the succession of generations of technologies, knowing that their success depends on many factors including their long-term scientific/technological and marketing competitive advantages in selected areas.

Furthermore, in 1996, Batra et al argued that the OTC drugs market has identical formulas but they are promoted for different symptoms, by using different names, package, and product forms. However, this market has realized the importance of customer services. Therefore, they try to enhance market orientation and main assets in terms of “producing products that customers really want, relationships with key target customers, cost advantage in production and providing superior levels of customer services”. In other words, creating relationships with customers, even in the pharmaceutical industry, has become crucial for firms’ survival.

How firms protect their competitive positioning was included in the second objective. Surprisingly, not all CP has positive correlation with IM. For example, no positive correlation was found between price CP and any of the IM items or scales.

This thesis is an attempt to remedy the disconnection between RBV & marketing that Srivastava et al (2001) hinted at. Despite the theoretical call by many marketing scholars such as Fahy and Smithee (1999), Hunt (1999) and more recently, Hunt and Arnett (2003) to the importance of the link, few studies have emerged to uncover this linkage empirically (Hooley et al 2002a,c). In addition, Srivastava et al (1998) highlighted the problem that marketing has no integral theory, and due to the fact that the link between RBV & marketing is considered new, the problem of un-integrated theory could be seen.

The present study is far from developing a theory; however, it has tried to integrate what has been found so far about that link RBV & marketing in terms of CP in order to refine and extend the traditional frame of analysis for marketing. The ultimate goal behind all of this is to generate and sustain customer value, which could probably be leveraged to result in superior firm performance.

7.2.1 Research objectives

The objectives of this research were to bridge the gap between achieving and sustaining the competitive positioning by drawing together these aspects in an effort to develop a coherent model that can help enhance our understanding of competitive positioning. The research was designed specifically to:

- Determine which specific resources are allocated for each dimension of competitive positioning
- Examine the effect of CP that exhibits the characteristics predicted by RBV on performance.
- Identify the moderator effect of the environment on the previous relationship.

7.2.2 Methods utilised

In achieving these objectives, the field research involved a managers' survey, which aimed to collect the data to examine the hypothesised relationships among the different competitive positioning dimensions and resources and isolating mechanism. On the other hand, it also focused on investigating the dynamics of the competitive positioning, environment and firm performance relationship. A survey was implemented, interviews were conducted with managers in the pharmaceutical industry, in particular OTC products, and secondary data were collected.

The hypothesised relationships among the constructs as depicted in the model were evaluated using Multiple regression, Hierarchical regression, Cluster analysis, ANOVA and Discriminant analyses using SPSS 11. In addition, Confirmatory Factor analysis was carried out using LISREL.

7.2.3 Major findings and contribution

Turning to the findings, they can be divided mainly into academic and managerial:

7.2.3.1 Academic findings

The general picture derived from the research findings indicates that there are specific resources and isolating mechanisms utilised against a specific competitive positioning. Compared to the literature, a few of the propositions were supported; others were not supported as different results were obtained.

With regard to the resources associated with the different competitive positioning strategies, it was found that the results gained were mixed. In other words, these propositions in this regard were either supported fully or partially, or even not supported at all.

This study could be considered as one of the early attempts to discover the underpinning resources for each competitive positioning empirically, while at the same time combining two bodies of literature: competitive positioning from marketing and resources that have been discussed initially in economics, before moving to strategic management and finally starting to be adopted by marketers.

The present study could be viewed as a response to the recent call in marketing on the importance of implementation of strategy as opposed to the formulation of it (Dobni and Luffman, 2000; Day, 1998). Furthermore, Srivastava et al (2001) emphasised the importance of identifying resources that are marketing specific and potentially manifest some of the desired RBV to marketing. In this regard, this study included and examined several marketing resources, and their associations to the competitive positioning.

However, this present study is not about how resources are used to create customer value, but it takes one step towards that by uncovering the association between resources, CP and creating competitive advantage.

Consequently, this study has advanced our understanding about the relationship between resources, competitive positioning, isolating mechanism and firm performance. It should be noted that resources are heterogeneous; however, combining these resources in the right way is the only method to gain advantage (Morgan and Hunt 1999). In this regard, this study could be viewed as a “road map” that might show the destination of a city/product positioning, but where the details could vary. Furthermore, consistent with Grant (1991, 1995) and Camelo-Ordenez et al (2003), the resources themselves do not constitute a distinctive competitive base; instead, they must be coordinated to produce superior yields in the firm’s operations.

7.2.3.2 Managerial findings

The purpose of this study was to examine a model of competitive positioning in a specific industry: Pharmaceuticals. Components of the model consisted of (1) different dimensions of competitive positioning (technical quality, innovation, and price), (2) their relationship with resources in terms of assets, capabilities, market orientation as firm

culture as well as the different methods of protecting such resources; for example, causal ambiguity, path dependency and barriers to imitation; (3) the relationship between such dimensions of competitive positioning and firm performance in terms of market share. This last relationship was found to be moderated by the business environment.

This research does not only dive deep into CP; it is also trying to uncover some of the related concepts, one of which is RBV, although its connection with CP is yet to be uncovered. Furthermore, the relationship between the CP in relation to the firm performance in terms of market share was examined. All the findings suggest what Zineldin and Bredenlow (2001) emphasised previously; that in general, CP is not an easy task. Consequently, managers should look carefully and monitor the external environment as well as utilise the resources to achieve the CP planned, as the overall findings suggest the importance of different factors.

At the outset of this research, there was some confusion about how a competitive positioning could be achieved and sustained, and about the nature of the resources that are used to achieve a planned competitive positioning. Furthermore, although there have been many studies trying to uncover the competitive positioning term, there are still many aspects that have not yet been discovered (Blankson, 2001).

7.3 Implications

7.3.1 Academic Implications

The subject of product positioning has been investigated extensively by researchers. However, surprisingly, studies examining such concepts in relation to resources and isolating mechanism have only been found in recent literature (Hooley et al 1998b). All these concepts are highly important in marketing because of their ability to influence business performance. Depending on the above, the present study contributed to the academic literature in the following way:

First, this study gives substantial evidence that there are certain resources for certain CP. Such evidence was hypothesised by Hooley et al (1998a), but no one has proved it. Now, in this present study it has been proven.

Secondly, there is an academic implication in the fact that resources in terms of assets and capabilities were included in the analysis as items as well as factors. In other words, a new scale for items that has been used in the literature only once (Hooley and Greenley 2002c), was used in this study and subjected to factor analysis to compare the results against the hypothesised underlying dimensions of such concepts. The resulted factors as well as the original items were subject to the examination of their relationship with CP. Such extensive investigation of not only the assets and capabilities but also of their relationship to the CP either as items or factors is not found in any other study.

All of this thorough investigation aimed at, as discussed earlier, discovering the specific resources that are most associated to the specific CP. As a result of this investigation, it was found that certain resources are associated with certain CP.

Furthermore, the third implication of the present study is getting closer to MO as an element of a firm's resources. Indeed, many studies have investigated MO and found a relationship between MO and innovation CP (Weerawardena 2003, Lado and Oliver 2001, Mavondo 2003); however, despite the call by Pelham (1997) to the importance of examining MO among other factors, no study has been found which has investigated empirically such a situation. In the present study, MO has been investigated alone as well as with assets and capabilities in relation to CP. Surprisingly, when MO was included in the analysis alone in relation to Innovation CP, it was significant. However, when all resources (assets, capabilities and MO) were included, MO was not significant. This confirms that MO should be considered in relation to other factors.

The fourth academic implication is: despite the call by Rigger (1995) for the importance of considering the effect of external environment when considering CP, no study has been

found examining such an effect. In this present study, the effect of the external business environment in terms of level of competition, technological change and customer requirements were included on the CP-market share as firm performance relationship.

Surprisingly, level of competition as moderator was found to act as a moderator in both CPs, price and innovation separately. In both cases, it was found that the higher the level of competition the lower would be the market share. However, also for Innovation CP, customers' requirements has also an effect, as the higher the customer requirement, the lower the market share. More surprisingly, for quality CP, no environmental effect was detected, which confirms empirically the complexity of such CP as suggest theoretically by Alpert (1996).

The fifth academic implication is the investigation of the correlation between IM and CP. The operation of the IM construct has been formulated only recently, and was found used only once in the literature (Hooley and Greenley 2002c). Surprisingly, quality and innovation CPs separately were found correlated with few IM items, while price CP was not correlated with any. This would suggest the high complexity of such CP that has been hypothesised in the literature by Alpert (1996) but was not empirically investigated.

A final contribution of this study lies in the clustering technique that groups similar CPs together. For evidence of supporting discriminating among those groups discriminant analysis using resources and IM was used. In more detail, it has been observed that firms would combine more than one CP at the same time. Therefore, despite the fact that in this study each CP was investigated separately to get a thorough understanding of each CP, another analysis took place to get closer to the real situation where more than one CP could be combined together. In that sense, such ad hoc analysis adds to the theoretical observation of the CP by providing empirical evidence of the possible combination of CP, and the discriminating between these combination using resources and IM. Such extensive investigation of CP in terms of both individually and in combination is not found in any other study.

In addition, to the above, The distinct contribution to knowledge made by this study is:

- Using a methodology in a specific industry where it has not been used before
- Making an interpretation that has not been made before.

Overall, This research contributes to the marketing literature both through the development of scales for measuring marketing resources and isolating mechanisms, and through the testing of the relationships between positions, resources, isolating mechanisms and firm performance, together with the testing of the moderating effects of the competitive market environment.

7.3.2 Managerial implications

The present study provides managers with empirical evidence of the relationship between Resources-CP, IM-CP, and Environmental factors as moderator on the CP-market share relationship. In more detail, as far as management is concerned, the manager implications are as follows:

To achieve CP based on quality, the following resources need to be emphasised: a) Extent or nature of distribution network, and b) production and manufacturing expertise.

To achieve CP based on price, the following resources are most associated: a) Extent or nature of distribution network, b) the uniqueness of our distribution approach, c) company or brand name and reputation, c) relationships with distribution channel intermediaries, d) superior levels of customer services, e) customer credibility by being well established in the market f) superior cost control system, g) effective new products development processes, h) strong financial management, i) ability to launch new product development which is responsive to customer needs, and finally j) production and manufacturing expertise.

To achieve CP based on innovation, the following resources are to be emphasised: a) superior levels of customer services, b) good relationships with suppliers, c) effective new products development processes, d) good at enhancing and maintaining relationship with

key customers, f) good at understanding what customer needs and requirements are and finally, g) good at creating relationships with customers.

Also, the study calls managers' attention to the fact that there are quite a few IM that can be utilised to defend each type of CP. The IM items that are correlated with quality CP are as follows: a) our products are highly valued by our customers creating a barriers against competitors' products, b) there would be a significant cost for customers if they switched from our products to those of competitors' and finally c) competitors could copy our competitive positioning but it would be uneconomic for them to do so.

Whereas the IM items that are correlated with innovation CP are as follows: a) our products are highly valued by our customers creating a barriers against competitors' products, b) It took time to build competitive positioning and competitors would find it time consuming to follow a similar route.

However, price CP was the only one that has been found not highly correlated with any of the IM that has been investigated. This would confirm that such CP is actually very complicated and difficult to imitate on its own. Nevertheless, such practice by managers should be treated with caution, as it might lead the competitors to uncover the underlying rules of such CP in time and therefore be able to imitate it. The consequence of this is that it would be harder for firms to maintain such CP in the face of such furious competition. Therefore, it would be fruitful for managers to devote their efforts to investigating the different approaches that could be followed to sustain such CP.

Furthermore, the findings of the present study emphasised that managers who are planning to maximise firm performance, should look for a fit between the planned CP and the environmental factors. In more detail, the findings of the present study imply that both price and innovation -market share relationships are moderated by the level of competition separately. This result implies that managers who are following such CP, and face high level of competition, would see their market share decline. Therefore, in such situations managers should apply high quality CP to be able to face such competition and outperform competitors.

Moreover, innovation CP- market share relationship was also found to be moderated by customers' requirements. In that way, the higher the customers' requirements, the lower

the market share the firm will achieve. Therefore, monitoring the customers' requirements and therefore offering the customers what they want would assist managers who follow innovation CP in achieving the market share they are planning.

However, surprisingly, quality CP was found to have no environmental moderator effect on its relations with market share. This would suggest the complexity of such CP where other effects could influence it. In general, these influences could be: the industry and corporate effect as suggested by Chang and Singh (2000), government and law (Hancher 1990) and/or economic (Hansen and Wernerfelt 1989).

The final managerial implication is concerned with the findings that have been obtained from clustering similar CPs. Such clustering resulted in three groups; first group: Low price; the second group: Superior cluster and finally High price group.

In general, today's business environment is becoming increasingly characterized by intensive competition. In that sense, recent evidence suggests that managers are becoming increasingly aware of the need to develop a strong CP in order to improve their firm's performance. Hence, firms that have a sound CP are likely to be better in responding more effectively to changes that take place in their markets by taking advantage of the opportunities which are continually presented in the market. Depending on the above, it seems that managers who belong to any of these three groups have listened to such evidence; this is evident as follows:

The first group who followed low price CP, concentrated on understanding what customers' wants and requirements are. This group had significant ability in terms of the uniqueness of their distribution approach; the reason behind that could be to maintain such a low price CP they are following. In other words, this group of managers tries to compete on one basis which is low price, therefore at the same time as trying to press the costs, they still monitor their customers to give them what they want.

The second group tried to achieve the highest or at least the second highest on everything in terms of technical quality of product, degree of innovation and also on price. In fact, such a group charge a relatively low price compared to the third group. This would imply that managers who would like to belong to this group, need to do well not only in producing products that customers really want, having relationship with key target customers but also providing a superior level of customers service. Being particularly

successful in terms of NPD process as well as defending this CP by path dependency is crucial for managers who would like to follow this approach.

Finally, managers who follow high price CP belong to this third cluster. It seems that such CP does not offer much difference from other groups as they scored the lowest in terms of technical quality; however, it seems that they serve a certain group of customers who require certain needs and requirements that have not been met by the other clusters or competitors. This implies that managers who would like to join such a cluster should not only monitor and investigate the customers' needs, but also defend such CP by path dependency.

7.4 Research limitations

We wish to caution readers that although the findings of this study are built mainly on the intentional positioning strategy, there are quite a few positionings that could emerge accidentally, and such a situation may provide new aspects for the positioning strategy literature and may therefore be worth investigation.

This study considered that focusing only on one industry would give more insight into this industry in particular as well as give the chance for comparison with other industries. In addition, including only one industry is not new to the literature; for example, Noble et al (2002) conducted their study in only the discount sector of the retailing industry. However, it is highly recommended to conduct similar studies in different industries as well as different nations. In this regard, it is worthwhile mentioning the cross-nation study by Hooley et al (2002c). However, it needs to be repeated in order to validate the results obtained. Indeed, although focusing on only a single industry could give much insight into this industry, conducting a similar study in more than one industry would enable comparison as well as a more comprehensive and in-depth view.

Furthermore, the present study concentrated on managers' views of positioning, rather than customers. If both views were considered, a better and more detailed picture could be obtained.

7.5 *Future research*

Finally, as a result of going through all the literature review and analysis as discussed in the previous chapters, it was found that there are several factors that could affect CP.

For example, there has been a growing body of literature on the importance of shareholder orientation (Greenley and Foxall 1998). Indeed, since ignoring the importance of linking brand strategies to shareholder value creation would lead to imbalanced development of the business (Ibid), raising the stock price should be the main task of today's CEO (Business Week 2000). Therefore, researching the effect of shareholders on the achieved competitive positioning is necessary.

Furthermore, many studies found that larger organizations benefit from greater innovation and the creation of internally generated new ventures (Johnson 2001) more than smaller organizations; however, the latter could benefit from discovering a niche. In this sense, repeating the analysis that took place in the present study but controlling for the firm size to uncover the effect of the firm size would give more depth to the picture presented. However, the relatively small sample size coupled with the many items under each resource prevented from uncovering such important depths in the study.

In addition, there has recently been a call for other types of cultures within firms that could stimulate more production, such as production orientation and innovation orientation (Mavondo and Farrell 2003). All of these are expected to have an effect on the firms' competitive positioning and therefore, on the firms' performance. Moreover, a firm positions its product in the market; where the consumers have a certain perception towards the product, this perception could be the same/similar or even completely different from what the firm intended to create and therefore, could affect the competitive positioning created. In other words, there could be a chasm between the firm's and the consumers' perception of the products (DeChernatony and Riley 1997); this could affect the firm's performance, and therefore, is worth investigating.

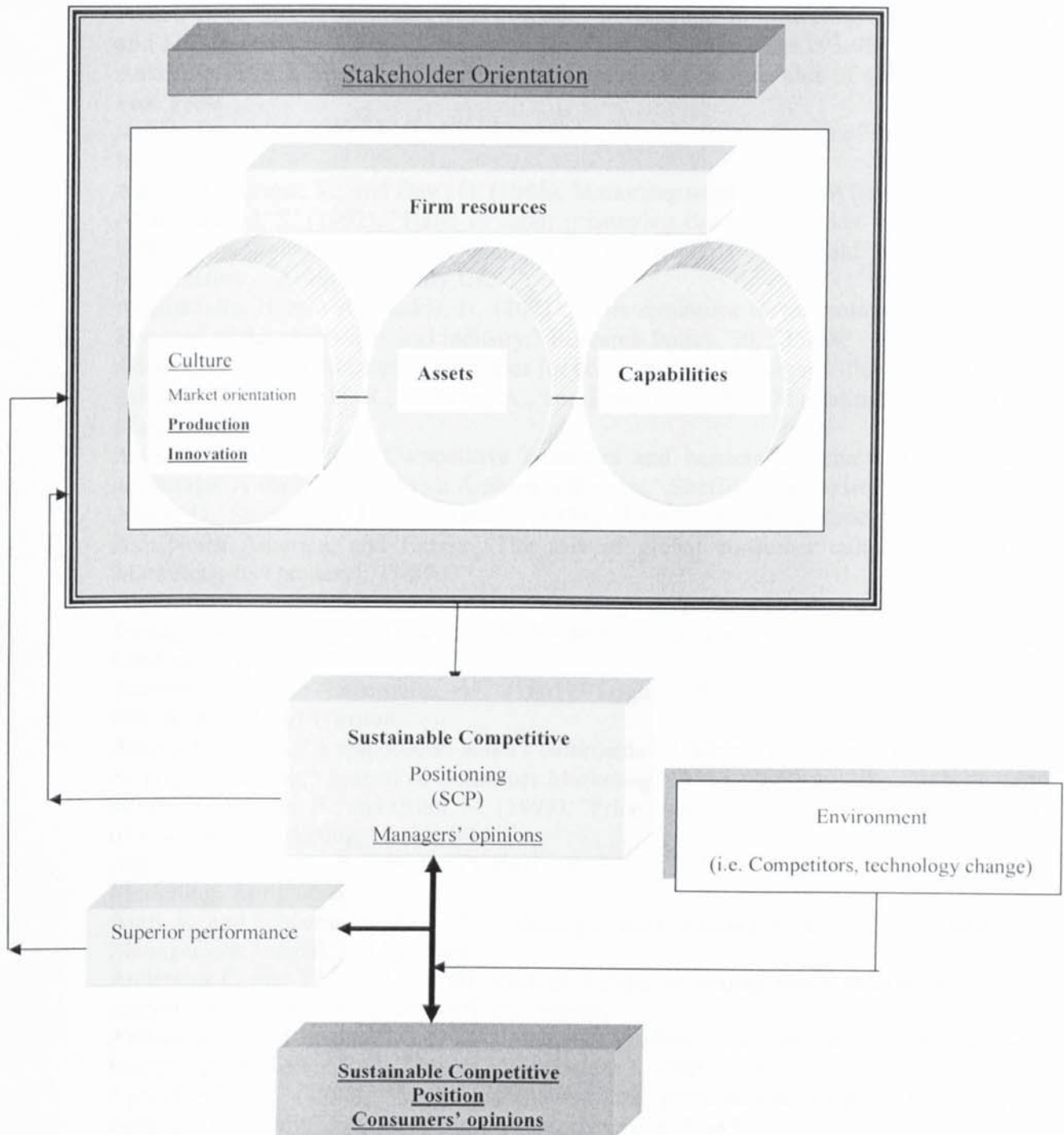
More over, the subject of consumers formulating their opinions about a product positioning is widely discussed in the literature. However, in relation to actual positioning strategies that have been discussed with managers, they are still not clear. Indeed, involving the customers could be crucial; therefore, surveying the customers' views only, or even conducting a comparative study to compare the views of both the customers and managers is highly recommended.

Furthermore, there have been many alliances taking place in the pharmaceutical industry, many of which have proved to be unsuccessful. For instance, Pfizer reported quarterly losses of \$3.59 billion because of costs related to its April acquisition of Pharmacia (International Herald Tribune 2003). In order to overcome such losses, the firm will introduce cost cuts and launch new medicines and approaches. Even more, studying the different forms of alliances and their effects on the different competitive positioning of the manufactured products could be considered as a fruitful area to be examined in terms for, for example, the effect of such alliances (if any), on CP.

Depending on this, Figure 7-1 depicts the revised conceptual model.

Figure 7-1

Original model and possible future research



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Appendices

Appendix 4-1

A) The piloted questionnaire

In answering these questions below, please think of (The name of a product) that has been successfully launched in the UK market by your firm in the last five years.

Q1. The above mentioned product, how would you describe the market in which your firm operates?

Please tick only one box in each sentence.

A. Customer requirements are:

Changing rapidly ☐

Changing slowly ☐

Not changing ☐

B. Competition is:

Intense ☐

Weak ☐

There is no effective competition ☐

C. Competition is:

Established and entrenched ☐

Established but changing ☐

Fluid and constantly changing ☐

D. Technological change is:

Rapid ☐

Slowly ☐

There is not change in technology ☐

Q2. How would you describe the positioning of the product you mentioned above related to your main competitors?

The terms 'lower' or 'higher' are not intended to imply inferior or superior, merely a different competitive positioning in the market.

Much Lower than competitors ☐

Lower than competitors ☐

The same as competitors ☐

Higher than competitors ☐

Much higher than competitors ☐

The technical quality of our products and services ☐

The level of customer service and support Provided ☐

The price levels charged for our products ☐

The degree of innovation in our products ☐

Q3. Please identify to what extent you agree/disagree with the following sentences in order to determine the culture of your firm and how you protect your resources.

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither</i>	<i>Agree</i>	<i>Strongly Agree</i>
1	2	3	4	5

Our firm's objectives are driven by customer satisfaction	<input type="checkbox"/>
Commitment to serving customer needs is monitored	<input type="checkbox"/>
Competitive advantage strategy in our firm is based on customer needs	<input type="checkbox"/>
Strategies are driven by creating customer value beliefs	<input type="checkbox"/>
Customer satisfaction is frequently and systematically measured	<input type="checkbox"/>
Close attention is given to after sales services	<input type="checkbox"/>
Employees share information on competitor's strategies	<input type="checkbox"/>
Rapid response to competitors' actions	<input type="checkbox"/>
Top managers regularly discuss competitors' strengths and weaknesses	<input type="checkbox"/>
Customers are targeted for competitive advantage	<input type="checkbox"/>
Top functional managers regularly visit customers	<input type="checkbox"/>
Interfunctional communication of information about customer experiences	<input type="checkbox"/>
Business functions are integrated to serve target market needs	<input type="checkbox"/>
Managers understand how everyone can contribute to creating customer value.	<input type="checkbox"/>

Q4. Here is a list of marketing assets and capabilities supplied by other managers. Please indicate on which of these you believe your firm has an advantage over competitors and therefore contributed more in producing **the product mentioned in the first page.**

Strong Competitors' Advantage	Competitors' Advantage	No Difference	Our Advantage	Our Strong Advantage
1	2	3	4	5
				Company or brand name and reputation <input type="checkbox"/>
				Credibility with customers due to being market leader <input type="checkbox"/>
				Producing products and services that customers really want <input type="checkbox"/>
				Providing superior levels of customer service <input type="checkbox"/>
				Relationships with key target customers <input type="checkbox"/>
				Cost advantage in production <input type="checkbox"/>
				Superior marketing information systems <input type="checkbox"/>
				Superior cost control systems <input type="checkbox"/>
				Use of superior technology <input type="checkbox"/>
				Copyrights and patents <input type="checkbox"/>
				Good relationship with Suppliers <input type="checkbox"/>
				Extent or nature of distribution network <input type="checkbox"/>
				The uniqueness of our distribution <input type="checkbox"/>
				The relationship with distribution channels intermediaries <input type="checkbox"/>
				Strong financial management <input type="checkbox"/>
				Effective human resource management <input type="checkbox"/>
				Production and manufacturing expertise <input type="checkbox"/>
				Integrated logistics and planning capability <input type="checkbox"/>
				Good product design capabilities <input type="checkbox"/>
				Good brand management ability <input type="checkbox"/>
				Good marketing management ability <input type="checkbox"/>
				Good at using information about markets, customers and competitors. <input type="checkbox"/>
				Good at understanding what customer needs and requirements are <input type="checkbox"/>
				Good at creating, enhancing and maintaining relationships with key customer or customer groups <input type="checkbox"/>
				Managing critical encounters with customers. <input type="checkbox"/>
				The ability to identify significant trends and changes in technology <input type="checkbox"/>
				The ability to spot newly emerging market segments <input type="checkbox"/>
				The flexibility and ability to change in response to market changes. <input type="checkbox"/>
				The ability to process orders and deliver to customer specification <input type="checkbox"/>
				Efficient purchasing of factor inputs and raw materials <input type="checkbox"/>
				Good at setting prices which both attract customers and achieve financial objectives <input type="checkbox"/>
				Effective new product/service development processes. <input type="checkbox"/>
				Advertising which includes coupons and /or free samples. <input type="checkbox"/>
				Product development which is responsive to customer needs <input type="checkbox"/>
				Access to financial resources <input type="checkbox"/>
				Good at gathering information about markets, customers and competitors. <input type="checkbox"/>
				Good at communicating internally across the organisation <input type="checkbox"/>

Q5. Please identify how do you protect the resources that are utilized to produce the product mentioned in the first page

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither</i>	<i>Agree</i>	<i>Strongly Agree</i>
1	2	3	4	5

Our products are highly valued by our customers creating a barrier against competitor products	<input type="checkbox"/>
There would be significant costs for customers if they switched from our products to those of competitors	<input type="checkbox"/>
Only we have the access to the resources we use	<input type="checkbox"/>
Our resources and therefore our competitive advantage is difficult for competitors to copy because it uses resources only we have access to	<input type="checkbox"/>
It took time to build/access our resources and competitors would find it time-consuming to follow a similar route	<input type="checkbox"/>
Competitors find it difficult to see how we created/access resources we use in the first place	<input type="checkbox"/>
Competitors could copy our resources but it would be uneconomic for them to do so	<input type="checkbox"/>
We protect our resources legally through copyrights and patents	<input type="checkbox"/>
Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors	<input type="checkbox"/>
Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage	<input type="checkbox"/>

Q6. In your last financial year, how well did your company perform compared with your main competitors on the following criteria? How well did your company perform relative to the previous financial year? *For both of these questions please use the scale below.*

Much Worse	Worse	The same	Better	Much Better
1	3	4	5	

	Relative to main competitors	Relative to last financial year
Overall Profit Levels Achieved	<input type="checkbox"/>	<input type="checkbox"/>
Profit Margins Achieved	<input type="checkbox"/>	<input type="checkbox"/>
Return on Investment	<input type="checkbox"/>	<input type="checkbox"/>
Sales Volume Achieved	<input type="checkbox"/>	<input type="checkbox"/>
Market share achieved	<input type="checkbox"/>	<input type="checkbox"/>

***We are very happy to hear your comments/ remarks/suggestions on this questionnaire*

We promise you that your answers are COMPLETELY CONFIDENTIAL and will be released only as summaries in which no individual's answers can be identified.

IF YOU WOULD LIKE TO RECEIVE A FREE SUMMARY OF THE RESEARCH FINDINGS, PLEASE ATTACH YOUR BUSINESS CARD.

<u><i>Thank you so much for your time and co-operation.</i></u>

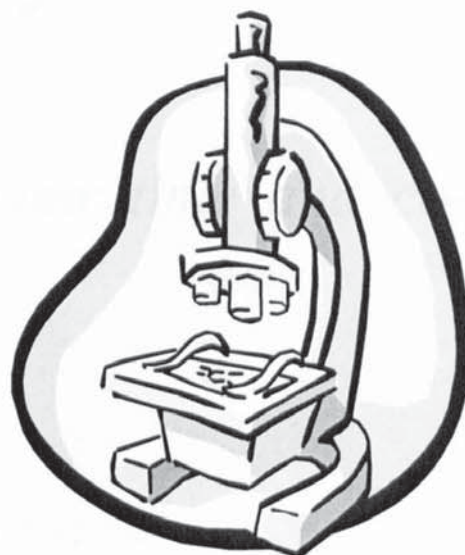
B) The cover page of the questionnaire

(Front page)



ASTON

BUSINESS SCHOOL



C) The last page .

UK *Pharmaceutical* Survey

*Thank you so much for your time and co-
operation*

If you have any enquiry, please contact:

Samaa Attia, ASTON BUSINESS SCHOOL, 11th FL SW

Birmingham, B4 7ET. Tel: 07971-860396. E-mail: attias@aston.ac.uk.

Appendix 4-2

Check list for piloting the questionnaire

Today's date:-----

Contact type-----

Site:-----

Phone-----

Contact data-----

Contact person-----

Pre-testing specific questions:

How long the questionnaire took to complete

The clarity of questions

Which questions were unclear or ambiguous

Any other comments

Pre-testing the questionnaire:

Flow of the questionnaire

Length of the questionnaire

Respondent interest

Whether the layout was clear and attractive

Any other comments

Sources: Miles, M. and Huberman, A. (1984), Qualitative data analysis: A sourcebook of new methods Sage.

Appendix 4-3

A) The final questionnaire.

In answering these questions below, please think of (The name of a product) that has been successfully launched in the UK market by your firm in the last five years.

.....

Q1. The above mentioned product, how would you describe the market in which your firm operates?

Please tick only one box in each sentence.

E. Customer requirements are:

Changing rapidly ☐

Changing slowly ☐

Not changing ☐

F. Competition is:

Intense ☐

Weak ☐

There is no effective competition ☐

G. Competition is:

Established and entrenched ☐

Established but changing ☐

Fluid and constantly changing ☐

H. Technological change is:

Rapid ☐

Slowly ☐

There is not change in technology ☐

Q2. How would you describe the positioning of the product you mentioned above related to your main competitors?

The terms 'lower' or 'higher' are not intended to imply inferior or superior, merely a different competitive positioning in the market.

Much Lower than competitors ☐

Lower than competitors ☐

The same as competitors ☐

Higher than competitors ☐

Much higher than competitors ☐

The technical quality of our products and services ☐

The level of customer service and support Provided ☐

The price levels charged for our products ☐

The degree of innovation in our products ☐

Q3. Please identify to what extent you agree/disagree with the following sentences in order to determine the culture of your firm and how you protect your resources.

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither</i>	<i>Agree</i>	<i>Strongly Agree</i>	
1	2	3	4	5	
					Our firm's objectives are driven by customer satisfaction <input type="checkbox"/>
					Commitment to serving customer needs is monitored <input type="checkbox"/>
					Competitive advantage strategy in our firm is based on customer needs <input type="checkbox"/>
					Strategies are driven by creating customer value beliefs <input type="checkbox"/>
					Customer satisfaction is frequently and systematically measured <input type="checkbox"/>
					Close attention is given to after sales services <input type="checkbox"/>
					Employees share information on competitor's strategies <input type="checkbox"/>
					Rapid response to competitors' actions <input type="checkbox"/>
					Top managers regularly discuss competitors' strengths and weaknesses <input type="checkbox"/>
					Customers are targeted for competitive advantage <input type="checkbox"/>
					Top functional managers regularly visit customers <input type="checkbox"/>
					Interfunctional communication of information about customer experiences <input type="checkbox"/>
					Business functions are integrated to serve target market needs <input type="checkbox"/>
					Managers understand how everyone can contribute to creating customer value. <input type="checkbox"/>

Q4. Please identify how do you protect the resources that are utilized to produce the product mentioned in the first page

<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither</i>	<i>Agree</i>	<i>Strongly Agree</i>	
1	2	3	4	5	
					Our products are highly valued by our customers creating a barrier against competitor products <input type="checkbox"/>
					There would be significant costs for customers if they switched from our products to those of competitors <input type="checkbox"/>
					Only we have the access to the resources we use <input type="checkbox"/>
					Our resources and therefore our competitive advantage is difficult for competitors to copy because it uses resources only we have access to <input type="checkbox"/>
					It took time to build/access our resources and competitors would find it time-consuming to follow a similar route <input type="checkbox"/>
					Competitors find it difficult to see how we created/access resources we use in the first place <input type="checkbox"/>
					Competitors could copy our resources but it would be uneconomic for them to do so <input type="checkbox"/>
					We protect our resources legally through copyrights and patents <input type="checkbox"/>
					Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors <input type="checkbox"/>
					Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage <input type="checkbox"/>

Q5. Here is a list of marketing assets and capabilities supplied by other managers. Please indicate on which of these you believe your firm has an advantage over competitors and therefore contributed more in producing **the product mentioned in the first page.**

Strong Competitors' Advantage Competitors' Advantage No Difference Our Advantage Our Strong Advantage

1	2	3	4	5	
					Company or brand name and reputation <input type="checkbox"/>
					Customer credibility by being well established in the market <input type="checkbox"/>
					Producing products and services that customers really want <input type="checkbox"/>
					Providing superior levels of customer service <input type="checkbox"/>
					Relationships with key target customers. <input type="checkbox"/>
					Cost advantage in production <input type="checkbox"/>
					Superior marketing information systems <input type="checkbox"/>
					Superior cost control systems <input type="checkbox"/>
					Use of superior technology <input type="checkbox"/>
					Copyrights and patents <input type="checkbox"/>
					Good relationship with Suppliers <input type="checkbox"/>
					Extent or nature of distribution network <input type="checkbox"/>
					The uniqueness of our distribution <input type="checkbox"/>
					The relationship with distribution channels intermediaries <input type="checkbox"/>
					Strong financial management <input type="checkbox"/>
					Effective human resource management <input type="checkbox"/>
					Production and manufacturing expertise <input type="checkbox"/>
					Integrated logistics and planning capability <input type="checkbox"/>
					Good product design capabilities <input type="checkbox"/>
					Good brand management ability <input type="checkbox"/>
					Good marketing management ability <input type="checkbox"/>
					Good at using information about markets, customers and competitors. <input type="checkbox"/>
					Good at understanding what customer needs and requirements are <input type="checkbox"/>
					Good at creating, enhancing and maintaining relationships with key customer or customer groups <input type="checkbox"/>
					Managing critical encounters with customers. <input type="checkbox"/>
					The ability to identify significant trends and changes in technology <input type="checkbox"/>
					The ability to spot newly emerging market segments <input type="checkbox"/>
					The flexibility and ability to change in response to market changes. <input type="checkbox"/>
					The ability to process orders and deliver to customer specification <input type="checkbox"/>
					Efficient purchasing of factor inputs and raw materials <input type="checkbox"/>
					Good at setting prices which both attract customers and achieve financial objectives <input type="checkbox"/>
					Effective new product/service development processes. <input type="checkbox"/>
					Advertising which includes coupons and /or free samples. <input type="checkbox"/>
					Product development which is responsive to customer needs <input type="checkbox"/>
					Access to financial resources <input type="checkbox"/>
					Good at gathering information about markets, customers and competitors. <input type="checkbox"/>
					Good at communicating internally across the organisation <input type="checkbox"/>

- Q6.** In your last financial year, how well did your company perform compared with your main competitors on the following criteria? How well did your company perform relative to the previous financial year? *For both of these questions please use the scale below.*

Much Worse	Worse	The same	Better	Much Better
1	3	4		5

	Relative to main competitors	Relative to last financial year
Overall Profit Levels Achieved	<input type="checkbox"/>	<input type="checkbox"/>
Profit Margins Achieved	<input type="checkbox"/>	<input type="checkbox"/>
Return on Investment	<input type="checkbox"/>	<input type="checkbox"/>
Sales Volume Achieved	<input type="checkbox"/>	<input type="checkbox"/>
Market share achieved	<input type="checkbox"/>	<input type="checkbox"/>

We are very happy to hear your comments/ remarks/suggestions on this questionnaire

We promise you that your answers are COMPLETELY CONFIDENTIAL and will be released only as summaries in which no individual's answers can be identified.

IF YOU WOULD LIKE TO RECEIVE A FREE SUMMARY OF THE RESEARCH FINDINGS, PLEASE ATTACH YOUR BUSINESS CARD.

Thank you so much for your time and co-operation.

B) The covering letter



BUSINESS SCHOOL

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Dear Sir/Madam

We are writing to ask your kind help in a study regarding building competitive positioning in the market against competitors. This study is an effort to understand, as most marketers will agree, at the heart of a successful marketing strategy lies the competitive positioning of the products and services on offer. Having a strong and defensible competitive positioning can be a major contributor to market success. What is less well known, however, is how a strong positioning can be built in the first place, and what means are available to protect that positioning from competitor imitation or erosion once it has been created.

It is our understanding that you produce (name of a product). The creation and defence of competitive positioning strategies is examined in this research. Our objective is to identify 'best practice' in positioning with a view to uncovering generic guidelines to help improve positioning strategies in general. The purpose of this letter is to invite you to be part of this major study. We really appreciate you completing and returning this questionnaire using the self-addressed envelope attached.

In return, a FREE summary of the key research findings will be sent to the company. We will be more than happy to share the general conclusions of the research with you on completion. We hope that will give you some further insights into how to exploit your competitive positioning to even greater effect.

Your answers are **completely confidential** and will be released only as summaries in which no individual's answers can be identified.

This survey is voluntary. However, **your participation could really make the difference between success and failure of this research.**

Thank you so much for your help and time. Your support is highly appreciated.

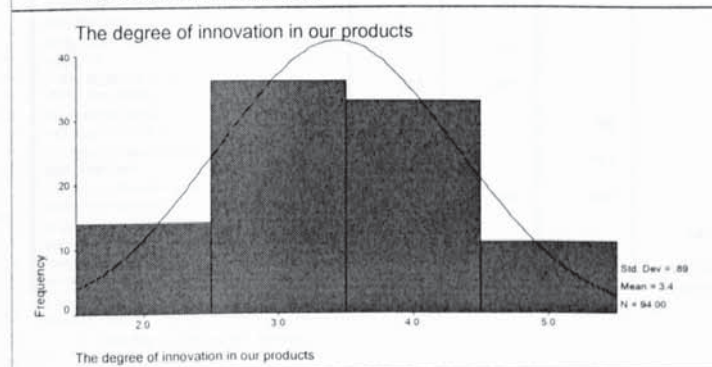
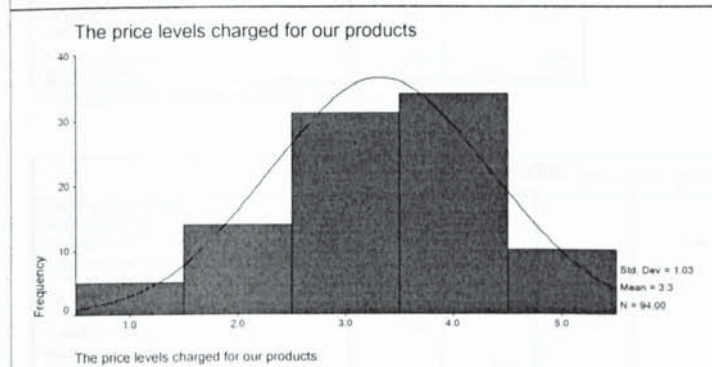
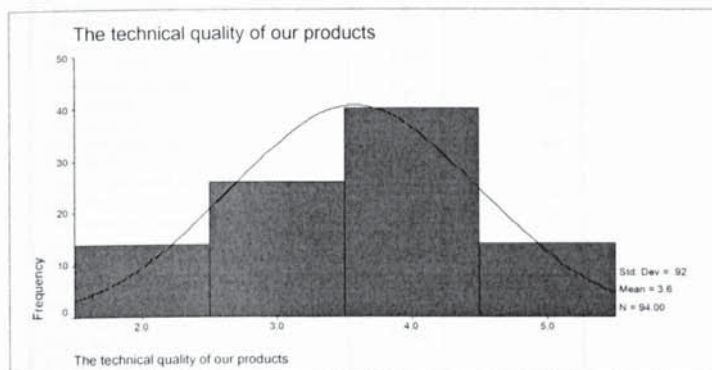
Yours Sincerely,

Samaa Attia.

Appendix 5-1

The result of the skewness and kurtosis analysis

Statistics				
		The technical quality of our products	The price levels charged for our products	The degree of innovation in our products
N	Valid	94	94	94
	Missing	0	0	0
Skewness		-.224	-.376	.056
Std. Error of Skewness		.249	.249	.249
Kurtosis		-.746	-.289	-.687
Std. Error of Kurtosis		.493	.493	.493



Appendix 5-2

Exploratory Factor Analysis and Reliability results for Assets

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.586
Bartlett's Test of Sphericity	Approx. Chi-Square	422.352
	df	66
	Sig.	.000

Communalities

	Initial	Extraction
Cost advantage in production	1.000	.708
Superior marketing information systems	1.000	.781
Superior levels of customer services	1.000	.677
Relationship with key target customers	1.000	.735
Customer credibility by being well established in the market	1.000	.532
Good relationships with suppliers	1.000	.757
Copyrights and patents	1.000	.750
Superior cost control system	1.000	.655
Extent of nature of the distribution network	1.000	.630
The uniqueness of our distribution approach	1.000	.769
Relationships with distribution channel intermediaries	1.000	.748
Company or brand name and reputation	1.000	.481

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component			
	1	2	3	4
Relationship with key target customers	.852			
Copyrights and patents	.626			.544
Customer credibility by being well established in the market	.624			
Superior levels of customer services	.612		.530	
Relationships with distribution channel intermediaries		.861		
Good relationships with suppliers		.832		
The uniqueness of our distribution approach	.555	.677		
Superior marketing information systems			.792	
Company or brand name and reputation			.641	
Extent of nature of the distribution network		.502	.612	
Superior cost control system				.797
Cost advantage in production				.713

Extraction Method: Principal Component Analysis.

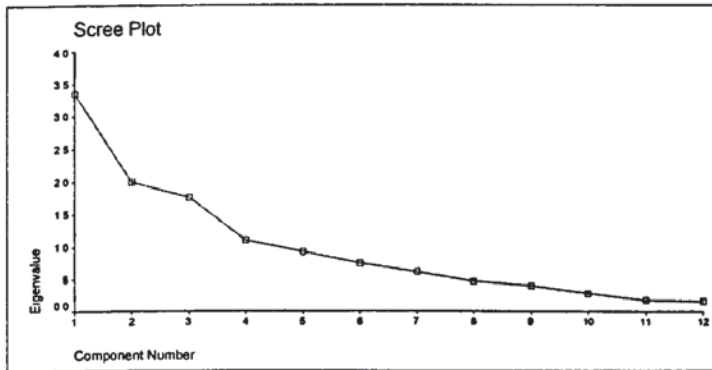
Rotation Method: Varimax with Kaiser Normalization.

^a Rotation converged in 8 iterations.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.359	27.989	27.989	3.359	27.989	27.989	2.297	19.140	19.140
2	1.993	16.608	44.597	1.993	16.608	44.597	2.233	18.607	37.747
3	1.766	14.714	59.311	1.766	14.714	59.311	2.038	16.985	54.732
4	1.107	9.222	68.533	1.107	9.222	68.533	1.656	13.801	68.533
5	.930	7.750	76.282						
6	.749	6.243	82.525						
7	.620	5.167	87.692						
8	.465	3.872	91.564						
9	.393	3.272	94.837						
10	.278	2.318	97.155						
11	.184	1.530	98.685						
12	.158	1.315	100.000						

Extraction Method: Principal Component Analysis.



The final Factor analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.582
Bartlett's Test of Sphericity	Approx. Chi-Square	386.331
	df	55
	Sig.	.000

Communalities

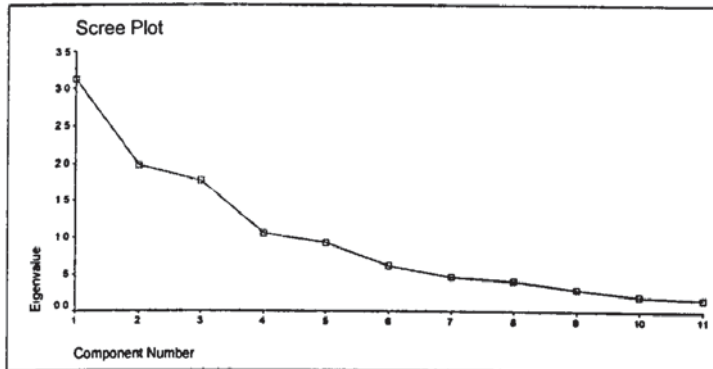
	Initial	Extraction
Cost advantage in production	1.000	.719
Superior marketing information systems	1.000	.770
Superior levels of customer services	1.000	.731
Relationship with key target customers	1.000	.728
Customer credibility by being well established in the market	1.000	.622
Good relationships with suppliers	1.000	.746
Superior cost control system	1.000	.630
Extent or nature of the distribution network	1.000	.686
The uniqueness of our distribution approach	1.000	.777
Relationships with distribution channel intermediaries	1.000	.755

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.975	29.752	29.752	2.975	29.752	29.752	2.300	23.003	23.003
2	1.967	19.667	49.419	1.967	19.667	49.419	2.149	21.486	44.489
3	1.593	15.932	65.351	1.593	15.932	65.351	2.086	20.862	65.351
4	.952	9.517	74.868						
5	.810	8.101	82.969						
6	.533	5.333	88.301						
7	.415	4.155	92.456						
8	.322	3.216	95.672						
9	.252	2.523	98.195						
10	.181	1.805	100.000						

Extraction Method: Principal Component Analysis

Rotated Component Matrix^a

	Component		
	1	2	3
Good relationships with suppliers	.857		
Relationships with distribution channel intermediaries	.818		
The uniqueness of our distribution approach	.641		
Extent or nature of the distribution network	.626		
Superior marketing information systems		.829	
Cost advantage in production		.808	
Superior cost control system		.622	
Relationship with key target customers			.863
Superior levels of customer services			.717
Customer credibility by being well established in the market			.667

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Reliability analysis for "Distribution based assets"

Scale	Scale	Corrected	
Mean	Variance	Item-	Alpha
if Item	if Item	Total	if Item
Deleted	Deleted	Correlation	Deleted
Good relationships with suppliers			
4.9770	.2289	.6402	.6040
Extent or nature of the distribution net			
5.0450	.2663	.4248	.7497
The uniqueness of our distribution approach			
5.1761	.2445	.5094	.6907
Relationships with distribution channel			
5.0376	.3061	.6338	.6620

N of Cases = 94.0
Alpha = .74

N of Items = 4

Reliability analysis after deleting "Extent or nature of the distribution network"

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Good relationships with suppliers	3.2768	.1255	.5185	.7223
The uniqueness of our distribution approach	3.4758	.1113	.5847	.6469
Relationships with distribution channel	3.3374	.1644	.7000	.6080
N of Cases = 94.0			N of Items = 3	
Alpha = .7497				

Reliability analysis for "Internal based assets"

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Cost advantage in production	3.3444	.1878	.6029	.3875
Superior marketing information systems	3.1033	.1510	.5820	.4488
Superior cost control system	3.0359	.3397	.3720	.7280
N of Cases = 94.0, N of Items = 3, Alpha = .6668				

Reliability analysis after deleting "Superior cost control system"

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Cost advantage in production	1.6385	.1252	.5797	.
Superior marketing information systems	1.3974	.0909	.5797	.
N of Cases = 94.0, N of Items = 2, Alpha = .7280				

Reliability analysis for "Customer based assets"

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Superior levels of customer services	3.2330	.2092	.5247	.5457
Relationship with key target customers	3.1930	.2339	.4867	.5967
Customer credibility by being well estab	2.9572	.2313	.4723	.6145
N of Cases = 94.0, N of Items = 3, Alpha = .6807				

Appendix 5-3

Exploratory Factor Analysis and Reliability results for Capabilities

First analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.755
Bartlett's Test of Sphericity	Approx. Chi-Square	421.553
	df	66
	Sig	.000

Communalities

	Initial	Extraction
Strong financial management	1.000	.711
Effective human resource management	1.000	.852
Production and manufacturing expertise	1.000	.684
Good marketing management ability	1.000	.771
Good at using information about markets, customer and competitors	1.000	.674
Good at understanding what customer needs and requirements are	1.000	.708
Good at enhancing and maintaining relationships with key customers	1.000	.828
Good at creating relationships with customers	1.000	.702
Effective new products development processes	1.000	.591
Ability to launch new product development which is responsive to customer needs	1.000	.658
Good at set prices which both attract customer and achieve financial objectives	1.000	.403

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.379	36.493	36.493	4.379	36.493	36.493	2.714	22.616	22.616
2	1.569	13.078	49.570	1.569	13.078	49.570	2.441	20.346	42.961
3	1.137	9.476	59.046	1.137	9.476	59.046	1.720	14.335	57.296
4	1.086	9.052	68.099	1.086	9.052	68.099	1.296	10.803	68.099
5	.947	7.894	75.992						
6	.670	5.580	81.573						
7	.593	4.943	86.515						
8	.504	4.198	91.213						
9	.343	2.858	94.071						
10	.275	2.294	96.365						
11	.247	2.062	98.428						
12	.189	1.572	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component			
	1	2	3	4
Good at enhancing and maintaining relationships with key customers	.801			
Production and manufacturing expertise	.794			
Good at creating relationships with customers	-.787			
Good marketing management ability		.768		
Good at understanding what customer needs and requirements are		.746		
Ability to launch new product development which is responsive to customer needs		.667		
Effective new products development processes	.522	-.550		
Good at using information about markets, customer and competitors		.521		
Effective human resource management			.864	
Strong financial management			-.808	
Good at communicating internally across the organization				.791
Good at set prices which both attract customer and achieve financial objectives				.783

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

a. Rotation converged in 9 iterations

Final analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.765
Bartlett's Test of Sphericity	Approx. Chi-Square	389.211
	df	45
	Sig.	.000

Communalities

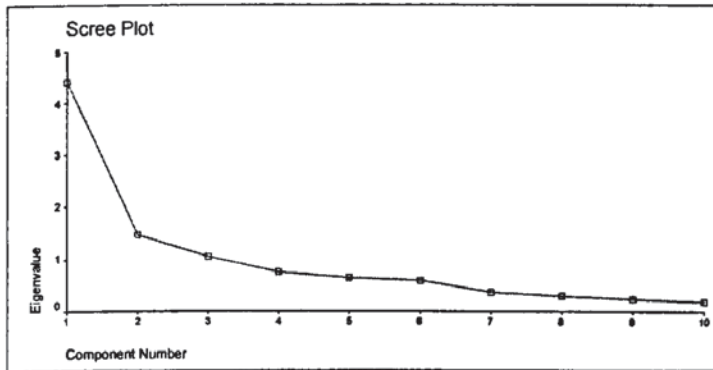
	Initial	Extraction
Strong financial management	1.000	.562
Effective human resource management	1.000	.863
Production and manufacturing expertise	1.000	.811
Good marketing management ability	1.000	.759
Good at using information about markets, customer and competitors	1.000	.840
Good at understanding what customer needs and requirements are	1.000	.638
Good at enhancing and maintaining relationships with key customers	1.000	.791
Good at creating relationships with customers	1.000	.724
Effective new products development processes	1.000	.643
Ability to launch new product development which is responsive to customer needs	1.000	.701

Extraction Method: Principal Component Analysis

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.409	44.087	44.087	4.409	44.087	44.087	2.724	27.244	27.244
2	1.477	14.766	58.853	1.477	14.766	58.853	2.140	21.396	48.640
3	1.048	10.478	69.331	1.048	10.478	69.331	2.069	20.691	69.331
4	.756	7.562	76.893						
5	.648	6.483	83.376						
6	.581	5.814	89.190						
7	.368	3.680	92.870						
8	.294	2.938	95.808						
9	.234	2.344	98.151						
10	.185	1.849	100.000						

Extraction Method: Principal Component Analysis.



Rotated Component Matrix ^a

	Component		
	1	2	3
Good at enhancing and maintaining relationships with key customers	.857		
Good at creating relationships with customers	.794		
Production and manufacturing expertise	.748		
Ability to launch new product development which is responsive to customer needs		.829	
Good at understanding what customer needs and requirements are		.662	
Good marketing management ability		.647	
Effective new products development processes		.626	
Effective human resource management			.918
Strong financial management			.624
Good at using information about markets, customer and competitors			.577

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Reliability assessment for outside-in capabilities

Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Production and manufacturing expertise			
7.1170	2.2120	.6305	.7166
Good at enhancing and maintaining relati			
7.1596	2.2001	.5736	.7832
Good at creating relationships with cust			
7.3830	2.2604	.7012	.6488
N of Cases = 94.0, N of Items = 3, Alpha = .7905			

Reliability assessment for Spanning capabilities

Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Good marketing management ability			
10.2841	4.3666	.5434	.6973
Good at understanding what customer need			
10.0341	4.2172	.5839	.6770
Effective new products development proce			
10.0909	2.8652	.5647	.7222
Ability to launch new product development			
10.2955	4.0726	.5854	.6713
N of Cases = 88.0, N of Items = 4, Alpha = .7476			

Reliability assessment for Inside-out

Item-total Statistics

Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Strong financial management			
6.8617	2.2925	.4654	.6742
Effective human resource management			
7.0213	1.5909	.6008	.4835
Good at using information about markets			
6.5426	1.6272	.5059	.6259
N of Cases = 94.0, N of Items = 3, Alpha = .6966			

Appendix 5-4

Exploratory Factor Analysis and Reliability results for market orientation

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
CUSATISF	45.3956	54.9529	.1080	.3869	.8419
COMMT	46.0659	48.3512	.6342	.6710	.8120
CABASED	46.1319	46.2935	.6828	.7830	.8064
CUVALUE	46.3516	50.8305	.4891	.6337	.8217
CUSATIFA	46.3956	49.6418	.4727	.7159	.8219
AFTERSAL	46.3077	48.8154	.6026	.6996	.8141
SHARINFO	46.1648	52.4725	.2366	.5135	.8377
RESACTIO	46.0989	48.8234	.5263	.5777	.8182
TOPDIS	46.0330	45.6322	.5838	.5894	.8135
CACUSTOM	45.9780	52.7106	.2730	.6000	.8338
TOPVISIT	46.1978	49.9382	.3451	.6814	.8325
INTERFUN	46.3077	51.3709	.4427	.5886	.8242
BUSFUNCT	46.2527	48.6799	.5280	.5912	.8180
CONTRIBU	46.3187	46.6862	.6241	.6124	.8105

Reliability Coefficients 14 items

Alpha=.8330 Standardized item alpha=.8319

Appendix 5-5

Exploratory Factor Analysis and Reliability results for Isolating Mechanism

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.586
Bartlett's Test of Sphericity	Approx. Chi-Square	422.352
	df	66
	Sig.	.000

Communalities

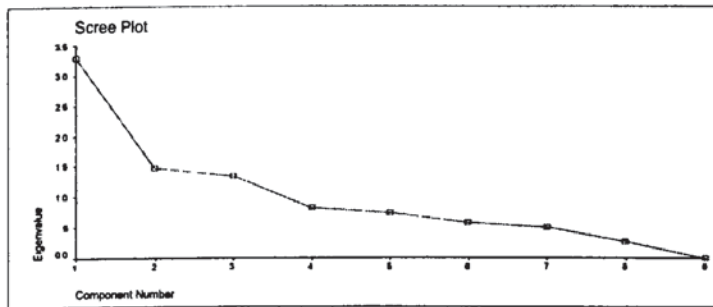
	Initial	Extraction
Our products are highly valued by our customers creating a barrier against competitors' products	1.000	.557
There would be significant cost for customers if they switched from our products to those of competitors	1.000	.497
Only we have the access to the resources we use	1.000	.506
It took time to build competitive position and competitors would find it time consuming to follow a similar route	1.000	.399
Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage	1.000	.730
Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors	1.000	.705
We protect our resources legally through copyrights and patents	1.000	.761
Competitors could copy our competitive positioning but it would be uneconomic for them to do so	1.000	.782
Competitors find it difficult to see how we created our competitive positioning in the market in the first place	1.000	.861

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.297	36.635	36.635	3.297	36.635	36.635	2.723	30.255	30.255
2	1.467	16.303	52.938	1.467	16.303	52.938	1.980	22.000	52.255
3	1.335	14.832	67.770	1.335	14.832	67.770	1.396	15.515	67.770
4	.825	9.167	76.937						
5	.730	8.110	85.048						
6	.575	6.388	91.436						
7	.501	5.569	97.005						
8	.270	2.995	100.000						
9	3.265E-16	3.628E-15	100.000						

Extraction Method: Principal Component Analysis.



Rotated Component Matrix^a

	Component		
	1	2	3
We protect our resources legally through copyrights and patents	.974		
Competitors find it difficult to see how we created our competitive positioning in the market in the first place	.974		
Competitors could copy our competitive positioning but it would be uneconomic for them to do so	.822		
Only we have the access to the resources we use		.711	
Our products are highly valued by our customers creating a barrier against competitors' products		.711	
There would be significant cost for customers if they switched from our products to those of competitors		.696	
It took time to build competitive position and competitors would find it time consuming to follow a similar route		.555	
Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage			.839
Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors			.821

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Factor analysis after removing im4 (it took time to build our competitive positioning)

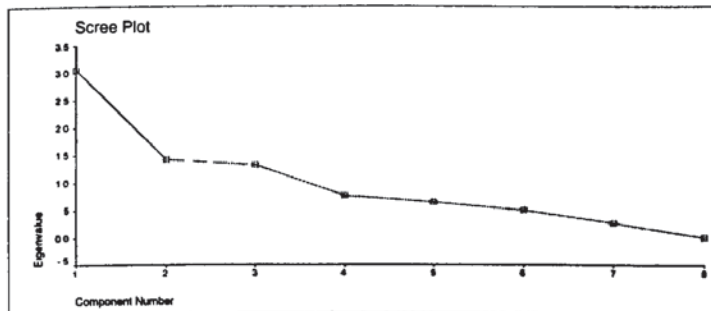
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.561
Bartlett's Test of Sphericity	Approx. Chi-Square	200.759	
	df	21	
	Sig.	.000	

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.064	38.305	38.305	3.064	38.305	38.305	2.687	33.590	33.590
2	1.431	17.888	56.193	1.431	17.888	56.193	1.732	21.651	55.240
3	1.319	16.492	72.685	1.319	16.492	72.685	1.396	17.445	72.685
4	.770	9.619	82.304						
5	.643	8.041	90.345						
6	.501	6.267	96.613						
7	.271	3.387	100.000						
8	-1.209E-17	-1.511E-16	100.000						

Extraction Method: Principal Component Analysis



Rotated Component Matrix ^a

	Component		
	1	2	3
We protect our resources legally through copyrights and patents	.978		
Competitors find it difficult to see how we created our competitive positioning in the market in the first place	.978		
Competitors could copy our competitive positioning but it would be uneconomic for them to do so	.833		
Only we have the access to the resources we use		.768	
There would be significant cost for customers if they switched from our products to those of competitors		.713	
Our products are highly valued by our customers creating a barrier against competitors' products		.700	
Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage			.840
Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors			.820

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Reliability Analysis

Scale	Scale	Corrected	
Mean	Variance	Item-	Alpha
if Item	if Item	Total	if Item
Deleted	Deleted	Correlation	Deleted

We protect our resources legally through			
5.5269	3.2085	.9241	.8533
Our employees are the source of our comp			
5.4409	2.9014	.7613	1.0000
Competitors find it difficult to see how			
5.5269	3.2085	.9241	.8533

N of Cases = 93.0, N of Items = 3, Alpha = .9303

Scale	Scale	Corrected	
Mean	Variance	Item-	Alpha
if Item	if Item	Total	if Item
Deleted	Deleted	Correlation	Deleted

Our products are highly valued by our c			
5.9149	1.7346	.4226	.4468
There would be significant cost for cust			
5.9149	1.9712	.3543	.5460
Only we have the access to the resources			
6.4681	1.5850	.4166	.4573

N of Cases = 94.0, N of Items = 3, Alpha = .5874

Reliability

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Competitors would find it difficult to a	2.5591	1.4883	.3864	.
Competitors could copy our competitive p	1.6129		1.2833	.3864
				.
N of Cases =	93.0,	N of Items =	2,	Alpha = .5563

Appendix 5-6 LISREL results for assets A) First LISREL results for Assets

```

A Confirmatory Factor Analysis
Observed variables
asset1 asset2 asset3 asset4 asset6 asset7 asset11 asset12

Covariance Matrix From File asset.cov
Sample size: 94
Latent Variables
Main Cus Copy Dis

Relationships:
asset1 = 1*Main
asset2 = Main

asset3 = 1*Cus
asset4 = Cus
asset6 = Cus

asset7 = 1*Dis
asset11 = Dis
asset12 = Dis

Path Diagram
Number of decimals =m 2
Lisrel Output: VA RS MI SS SC EF
Wide Print
End of Problem

A Confirmatory Factor Analysis

Covariance Matrix
asset1 asset2 asset3 asset4 asset6 asset7 asset11 asset12
-----
asset1 0.61
asset2 0.61 1.49
asset3 0.15 0.43 0.53

```


		(0.13)
		4.01
asset7	--	-- 1.00
asset11	--	-- 0.04
		(0.04)
		0.98
asset12	--	-- 0.22
		(0.20)
		-1.06

PHI

	Main	Cus	Dis
	-----	-----	-----
Main	0.20		
	(0.08)		
	2.61		

Cus	0.14	0.36
	(0.05)	(0.09)
	2.75	4.19

Dis	-0.04	0.23	-1.16
	(0.03)	(0.07)	(1.28)
	-1.07	3.48	-0.90

W_A_R_N_I_N_G: PHI is not positive definite

Goodness of Fit Statistics

Degrees of Freedom = 17

Minimum Fit Function Chi-Square = 93.84 (P = 0.00)

Normal Theory Weighted Least Squares Chi-Square = 86.08 (P = 0.00)

Estimated Non-centrality Parameter (NCP) = 69.08

90 Percent Confidence Interval for NCP = (43.78 ; 101.90)

Minimum Fit Function Value = 1.01

Population Discrepancy Function Value (F0) = 0.74

90 Percent Confidence Interval for F0 = (0.47 ; 1.10)

Root Mean Square Error of Approximation (RMSEA) = 0.21

90 Percent Confidence Interval for RMSEA = (0.17 ; 0.25)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECVI) = 1.33

90 Percent Confidence Interval for ECVI = (1.06 ; 1.69)
 ECVI for Saturated Model = 0.77
 ECVI for Independence Model = 3.17

Chi-Square for Independence Model with 28 Degrees of Freedom = 278.83

Independence AIC = 294.83
 Model AIC = 124.08
 Saturated AIC = 72.00
 Independence CAIC = 323.17
 Model CAIC = 191.40
 Saturated CAIC = 199.56

Normed Fit Index (NFI) = 0.66
 Non-Normed Fit Index (NNFI) = 0.50
 Parsimony Normed Fit Index (PNFI) = 0.40
 Comparative Fit Index (CFI) = 0.69
 Incremental Fit Index (IFI) = 0.71
 Relative Fit Index (RFI) = 0.45

Critical N (CN) = 34.11

Root Mean Square Residual (RMR) = 0.13
 Standardized RMR = 0.19
 Goodness of Fit Index (GFI) = 0.81
 Adjusted Goodness of Fit Index (AGFI) = 0.60
 Parsimony Goodness of Fit Index (PGFI) = 0.38
 A Confirmatory Factor Analysis

Standardized Residuals
 A Confirmatory Factor Analysis
 Modification Indices and Expected Change
 Modification Indices for LAMBDA-X

	Main	Cus	Dis
asset1	--	1.45	1.45
asset2	--	1.45	1.45
asset3	0.20	--	0.46
asset4	9.01	--	2.56
asset6	11.03	--	1.20
asset7	9.74	13.49	--
asset11	8.34	7.48	--
asset12	19.07	24.69	--
Expected Change for LAMBDA-X			

	Main	Cus	Dis
asset1	--	-0.20	0.06
asset2	--	0.60	-0.18
asset3	0.10	--	0.04
asset4	-0.53	--	-0.07
asset6	0.56	--	0.04
asset7	2.76	3.65	--
asset11	0.29	0.26	--
asset12	0.88	1.10	--

Standardized Expected Change for LAMBDA-X

	Main	Cus	Dis
asset1	--	-0.12	0.06
asset2	--	0.36	-0.18
asset3	0.05	--	0.04
asset4	-0.24	--	-0.07
asset6	0.25	--	0.04
asset7	1.24	2.19	--
asset11	0.13	0.15	--
asset12	0.40	0.66	--

Completely Standardized Expected Change for LAMBDA-X

	Main	Cus	Dis
asset1	--	-0.16	0.08
asset2	--	0.30	-0.15
asset3	0.06	--	0.06
asset4	-0.33	--	-0.09
asset6	0.36	--	0.05
asset7	1.37	2.41	--
asset11	0.27	0.32	--
asset12	0.46	0.77	--

No Non-Zero Modification Indices for PHI

Modification Indices for THETA-DELTA

asset1	asset2	asset3	asset4	asset6	asset7	asset11	asset12
asset1	--	--	--	--	--	--	--

Main	0.20	0.61	0.14	0.10	0.07	-0.04	0.00	0.01
Cus	0.14	0.42	0.36	0.26	0.19	0.23	0.01	-0.05
Dis	-0.04	-0.11	0.23	0.17	0.12	-1.16	-0.05	0.25

A Confirmatory Factor Analysis

Standardized Solution

LAMBDA-X

	Main	Cus	Dis
asset1	0.45	--	--
asset2	1.35	--	--
asset3	--	0.60	--
asset4	--	0.43	--
asset6	--	0.32	--
asset7	--	--	1.00
asset11	--	--	0.04
asset12	--	--	-0.22

PHI

	Main	Cus	Dis
Main	1.00		
Cus	0.52	1.00	
Dis	-0.08	0.39	-1.16

A Confirmatory Factor Analysis

Completely Standardized Solution

LAMBDA-X

	Main	Cus	Dis
asset1	0.58	--	--
asset2	1.10	--	--
asset3	--	0.83	--
asset4	--	0.60	--
asset6	--	0.45	--
asset7	--	--	1.10
asset11	--	--	0.09
asset12	--	--	0.25

B) Second and Final LISREL results for Assets

DATE: 5/9/2003

TIME: 20:31

LISREL 8.53

BY

Karl G. Jöreskog & Dag Sörbom

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:

A Confirmatory Factor Analysis

Observed variables

at1 at2 at3 at4 at6 at7 at11 at12

Covariance Matrix From File atcortv.cov

Sample size: 94

Latent Variables

Main Cus Copy Dis

at3 = 1*Cus

at4 = Cus

at6 = Cus

at11 = 1*Dis

at7 = Dis

Path Diagram

Number of decimals =m 2

Lisrel Output: VA RS MI SS SC EF

Wide Print

End of Problem

A Confirmatory Factor Analysis

Covariance Matrix

	at1	at2	at3	at4	at6	at7	at11
at1	0.09						
at2	0.06	0.13					
at3	0.02	0.05	0.09				
at4	-0.01	0.01	0.04	0.07			
at6	0.01	0.04	0.03	0.02	0.10		
at7	0.01	0.01	0.01	0.00	0.02	0.05	
at11	0.01	0.00	0.02	0.02	0.01	0.00	0.04

Parameter Specifications

LAMBDA-X

	Main	Cus	Dis
at1	0	0	0
at2	1	0	0
at3	0	0	0
at4	0	2	0
at6	0	3	0
at7	0	0	4
at11	0	0	0

PHI

	Main	Cus	Dis
Main	5		
Cus	6	7	
Dis	8	9	10

THETA-DELTA

	at1	at2	at3	at4	at6	at7	at11
11	12	13	14	15	16	17	

W_A_R_N_I_N_G: PHI is not positive definite

W_A_R_N_I_N_G: THETA-DELTA is not positive definite

A Confirmatory Factor Analysis

W_A_R_N_I_N_G: The solution was found non-admissible after 50 iterations.

The following solution is preliminary and is provided only for the purpose of tracing the source of the problem.

Setting AD> 50 or AD=OFF may solve the problem
 LISREL Estimates(Intermediate Solution)

LAMBDA-X

b	Main	Cus	Dis
at1	1.00	--	--
at2	8.22	--	--
at3	--	1.00	--
at4	--	0.80	--
at6	--	0.79	--
at7	--	--	0.36
at11	--	--	1.00

PHI

	Main	Cus	Dis
Main	0.01		
Cus	0.00	0.04	
Dis	0.00	0.02	0.01

W_A_R_N_I_N_G: PHI is not positive definite

THETA-DELTA

	at1	at2	at3	at4	at6	at7	at11
	0.08	-0.40	0.05	0.05	0.08	0.05	0.03

Goodness of Fit Statistics

Degrees of Freedom = 11

Minimum Fit Function Chi-Square = 34.71 (P = 0.00028)

Normal Theory Weighted Least Squares Chi-Square = 31.97 (P = 0.00077)

Estimated Non-centrality Parameter (NCP) = 20.97

90 Percent Confidence Interval for NCP = (7.72 ; 41.85)

Minimum Fit Function Value = 0.37

Population Discrepancy Function Value (F0) = 0.23

90 Percent Confidence Interval for F0 = (0.083 ; 0.45)

Root Mean Square Error of Approximation (RMSEA) = 0.14

90 Percent Confidence Interval for RMSEA = (0.087 ; 0.20)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.0057

Expected Cross-Validation Index (ECVI) = 0.71

90 Percent Confidence Interval for ECVI = (0.57 ; 0.93)

ECVI for Saturated Model = 0.60

ECVI for Independence Model = 1.72

Chi-Square for Independence Model with 21 Degrees of Freedom = 145.68

Independence AIC = 159.68

Model AIC = 65.97

Saturated AIC = 56.00

Independence CAIC = 184.48

Model CAIC = 126.21

Saturated CAIC = 155.21

Normed Fit Index (NFI) = 0.76

Non-Normed Fit Index (NNFI) = 0.64

Parsimony Normed Fit Index (PNFI) = 0.40

Comparative Fit Index (CFI) = 0.81

Incremental Fit Index (IFI) = 0.82

Relative Fit Index (RFI) = 0.55

Critical N (CN) = 67.25

Root Mean Square Residual (RMR) = 0.0084

Standardized RMR = 0.10

Goodness of Fit Index (GFI) = 0.91

Adjusted Goodness of Fit Index (AGFI) = 0.77

Parsimony Goodness of Fit Index (PGFI) = 0.36

A Confirmatory Factor Analysis

Fitted Covariance Matrix

	at1	at2	at3	at4	at6	at7	at11
at1	0.09						
at2	0.06	0.13					
at3	0.00	0.04	0.09				
at4	0.00	0.03	0.03	0.07			
at6	0.00	0.03	0.03	0.03	0.10		
at7	0.00	0.00	0.01	0.01	0.01	0.05	
at11	0.00	-0.01	0.02	0.01	0.01	0.00	0.04

Fitted Residuals

	at1	at2	at3	at4	at6	at7	at11
at1	0.00						
at2	0.00	0.00					
at3	0.02	0.01	0.00				
at4	-0.01	-0.01	0.00	0.00			
at6	0.01	0.02	0.00	-0.01	0.00		
at7	0.01	0.01	0.00	-0.01	0.02	0.00	
at11	0.01	0.01	0.00	0.01	-0.01	0.00	0.00

Summary Statistics for Fitted Residuals

Smallest Fitted Residual = -0.01

Median Fitted Residual = 0.00

Largest Fitted Residual = 0.02

Stemleaf Plot

```

- 1|42
- 0|986
- 0|222210000000
  0|4
  0|678
  1|0011
  1|567

```

Standardized Residuals

	at1	at2	at3	at4	at6	at7	at11
at1	-0.04						
at2	-0.22	-0.75					
at3	1.71	--	-0.03				
at4	-1.46	-4.63	2.41	-0.11			
at6	1.13	7.26	-0.48	-1.05	--		
at7	1.52	0.92	-0.15	-1.74	2.78	--	
at11	1.66	1.58	-0.61	2.39	-1.81	-0.08	-0.13

Summary Statistics for Standardized Residuals

Smallest Standardized Residual = -4.63

Median Standardized Residual = -0.03

Largest Standardized Residual = 7.26

Stemleaf Plot

```

- 4|6
- 2|
- 0|87517652211100000
  0|915677
  2|448
  4|
  6|3

```

Largest Negative Standardized Residuals

Residual for at4 and at2 -4.63

Largest Positive Standardized Residuals

Residual for at6 and at2 7.26

Residual for at7 and at6 2.78

Appendix 5-7
LISREL results for capabilities

Confirmatory Factor Analysis
Observed variables
cap1 cap2 cap3 cap4 cap5 cap6 cap7 cap8 cap9 cap10

Covariance Matrix From File capabi.cov
Sample size: 94
Latent Variables
Span Cap Capi

Relationships:
cap3 = 1*Cap
cap7 = Cap
cap8 = Cap

cap4 = 1*Capi
cap10 = Capi
cap6 = Capi
cap9 = Capi

cap1 = 1*Span
cap2 = Span
cap5 = Span

Path Diagram
Number of decimals =m 2
Lisrel Output: RS MI SS SC EF
Wide Print
End of Problem

Confirmatory Factor Analysis

Covariance Matrix										
	cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
cap1	0.50									
cap2	0.50	1.83								
cap3	1.39	1.67	17.11							
cap4	0.14	0.51	0.66	0.38						

cap5	0.26	0.65	1.75	0.26	0.61				
cap6	0.17	0.29	1.02	0.25	0.31	0.45			
cap7	0.30	0.01	2.85	0.08	0.49	0.51	1.38		
cap8	0.31	0.34	2.43	0.15	0.30	0.28	0.63	0.60	
cap9	0.24	0.28	1.76	0.27	0.37	0.27	0.60	0.27	0.61
cap10	0.14	0.20	0.75	0.21	0.12	0.23	0.18	0.16	0.26
									0.37

Confirmatory Factor Analysis

Parameter Specifications

LAMBDA-X

	Span	Cap	Capi
cap1	0	0	0
cap2	1	0	0
cap3	0	0	0
cap4	0	0	0
cap5	2	0	0
cap6	0	0	3
cap7	0	4	0
cap8	0	5	0
cap9	0	0	6
cap10	0	0	7

PHI

	Span	Cap	Capi
Span	8		
Cap	9	10	
Capi	11	12	13

THETA-DELTA

cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
14	15	16	17	18	19	20	21	22	23

Confirmatory Factor Analysis

Number of Iterations = 28
 LISREL Estimates (Maximum Likelihood)

LAMBDA-X

	Span	Cap	Capi
cap1	1.00	--	--
cap2	2.05	--	--
	(0.38)		
	5.38		
cap3	--	1.00	--
cap4	--	--	1.00
cap5	1.47	--	--
	(0.24)		
	6.13		
cap6	--	--	1.10
		(0.15)	
		7.34	
cap7	--	0.26	--
	(0.03)		
	7.98		
cap8	--	0.21	--
	(0.02)		
	9.76		
cap9	--	--	1.24
		(0.18)	
		7.07	
cap10	--	--	0.85
		(0.14)	
		6.24	

PHI

	Span	Cap	Capi
Span	0.20		
	(0.06)		
	3.21		
Cap	1.04	11.52	
	(0.27)	(2.49)	
	3.92	4.62	

Capi 0.17 1.01 0.23
 (0.04) (0.25) (0.05)
 4.08 4.09 4.13

THETA-DELTA

cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
0.29	0.98	5.59	0.16	0.17	0.17	0.61	0.09	0.27	0.20
(0.05)	(0.17)	(1.12)	(0.03)	(0.05)	(0.03)	(0.10)	(0.03)	(0.05)	(0.03)
5.95	5.73	4.98	5.22	3.50	5.08	5.78	2.61	5.38	5.93

Squared Multiple Correlations for X - Variables

cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
0.41	0.46	0.67	0.59	0.72	0.61	0.56	0.85	0.57	0.45

Goodness of Fit Statistics

Degrees of Freedom = 32
 Minimum Fit Function Chi-Square = 357.45 (P = 0.0)
 Normal Theory Weighted Least Squares Chi-Square = 207.59 (P = 0.0)
 Estimated Non-centrality Parameter (NCP) = 175.59
 90 Percent Confidence Interval for NCP = (133.74 ; 224.93)

Minimum Fit Function Value = 3.84
 Population Discrepancy Function Value (F0) = 1.89
 90 Percent Confidence Interval for F0 = (1.44 ; 2.42)
 Root Mean Square Error of Approximation (RMSEA) = 0.24
 90 Percent Confidence Interval for RMSEA = (0.21 ; 0.27)
 P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECVI) = 2.73
 90 Percent Confidence Interval for ECVI = (2.28 ; 3.26)
 ECVI for Saturated Model = 1.18
 ECVI for Independence Model = 10.49

Chi-Square for Independence Model with 45 Degrees of Freedom = 955.96
 Independence AIC = 975.96
 Model AIC = 253.59
 Saturated AIC = 110.00

Independence CAIC = 1011.39
 Model CAIC = 335.08
 Saturated CAIC = 304.88

Normed Fit Index (NFI) = 0.63
 Non-Normed Fit Index (NNFI) = 0.50
 Parsimony Normed Fit Index (PNFI) = 0.45
 Comparative Fit Index (CFI) = 0.64
 Incremental Fit Index (IFI) = 0.65
 Relative Fit Index (RFI) = 0.47

Critical N (CN) = 14.92

Root Mean Square Residual (RMR) = 0.16
 Standardized RMR = 0.11
 Goodness of Fit Index (GFI) = 0.69
 Adjusted Goodness of Fit Index (AGFI) = 0.47
 Parsimony Goodness of Fit Index (PGFI) = 0.40

Confirmatory Factor Analysis

Fitted Covariance Matrix

	cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
cap1	0.50									
cap2	0.42	1.83								
cap3	1.04	2.14	17.11							
cap4	0.17	0.35	1.01	0.38						
cap5	0.30	0.61	1.54	0.25	0.61					
cap6	0.19	0.38	1.11	0.25	0.27	0.45				
cap7	0.27	0.56	2.99	0.26	0.40	0.29	1.38			
cap8	0.22	0.45	2.42	0.21	0.32	0.23	0.63	0.60		
cap9	0.21	0.43	1.25	0.28	0.31	0.31	0.33	0.26	0.61	
cap10	0.14	0.30	0.86	0.19	0.21	0.21	0.22	0.18	0.24	0.37

Fitted Residuals

	cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
cap1	0.00									
cap2	0.08	0.00								
cap3	0.34	-0.47	0.00							

cap4	-0.02	0.16	-0.35	0.00						
cap5	-0.04	0.03	0.21	0.01	0.00					
cap6	-0.02	-0.09	-0.09	0.00	0.04	0.00				
cap7	0.03	-0.55	-0.15	-0.19	0.09	0.22	0.00			
cap8	0.09	-0.11	0.01	-0.06	-0.02	0.04	0.01	0.00		
cap9	0.03	-0.15	0.51	-0.01	0.06	-0.03	0.28	0.00	0.00	
cap10	0.00	-0.10	-0.11	0.02	-0.09	0.01	-0.04	-0.02	0.02	0.00

Summary Statistics for Fitted Residuals

Smallest Fitted Residual = -0.55
Median Fitted Residual = 0.00
Largest Fitted Residual = 0.51

Stemleaf Plot

```

-4|57
-2|5
-0|955110999644322210000000000000
0|1111223334468996
2|1284
4|1

```

Standardized Residuals

	cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
cap1	--									
cap2	1.88	--								
cap3	1.91	-1.44	--							
cap4	-0.97	3.62	-2.43	--						
cap5	-3.47	1.79	1.55	0.55	--					
cap6	-0.65	-1.85	-0.59	0.04	1.85	--				
cap7	0.58	-5.29	-1.29	-4.06	1.97	4.61	--			
cap8	3.31	-2.23	0.77	-2.98	-1.47	1.98	0.66	--		
cap9	0.85	-2.56	2.71	-0.48	2.52	-2.36	4.69	0.14	--	
cap10	-0.01	-1.89	-0.69	1.31	-3.96	0.91	-0.81	-0.63	0.99	--

Summary Statistics for Standardized Residuals

Smallest Standardized Residual = -5.29
Median Standardized Residual = 0.00
Largest Standardized Residual = 4.69

Stemleaf Plot

-5|3
-4|10
-3|50
-2|6442
-1|985430
-0|87666500000000000000
0|1567899
1|0358899
2|0057
3|36
4|67

Largest Negative Standardized Residuals
Residual for cap5 and cap1 -3.47
Residual for cap7 and cap2 -5.29
Residual for cap7 and cap4 -4.06
Residual for cap8 and cap4 -2.98
Residual for cap10 and cap5 -3.96
Largest Positive Standardized Residuals
Residual for cap4 and cap2 3.62
Residual for cap7 and cap6 4.61
Residual for cap8 and cap1 3.31
Residual for cap9 and cap3 2.71
Residual for cap9 and cap7 4.69

Standardized Residuals

Confirmatory Factor Analysis

Modification Indices and Expected Change

Modification Indices for LAMBDA-X

	Span	Cap	Capi
cap1	--	9.31	0.02
cap2	--	12.21	1.88
cap3	1.07	--	0.04
cap4	0.47	15.65	--
cap5	--	0.31	2.14
cap6	0.72	6.15	--
cap7	0.03	--	3.07
cap8	1.29	--	1.55

cap9	2.51	5.49	--
cap10	13.20	1.07	--

Expected Change for LAMBDA-X

	Span	Cap	Capi
cap1	--	0.09	-0.05
cap2	--	-0.21	-0.87
cap3	1.21	--	-0.20
cap4	0.18	-0.09	--
cap5	--	0.02	0.65
cap6	0.24	0.06	--
cap7	0.06	--	0.50
cap8	-0.26	--	-0.24
cap9	0.54	0.07	--
cap10	-0.97	-0.02	--

Standardized Expected Change for LAMBDA-X

	Span	Cap	Capi
cap1	--	0.32	-0.02
cap2	--	-0.71	-0.41
cap3	0.55	--	-0.10
cap4	0.08	-0.29	--
cap5	--	0.07	0.31
cap6	0.11	0.20	--
cap7	0.03	--	0.24
cap8	-0.12	--	-0.11
cap9	0.24	0.22	--
cap10	-0.44	-0.08	--

Completely Standardized Expected Change for LAMBDA-X

	Span	Cap	Capi
cap1	--	0.46	-0.03
cap2	--	-0.52	-0.31
cap3	0.13	--	-0.02
cap4	0.13	-0.47	--
cap5	--	0.09	0.39
cap6	0.17	0.30	--
cap7	0.02	--	0.20

cap8	-0.15	--	-0.15
cap9	0.31	0.28	--
cap10	-0.72	-0.13	--

No Non-Zero Modification Indices for PHI
Modification Indices for THETA-DELTA

	cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
cap1	--									
cap2	3.55	--								
cap3	0.03	0.04	--							
cap4	2.16	28.68	0.15	--						
cap5	12.01	3.20	2.31	0.03	--					
cap6	1.18	4.63	11.30	0.00	3.38	--				
cap7	1.77	31.62	1.65	29.96	11.25	21.50	--			
cap8	9.67	2.00	0.59	0.66	11.62	1.61	0.43	--		
cap9	0.43	11.68	7.46	0.23	5.79	5.58	22.08	15.10	--	
cap10	1.88	0.18	0.00	1.71	14.81	0.84	2.27	1.20	0.98	--

Expected Change for THETA-DELTA

	cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
cap1	--									
cap2	0.13	--								
cap3	-0.03	0.06	--							
cap4	-0.04	0.27	-0.05	--						
cap5	-0.16	0.17	0.22	0.00	--					
cap6	-0.03	-0.11	-0.43	0.00	0.05	--				
cap7	-0.07	-0.52	-0.42	-0.21	0.15	0.19	--			
cap8	0.08	0.07	0.23	0.02	-0.09	0.03	0.05	--		
cap9	0.02	-0.22	0.43	-0.02	0.08	-0.08	0.23	-0.10	--	
cap10	0.04	-0.02	0.00	0.03	-0.10	0.02	-0.06	0.02	0.03	--

Completely Standardized Expected Change for THETA-DELTA

	cap1	cap2	cap3	cap4	cap5	cap6	cap7	cap8	cap9	cap10
cap1	--									
cap2	0.14	--								
cap3	-0.01	0.01	--							
cap4	-0.09	0.32	-0.02	--						
cap5	-0.28	0.16	0.07	-0.01	--					
cap6	-0.07	-0.13	-0.16	0.00	0.10	--				
cap7	-0.08	-0.32	-0.09	-0.29	0.17	0.24	--			
cap8	0.15	0.07	0.07	0.03	-0.14	0.05	0.05	--		
cap9	0.04	-0.21	0.13	-0.03	0.13	-0.15	0.25	-0.17	--	
cap10	0.09	-0.03	0.00	0.09	-0.22	0.06	-0.09	0.05	0.07	--

Maximum Modification Index is 31.62 for Element (7, 2) of THETA-DELTA

Confirmatory Factor Analysis
Standardized Solution

LAMBDA-X

	Span	Cap	Capi
cap1	0.45	--	--
cap2	0.92	--	--
cap3	--	3.39	--
cap4	--	--	0.48
cap5	0.66	--	--
cap6	--	--	0.52
cap7	--	0.88	--
cap8	--	0.71	--
cap9	--	--	0.59
cap10	--	--	0.41
PHI			

	Span	Cap	Capi
Span	1.00		
Cap	0.68	1.00	
Capi	0.79	0.63	1.00

Confirmatory Factor Analysis
Completely Standardized Solution

LAMBDA-X

	Span	Cap	Capi
cap1	0.64	--	--
cap2	0.68	--	--
cap3	--	0.82	--
cap4	--	--	0.77
cap5	0.85	--	--
cap6	--	--	0.78
cap7	--	0.75	--
cap8	--	0.92	--
cap9	--	--	0.75
cap10	--	--	0.67

Appendix 5-8 LISREL results for isolating mechanism

```

Confirmatory Factor Analysis
observed Variables
im1 im2 im3 im4 im5 im6 im7 im8 im9
Covariance Matrix from file insem.cov
Sample size 94
Latent Variables
cus scare pat tacit

```

```

Relationships
im1 = 1*cus
im2 = cus
im3 = cus

```

```

im5 = 1*scare
im6 = scare

```

```

im7 = 1*tacit
im8 = tacit
im9 = tacit

```

```

Path Diagram
Number of decimals =m 4
Lisrel Output: RS MI SS SC EF AD=OFF
Wide Print
End of Problem

```

```

W_A_R_N_I_N_G: Matrix to be analyzed is not positive definite,
ridge option taken with ridge constant = 0.001

```

```

Confirmatory Factor Analysis

```

Covariance Matrix								
	im1	im2	im3	im5	im6	im7	im8	im9
im1	1.3095							
im2	0.4040	0.7392						
im3	0.4114	0.2604	0.7412					

im5	0.0646	0.5591	-0.0329	16.2102				
im6	-0.2596	-0.1530	-0.0312	2.8380	1.6250			
im7	0.3469	0.1632	0.1003	-0.0124	-0.1387	0.7559		
im8	0.3851	0.2092	0.1737	-0.2631	-0.1547	0.5697	0.6026	
im9	0.3469	0.1632	0.1003	-0.0124	-0.1387	0.7552	0.5697	0.7559

Confirmatory Factor Analysis

Parameter Specifications

LAMBDA-X

	cus	scarc	tacit
im1	0	0	0
im2	1	0	0
im3	2	0	0
im5	0	0	0
im6	0	3	0
im7	0	0	0
im8	0	0	4
im9	0	0	5

PHI

	cus	scarc	tacit
cus	6		
scarc	7	8	
tacit	9	10	11

THETA-DELTA

im1	im2	im3	im5	im6	im7	im8	im9
12	13	14	15	16	17	18	19

Confirmatory Factor Analysis

W_A_R_N_I_N_G: The solution has not converged after 190 iterations.
The following solution is preliminary and is provided only

for the purpose of tracing the source of the problem.
 Setting IT>190 may solve the problem.

LISREL Estimates(Intermediate Solution)

LAMBDA-X

	cus	scarc	tacit
im1	1.0000	--	--
im2	0.5619	--	--
im3	0.5098	--	--
im5	--	1.0000	--
im6	--	8.4275	--
im7	--	--	1.0000
im8	--	--	0.7544
im9	--	--	1.0000

PHI

	cus	scarc	tacit
cus	0.7768		
scarc	-0.0331	0.3444	
tacit	0.3105	-0.0166	0.7552

THETA-DELTA

	im1	im2	im3	im5	im6	im7	im8	im9
	0.5329	0.4940	0.5394	15.8792	-22.8151	0.0008	0.1728	0.0008

Goodness of Fit Statistics

Degrees of Freedom = 17
 Minimum Fit Function Chi-Square = 26.0507 (P = 0.07354)
 Normal Theory Weighted Least Squares Chi-Square = 23.6137 (P = 0.1303)
 Estimated Non-centrality Parameter (NCP) = 6.6137
 90 Percent Confidence Interval for NCP = (0.0 ; 23.5546)

Minimum Fit Function Value = 0.2801
 Population Discrepancy Function Value (F0) = 0.07111
 90 Percent Confidence Interval for F0 = (0.0 ; 0.2533)
 Root Mean Square Error of Approximation (RMSEA) = 0.06468

90 Percent Confidence Interval for RMSEA = (0.0 ; 0.1221)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.3189

Expected Cross-Validation Index (ECVI) = 0.6625
90 Percent Confidence Interval for ECVI = (0.5914 ; 0.8447)
ECVI for Saturated Model = 0.7742
ECVI for Independence Model = 4.2369

Chi-Square for Independence Model with 28 Degrees of Freedom = 378.0289
Independence AIC = 394.0289
Model AIC = 61.6137
Saturated AIC = 72.0000
Independence CAIC = 422.3753
Model CAIC = 128.9363
Saturated CAIC = 199.5586

Normed Fit Index (NFI) = 0.9311
Non-Normed Fit Index (NNFI) = 0.9574
Parsimony Normed Fit Index (PNFI) = 0.5653
Comparative Fit Index (CFI) = 0.9741
Incremental Fit Index (IFI) = 0.9749
Relative Fit Index (RFI) = 0.8865

Critical N (CN) = 120.2764

Root Mean Square Residual (RMR) = 0.1143
Standardized RMR = 0.05673
Goodness of Fit Index (GFI) = 0.9404
Adjusted Goodness of Fit Index (AGFI) = 0.8737
Parsimony Goodness of Fit Index (PGFI) = 0.4441

Confirmatory Factor Analysis

Fitted Covariance Matrix

	im1	im2	im3	im5	im6	im7	im8	im9
im1	1.3097							
im2	0.4365	0.7392						
im3	0.3960	0.2225	0.7412					
im5	-0.0331	-0.0186	-0.0169	16.2236				
im6	-0.2792	-0.1569	-0.1423	2.9022	1.6437			
im7	0.3105	0.1744	0.1583	-0.0166	-0.1396	0.7559		

im8	0.2342	0.1316	0.1194	-0.0125	-0.1053	0.5697	0.6026
im9	0.3105	0.1744	0.1583	-0.0166	-0.1396	0.7552	0.5697

Fitted Residuals

	im1	im2	im3	im5	im6	im7	im8	im9
im1	-0.0002							
im2	-0.0325	0.0000						
im3	0.0154	0.0379	0.0000					
im5	0.0978	0.5778	-0.0160	-0.0134				
im6	0.0197	0.0039	0.1112	-0.0642	-0.0187			
im7	0.0364	-0.0113	-0.0579	0.0042	0.0010	0.0000		
im8	0.1509	0.0776	0.0543	-0.2506	-0.0494	0.0000	0.0000	
im9	0.0364	-0.0113	-0.0579	0.0042	0.0010	0.0000	0.0000	0.0000

Summary Statistics for Fitted Residuals

Smallest Fitted Residual = -0.2506
Median Fitted Residual = 0.0000
Largest Fitted Residual = 0.5778

Stemleaf Plot

```

-2|5
-1|
-0|666532211100000000000000
0|2244458
1|015
2|
3|
4|
5|8

```

Standardized Residuals

	im1	im2	im3	im5	im6	im7	im8	im9
im1	--							
im2	-2.0142	--						
im3	0.7545	1.0893	--					
im5	0.4408	2.1479	-0.0556	--				
im6	0.3398	0.0495	1.3112	--	--			
im7	1.2164	-0.2499	-1.1490	0.0141	0.0189	--		

```

im8 2.9037 1.5670 1.0343 -0.8884 -0.7411 -0.1979 --
im9 1.2164 -0.2499 -1.1490 0.0141 0.0189 -- -0.1981 --

```

Summary Statistics for Standardized Residuals

```

Smallest Standardized Residual = -2.0142
Median Standardized Residual = 0.0000
Largest Standardized Residual = 2.9037

```

Stemleaf Plot

```

-2|0
-1|
-1|11
-0|97
-0|22221000000000000000
0|34
0|8
1|01223
1|6
2|1
2|9

```

```

Largest Positive Standardized Residuals
Residual for im8 and im1 2.9037

```

Standardized Residuals

Modification Indices cannot be Computed Because Iterations have not Converged

Confirmatory Factor Analysis

Standardized Solution

LAMBDA-X

	cus	scarc	tacit
im1	0.8814	--	--
im2	0.4952	--	--
im3	0.4493	--	--
im5	--	0.5868	--
im6	--	4.9456	--
im7	--	--	0.8690
im8	--	--	0.6556
im9	--	--	0.8690

PHI

	cus	scarc	tacit
cus	1.0000		
scarc	-0.0641	1.0000	
tacit	0.4053	-0.0325	1.0000

Confirmatory Factor Analysis

Completely Standardized Solution

LAMBDA-X

	cus	scarc	tacit
im1	0.7701	--	--
im2	0.5760	--	--
im3	0.5219	--	--
im5	--	0.1457	--
im6	--	3.8575	--
im7	--	--	0.9995
im8	--	--	0.8445
im9	--	--	0.9995

Appendix 5-9

Results of testing the first proposition (as items)

1) Technical Quality competitive positioning

A) Assets

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.313 ^a	.098	.088	.880	.098	9.969	1	92	.002

a. Predictors: (Constant), Extent or nature of the distribution network

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.721	1	7.721	9.969	.002 ^a
	Residual	71.257	92	.775		
	Total	78.979	93			

a. Predictors: (Constant), Extent or nature of the distribution network

b. Dependent Variable: TCHQUAL The technical quality of our products

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.634	.659		8.554	.000
	Extent or nature of the distribution network	1.211	.384	.313	3.157	.002

a. Dependent Variable: TCHQUAL The technical quality of our products

B) Capabilities

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.360 ^a	.129	.120	.867	.129	13.535	1	61	.000

a. Predictors: (Constant), Production and manufacturing expertise

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.183	1	10.183	13.535	.000 ^a
	Residual	68.462	91	.752		
	Total	78.645	92			

a. Predictors: (Constant), Production and manufacturing expertise

b. Dependent Variable: TCHQUAL The technical quality of our products

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.354	.490		10.920	.000
	Production and manufacturing expertise	1.182	.324	.360	3.679	.000

a. Dependent Variable: TCHQUAL The technical quality of our products

2) Price competitive positioning

A) Assets

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.40	.16	.15	.96	.16	17.08	1.00	92.00	.00
2	.53	.29	.27	.86	.13	16.52	1.00	91.00	.00
3	.60	.35	.33	.84	.07	9.51	1.00	90.00	.00
4	.65	.42	.39	.80	.07	10.03	1.00	89.00	.00
5	.69	.47	.44	.77	.05	8.24	1.00	88.00	.01
6	.72	.52	.49	.74	.05	9.60	1.00	87.00	.00
7	.75	.56	.52	.71	.03	6.39	1.00	86.00	.01

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.41	1	15.41	17.08	.00
	Residual	83.01	92	.90		
	Total	98.43	93			
2	Regression	28.17	2	14.08	16.24	.00
	Residual	70.26	91	.77		
	Total	98.43	93			
3	Regression	34.88	3	11.63	16.47	.00
	Residual	63.54	90	.71		
	Total	98.43	93			
4	Regression	41.32	4	10.33	16.10	.00
	Residual	57.11	89	.64		
	Total	98.43	93			
5	Regression	46.21	5	9.24	15.57	.00
	Residual	52.22	88	.59		
	Total	98.43	93			
6	Regression	51.40	6	8.57	15.65	.00
	Residual	47.03	87	.54		
	Total	98.43	93			
7	Regression	54.65	7	7.81	15.34	.00
	Residual	43.78	86	.51		
	Total	98.43	93			

^a Dependent Variable: The price levels charged for our products

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.229	.711		8.763	.000
	Extent or nature of the distribution network	1.712	.414	.396	4.133	.000
2	(Constant)	4.429	.793		5.596	.000
	Extent or nature of the distribution network	2.094	.394	.484	5.309	.000
	The uniqueness of our distribution approach	1.562	.384	.371	4.064	.000
3	(Constant)	4.891	.773		6.329	.000
	Extent or nature of the distribution network	1.782	.391	.412	4.564	.000
	The uniqueness of our distribution approach	1.793	.375	.428	4.782	.000
	Company or brand name and reputation	.912	.296	.280	3.064	.003
4	(Constant)	7.495	1.104		6.798	.000
	Extent or nature of the distribution network	1.515	.362	.350	3.970	.000
	The uniqueness of our distribution approach	2.744	.467	.651	5.878	.000
	Company or brand name and reputation	1.101	.286	.338	3.822	.000
	Relationships with distribution channel intermediaries	2.500	.769	.348	3.167	.002
5	(Constant)	8.434	1.111		7.591	.000
	Extent or nature of the distribution network	1.275	.376	.295	3.396	.001
	The uniqueness of our distribution approach	3.287	.487	.780	6.747	.000
	Company or brand name and reputation	.965	.280	.302	3.517	.001
	Relationships with distribution channel intermediaries	3.109	.766	.433	3.945	.000
	Superior levels of customer services	.912	.318	.280	2.871	.006
6	(Constant)	7.368	1.115		6.609	.000
	Extent or nature of the distribution network	1.517	.368	.351	4.126	.000
	The uniqueness of our distribution approach	2.924	.479	.694	6.099	.000
	Company or brand name and reputation	.920	.266	.282	3.431	.001
	Relationships with distribution channel intermediaries	2.741	.762	.362	3.599	.001
	Superior levels of customer services	1.176	.315	.336	3.736	.000
	Customer credibility by being well established in the market	.983	.317	.267	3.098	.003
7	(Constant)	5.631	1.282		4.393	.000
	Extent or nature of the distribution network	1.601	.358	.370	4.467	.000
	The uniqueness of our distribution approach	3.159	.474	.750	6.659	.000
	Company or brand name and reputation	.967	.261	.297	3.708	.000
	Relationships with distribution channel intermediaries	2.902	.742	.404	3.912	.000
	Superior levels of customer services	1.371	.315	.381	4.361	.000
	Customer credibility by being well established in the market	1.016	.308	.278	3.296	.001
	Superior cost control system	1.222	.483	.192	2.529	.013

a. Dependent Variable: PRICEVLV The price levels charged for our products

B) Capabilities

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.37	.13	.12	.97	.13	14.01	1	91	.00
2	.53	.28	.26	.89	.14	17.93	1	90	.00
3	.57	.33	.31	.86	.05	7.00	1	89	.01
4	.61	.38	.35	.84	.04	6.34	1	88	.01

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.12	1	13.12	14.61	.00
	Residual	66.20	91	.73		
	Total	86.32	92			
2	Regression	27.28	2	13.64	17.28	.00
	Residual	71.04	90	.79		
	Total	86.32	92			
3	Regression	32.46	3	10.82	14.62	.00
	Residual	65.88	89	.74		
	Total	86.32	92			
4	Regression	36.66	4	9.17	13.21	.00
	Residual	61.44	88	.70		
	Total	86.32	92			

Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.831	.415		11.635	.000
	CAPA9 Effective new products development processes	.978	.261	.365	3.743	.000
2	(Constant)	1.914	.787		2.431	.017
	CAPA9 Effective new products development processes	1.344	.255	.502	5.272	.000
	CAPA1 Strong financial management	2.156	.509	.403	4.235	.000
3	(Constant)	3.778	1.038		3.640	.000
	CAPA9 Effective new products development processes	1.641	.271	.613	6.052	.000
	CAPA1 Strong financial management	2.033	.495	.380	4.105	.000
	CAPA10 Ability to launch new product development which is responsive to customer needs	.367	.139	.259	2.646	.010
4	(Constant)	4.347	1.033		4.207	.000
	CAPA9 Effective new products development processes	1.404	.280	.525	5.019	.000
	CAPA1 Strong financial management	2.329	.495	.436	4.704	.000
	CAPA10 Ability to launch new product development which is responsive to customer needs	.384	.135	.271	2.847	.005
	CAPA3 Production and manufacturing expertise	.912	.362	.246	2.517	.014

a. Dependent Variable: PRICELV. The price levels charged for our products

3) Innovation competitive positioning

A) Assets

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.38	.15	.14	.82	.15	15.81	1	92	.00
2	.45	.20	.18	.80	.05	5.94	1	91	.02
3	.50	.25	.22	.78	.05	5.63	1	90	.02
4	.47	.22	.21	.79	-.02	2.64	1	92	.11

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.72	1	10.72	15.81	.00
	Residual	62.39	92	.68		
	Total	73.12	93			
2	Regression	14.55	2	7.27	11.30	.00
	Residual	58.57	91	.64		
	Total	73.12	93			
3	Regression	18.00	3	6.00	9.60	.00
	Residual	55.12	90	.61		
	Total	73.12	93			
4	Regression	16.38	2	8.19	13.14	.00
	Residual	56.73	91	.62		
	Total	73.12	93			

		Coefficients ^a		Standardized Coefficients Beta	t	Sig.
Model		Unstandardized Coefficients B	Std. Error			
1	(Constant)	5.62	.56		10.12	.00
	The uniqueness of our distribution approach	1.39	.35	.38	3.98	.00
2	(Constant)	6.18	.59		10.51	.00
	The uniqueness of our distribution approach	1.08	.37	.29	2.89	.00
	Superior levels of customer services	.74	.31	.25	2.44	.02
3	(Constant)	7.25	.73		9.94	.00
	The uniqueness of our distribution approach	.65	.40	.18	1.62	.11
	Superior levels of customer services	.81	.30	.27	2.71	.01
	Good relationships with suppliers	.92	.39	.24	2.37	.02
4	(Constant)	6.99	.72		9.74	.00
	Superior levels of customer services	.99	.28	.33	3.53	.00
	Good relationships with suppliers	1.19	.35	.32	3.40	.00

a. Dependent Variable: INNO: The degree of innovation in our products

B) Capabilities

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.48	.23	.22	.78	.23	27.53	1	91	.00
2	.55	.30	.28	.75	.07	8.72	1	90	.00
3	.59	.35	.33	.73	.05	6.62	1	89	.01
4	.65	.42	.39	.69	.07	10.43	1	88	.00
5	.68	.46	.43	.67	.04	6.36	1	87	.01
6	.67	.44	.42	.68	-.01	2.09	1	89	.15

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.94	1	16.94	27.53	.00
	Residual	55.99	91	.62		
	Total	72.92	92			
2	Regression	21.88	2	10.94	19.29	.00
	Residual	51.04	90	.57		
	Total	72.92	92			
3	Regression	25.42	3	8.47	15.87	.00
	Residual	47.51	89	.53		
	Total	72.92	92			
4	Regression	30.45	4	7.61	15.77	.00
	Residual	42.47	88	.48		
	Total	72.92	92			
5	Regression	33.35	5	6.67	14.66	.00
	Residual	39.58	87	.45		
	Total	72.92	92			
6	Regression	32.40	4	8.10	17.59	.00
	Residual	40.53	88	.46		
	Total	72.92	92			

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.34	.41		3.28	.00
	Good marketing management ability	.63	.12	.48	5.25	.00
2	(Constant)	2.80	.63		4.43	.00
	Good marketing management ability	.49	.12	.38	3.98	.00
	Effective new products development processes	.65	.22	.28	2.95	.00
3	(Constant)	2.22	.65		3.39	.00
	Good marketing management ability	.47	.12	.35	3.82	.00
	Effective new products development processes	.99	.25	.43	3.94	.00
	Good at enhancing and maintaining relationships with key customers	.80	.31	.26	2.57	.01
4	(Constant)	.33	.65		.39	.70
	Good marketing management ability	.24	.13	.18	1.80	.07
	Effective new products development processes	1.00	.24	.43	4.18	.00
	Good at enhancing and maintaining relationships with key customers	1.42	.35	.46	4.02	.00
	Ability to launch new product development which is response to customer needs	.48	.15	.38	3.23	.00
5	(Constant)	1.04	.99		1.05	.30
	Good marketing management ability	.19	.13	.15	1.45	.15
	Effective new products development processes	.97	.23	.42	4.18	.00
	Good at enhancing and maintaining relationships with key customers	1.80	.37	.59	4.81	.00
	Ability to launch new product development which is response to customer needs	.48	.14	.37	3.23	.00
	Good at creating relationships with customers	.28	.11	.25	2.52	.01
6	(Constant)	1.00	.99		1.01	.32
	Effective new products development processes	1.07	.22	.47	4.84	.00
	Good at enhancing and maintaining relationships with key customers	2.00	.35	.66	5.73	.00
	Ability to launch new product development which is response to customer needs	.57	.13	.45	4.54	.00
	Good at creating relationships with customers	.31	.11	.27	2.78	.01

^a Dependent Variable: INNO: The degree of innovation in our products

Appendix 5-10

Results of testing the first proposition (as scales)

1) Technical quality

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.259 ^a	.067	.057	.895	.067	6.621	1	92	.012

a. Predictors: (Constant), CAPAFA1 Outside- in

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.302	1	5.302	6.621	.012 ^a
	Residual	73.677	92	.801		
	Total	78.979	93			

a. Predictors: (Constant), CAPAFA1 Outside- in

b. Dependent Variable: TCHQUAL The technical quality of our products

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.574	.092		38.726	.000
	CAPAFA1 Outside- in	.240	.093	.259	2.573	.012

a. Dependent Variable: TCHQUAL The technical quality of our products

2) Price

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.334 ^a	.111	.102	.975	.111	11.542	1	92	.001
2	.394 ^b	.155	.136	.956	.043	4.673	1	91	.033

a. Predictors: (Constant), ASSETFA2 Internal based assets

b. Predictors: (Constant), ASSETFA2 Internal based assets, MONOTRAN Market Orientation

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.972	1	10.972	11.542	.001 ^a
	Residual	87.453	92	.951		
	Total	98.426	93			
2	Regression	15.244	2	7.622	8.338	.000 ^b
	Residual	83.182	91	.914		
	Total	98.426	93			

a. Predictors: (Constant), ASSETFA2 Internal based assets

b. Predictors: (Constant), ASSETFA2 Internal based assets, MONOTRAN Market Orientation

c. Dependent Variable: PRICELVL The price levels charged for our products

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.319	.101		33.006	.000
	ASSETFA2 Internal based assets	.343	.101	.334	3.397	.001
2	(Constant)	3.319	.099		33.659	.000
	ASSETFA2 Internal based assets	.381	.101	.371	3.788	.000

a. Dependent Variable: PRICELVL The price levels charged for our products

3) Innovation competitive positioning

A) Market orientation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.332	.110	.100	.817	.110	11.034	1	89	.001

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.360	1	7.360	11.034	.001
	Residual	59.365	89	.667		
	Total	66.725	90			

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.484	.086		40.688	.000
	MONOTRAN Market Orientation	.286	.086	.332	3.322	.001

a. Dependent Variable: INNO The degree of innovation in our products

B) Assets and Capabilities scales

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.418 ^a	.175	.166	.810	.175	19.528	1	92	.000
2	.501 ^b	.251	.234	.776	.076	9.177	1	91	.003

a. Predictors: (Constant), CAPAFA2 Spanning Capabilities

b. Predictors: (Constant), CAPAFA2 Spanning Capabilities, CAPAFA3 Inside-out

ANOVA *

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.802	1	12.802	19.528	.000 ^a
	Residual	60.315	92	.656		
	Total	73.117	93			
2	Regression	18.328	2	9.164	15.220	.000 ^b
	Residual	54.789	91	.602		
	Total	73.117	93			

- a. Predictors: (Constant), CAPAFA2 Spanning Capabilities
b. Predictors: (Constant), CAPAFA2 Spanning Capabilities, CAPAFA3 Inside- out
c. Dependent Variable: INNO The degree of innovation in our products

Coefficients *

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.436	.084		41.145	.000
	CAPAFA2 Spanning Capabilities	.373	.084	.418	4.419	.000
2	(Constant)	3.436	.080		42.935	.000
	CAPAFA2 Spanning Capabilities	.373	.081	.418	4.611	.000
	CAPAFA3 Inside- out	.245	.081	.275	3.029	.003

- a. Dependent Variable: INNO The degree of innovation in our products

C) Assets, Capabilities and Market Orientation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.41 ^a	.17	.16	.79	.17	18.09	1.00	88.00	.00
2	.52 ^b	.27	.25	.75	.10	11.60	1.00	87.00	.00

- a. Predictors: (Constant), Inside- out
b. Predictors: (Constant), Inside- out, Spanning Capabilities

ANOVA *

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.34	1.00	11.34	18.09	.00 ^a
	Residual	55.15	88.00	.63		
	Total	66.49	89.00			
2	Regression	17.82	2.00	8.91	15.93	.00 ^b
	Residual	48.66	87.00	.56		
	Total	66.49	89.00			

- a. Predictors: (Constant), Inside- out
b. Predictors: (Constant), Inside- out, Spanning Capabilities
c. Dependent Variable: The degree of innovation in our products

Coefficients *

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.51	.08		41.99	.00
	Inside- out	.37	.09	.41	4.25	.00
2	(Constant)	3.49	.08		44.12	.00
	Inside- out	.34	.08	.38	4.07	.00
	Spanning Capabilities	.28	.08	.31	3.41	.00

- a. Dependent Variable: The degree of innovation in our products

Appendix 5-11

Results of the second proposition (as items)

Correlations

	Our products are highly valued by our customers creating a barrier against competitors' products	There would be significant cost for customers if they switched from our products to those of competitors	Only we have the access to the resources we use	It took time to build competitive position and competitors would find it time consuming to follow a similar route	Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage	Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors	We protect our resources legally through copyrights and patents	Competitors could copy our competitive positioning but it would be uneconomic for them to do so	Competitors find it difficult to see how we created our competitive positioning in the market in the first place
The technical quality of our products	Pearson Correlation Sig. (2-tailed) N	.236* .022 94	.222* .031 94	-.010 .923 94	.070 .504 93	-.028 .786 94	-.154 .141 93	.089 .395 93	.254* .014 94
The price levels charged for our products	Pearson Correlation Sig. (2-tailed) N	-.065 .534 94	.014 .897 94	.019 .858 94	-.060 .569 93	.017 .873 94	-.149 .155 93	-.011 .916 93	-.011 .916 93
The degree of innovation in our products	Pearson Correlation Sig. (2-tailed) N	.366** .000 94	.135 .194 94	-.095 .362 94	.547** .000 93	.163 .117 94	-.194 .062 93	.160 .124 93	.141 .174 94

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

* . Correlation is significant at the 0.05 level (2-tailed).

Appendix 5-12

Results of the second proposition (as scales)

Correlations

		The technical quality of our products	The price levels charged for our products	The degree of innovation in our products
legal and economic	Pearson Correlation	.119	.029	.161
	Sig. (2-tailed)	.257	.781	.124
	N	94	94	94
Scarce and unique resources	Pearson Correlation	.196	.014	.169
	Sig. (2-tailed)	.060	.891	.105
	N	94	94	94
Tacit knowledge and skills based isolation	Pearson Correlation	-.109	-.076	-.012
	Sig. (2-tailed)	.299	.469	.912
	N	94	94	94

Appendix 5-13

Results of testing the third proposition

1) Technical quality competitive positioning

A) Technical quality competitive positioning, market share and level of competition

Model Summary

Model	R	R Square	Adjusted R Square	Std Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.040 ^a	.002	-.029	.714	.002	.053	2	65	.948
2	.217 ^b	.047	.003	.703	.046	3.060	1	64	.085

- a. Predictors: (Constant), COMPTION level of competition, TCHQUAL The technical quality of our products
b. Predictors: (Constant), COMPTION level of competition, TCHQUAL The technical quality of our products , LVLCO TEC Level of Competition & Technical quality

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.054	2	.027	.053	.948 ^a
	Residual	33.167	65	.510		
	Total	33.221	67			
2	Regression	1.568	3	.523	1.056	.374 ^b
	Residual	31.653	64	.495		
	Total	33.221	67			

- a. Predictors: (Constant), COMPTION level of competition, TCHQUAL The technical quality of our products
b. Predictors: (Constant), COMPTION level of competition, TCHQUAL The technical quality of our products , LVLCO TEC Level of Competition & Technical quality
c. Dependent Variable: MRKSHARE Market share achieved

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.190	.475		6.714	.000
	TCHQUAL The technical quality of our products	.028	.093	.038	.299	.768
	COMPTION level of competition	.044	.240	.023	.183	.855
2	(Constant)	1.603	1.021		1.570	.121
	TCHQUAL The technical quality of our products	.517	.294	.701	1.757	.084
	COMPTION level of competition	1.357	.787	.715	1.725	.089
	LVLCO TEC Level of Competition & Technical quality	-.413	.236	-.889	-1.749	.085

- a. Dependent Variable: MRKSHARE Market share achieved

B) Technical quality competitive positioning, market share & customer requirement

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.389 ^a	.151	.125	.659	.151	5.782	2	65	.005
2	.391 ^b	.153	.113	.663	.001	.112	1	64	.739

a. Predictors (Constant), CUSREQ customer requirements, TCHQUAL The technical quality of our products

b. Predictors (Constant), CUSREQ customer requirements, TCHQUAL The technical quality of our products, REQINTET Customer Requirements & Technical Quality

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.018	2	2.509	5.782	.005 ^a
	Residual	28.203	65	.434		
	Total	33.221	67			
2	Regression	5.067	3	1.689	3.839	.014 ^b
	Residual	28.154	64	.440		
	Total	33.221	67			

a. Predictors (Constant), CUSREQ customer requirements, TCHQUAL The technical quality of our products

b. Predictors (Constant), CUSREQ customer requirements, TCHQUAL The technical quality of our products, REQINTET Customer Requirements & Technical Quality

c. Dependent Variable: MRKSHARE Market share achieved

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.624	.507		9.114	.000
	TCHQUAL The technical quality of our products	-.085	.090	-.116	-.945	.348
	CUSREQ customer requirements	-.516	.152	-.415	-3.388	.001
2	(Constant)	4.204	1.356		3.100	.003
	TCHQUAL The technical quality of our products	.029	.355	.040	.083	.935
	CUSREQ customer requirements	-.288	.698	-.232	-.413	.681
	REQINTET Customer Requirements & Technical Quality	-.064	.192	-.197	-.334	.739

a. Dependent Variable: MRKSHARE Market share achieved

C) Technical quality competitive positioning, market share & technological change

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.262 ^a	.069	.040	.690	.069	2.391	2	65	.100
2	.266 ^b	.071	.027	.695	.002	.154	1	64	.696

a. Predictors (Constant), TCHNOCHG the technological change is, TCHQUAL The technical quality of our products

b. Predictors (Constant), TCHNOCHG the technological change is, TCHQUAL The technical quality of our products, TECHTECH Technology change & Technical quality

ANOVA *

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.276	2	1.138	2.391	.100 ^a
	Residual	30.944	65	.476		
	Total	33.221	67			
2	Regression	2.351	3	.784	1.625	.192 ^b
	Residual	30.870	64	.482		
	Total	33.221	67			

- a. Predictors: (Constant), TCHNOCHG the technological change is , TCHQUAL The technical quality of our products
- b. Predictors: (Constant), TCHNOCHG the technological change is , TCHQUAL The technical quality of our products , TECHTECH Technology change & Technical quality
- c. Dependent Variable: MRKSHARE Market share achieved

Coefficients *

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.155	.525		7.911	.000
	TCHQUAL The technical quality of our products	-.050	.095	-.067	-.523	.603
	TCHNOCHG the technological change is	-.377	.174	-.278	-2.169	.034
2	(Constant)	4.647	1.360		3.418	.001
	TCHQUAL The technical quality of our products	-.181	.347	-.245	-.521	.604
	TCHNOCHG the technological change is	-.661	.743	-.488	-.889	.377
	TECHTECH Technology change & Technical quality	.078	.198	.225	.393	.696

a. Dependent Variable: MRKSHARE Market share achieved

2) Price competitive positioning

A) Price competitive positioning, market share and level of competition

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.178 ^a	.032	.002	.704	.032	1.061	2	65	.352
2	.368 ^b	.135	.095	.670	.104	7.692	1	64	.007

- a. Predictors: (Constant), COMPTION level of competition, PRICELVL The price levels charged for our products
- b. Predictors: (Constant), COMPTION level of competition, PRICELVL The price levels charged for our products, LVLCPRI Level of Competition & Price

ANOVA *

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.050	2	.525	1.061	.352 ^a
	Residual	32.171	65	.495		
	Total	33.221	67			
2	Regression	4.501	3	1.500	3.344	.025 ^b
	Residual	28.719	64	.449		
	Total	33.221	67			

- a. Predictors: (Constant), COMPTION level of competition, PRICELVL The price levels charged for our products
- b. Predictors: (Constant), COMPTION level of competition, PRICELVL The price levels charged for our products, LVLCPRI Level of Competition & Price
- c. Dependent Variable: MRKSHARE Market share achieved

Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.780	.458		6.072	.000
	PRICELVL The price levels charged for our products	.139	.096	.177	1.451	.152
	COMPTON level of competition	.052	.232	.028	.226	.822
2	(Constant)	-.008	1.096		-.008	.994
	PRICELVL The price levels charged for our products	.836	.301	1.198	3.104	.003
	COMPTON level of competition	2.442	.689	1.286	2.745	.008
	LVLCOPI Level of Competition & Price	-.687	.248	-1.600	-2.773	.007

a. Dependent Variable: MRKSHARE Market share achieved

B) Price competitive positioning, market share and customer requirements

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.383 ^a	.147	.120	.660	.147	5.589	2	65	.006
2	.384 ^b	.147	.107	.665	.000	.031	1	64	.861

a. Predictors: (Constant), CUSREQ customer requirements, PRICELVL The price levels charged for our products

b. Predictors: (Constant), CUSREQ customer requirements, PRICELVL The price levels charged for our products, REQINTEP Customer Requirements & Price

ANOVA ^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.875	2	2.437	5.589	.006 ^a
	Residual	28.346	65	.436		
	Total	33.221	67			
2	Regression	4.889	3	1.630	3.681	.016 ^b
	Residual	28.332	64	.443		
	Total	33.221	67			

a. Predictors: (Constant), CUSREQ customer requirements, PRICELVL The price levels charged for our products

b. Predictors: (Constant), CUSREQ customer requirements, PRICELVL The price levels charged for our products, REQINTEP Customer Requirements & Price

c. Dependent Variable: MRKSHARE Market share achieved

Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.926	.491		7.989	.000
	PRICELVL The price levels charged for our products	.069	.092	.089	.749	.457
	CUSREQ customer requirements	-.437	.147	-.351	-2.971	.004
2	(Constant)	4.192	1.594		2.630	.011
	PRICELVL The price levels charged for our products	.001	.399	.001	.002	.998
	CUSREQ customer requirements	-.578	.815	-.465	-.709	.481
	REQINTEP Customer Requirements & Price	.037	.210	.126	.176	.861

a. Dependent Variable: MRKSHARE Market share achieved

C) Price competitive positioning, market share and technological change

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.299 ^a	.090	.062	.682	.090	3.196	2	65	.047
2	.314 ^b	.098	.056	.684	.009	.623	1	64	.433

a. Predictors: (Constant), TCHNOCHG the technological change is , PRICELVL The price levels charged for our products

b. Predictors: (Constant), TCHNOCHG the technological change is , PRICELVL The price levels charged for our products, TECHPRIC Technology change & Price

ANOVA ^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.975	2	1.487	3.196	.047 ^a
	Residual	30.246	65	.465		
	Total	33.221	67			
2	Regression	3.268	3	1.089	2.326	.083 ^b
	Residual	29.954	64	.468		
	Total	33.221	67			

a. Predictors: (Constant), TCHNOCHG the technological change is , PRICELVL The price levels charged for our products

b. Predictors: (Constant), TCHNOCHG the technological change is , PRICELVL The price levels charged for our products, TECHPRIC Technology change & Price

c. Dependent Variable: MRKSHARE Market share achieved

Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.456	.453		7.623	.000
	PRICELVL The price levels charged for our products	.124	.093	.158	1.334	.187
	TCHNOCHG the technological change is	-.329	.161	-.243	-2.047	.045
2	(Constant)	2.654	1.113		2.385	.020
	PRICELVL The price levels charged for our products	.338	.287	.433	1.178	.243
	TCHNOCHG the technological change is	.206	.697	.152	.296	.768
	TECHPRIC Technology change & Price	-.145	.183	-.474	-.790	.433

a. Dependent Variable: MRKSHARE Market share achieved

3) Innovation competitive positioning

A) Innovation competitive positioning, market share and level of competition

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.191 ^a	.037	.007	.702	.037	1.236	2	65	.297
2	.321 ^b	.103	.061	.682	.066	4.724	1	64	.031

a. Predictors: (Constant), COMPTION level of competition, INNO The degree of innovation in our products

b. Predictors: (Constant), COMPTION level of competition, INNO The degree of innovation in our products, COMPINNO Level of competition & innovation

ANOVA *

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1 217	2	.608	1 236	.297 ^a
	Residual	32 004	65	.492		
	Total	33 221	67			
2	Regression	3 417	3	1.139	2 446	.072 ^b
	Residual	29 804	64	.466		
	Total	33 221	67			

- a. Predictors: (Constant), COMPTION level of competition, INNO The degree of innovation in our products
- b. Predictors: (Constant), COMPTION level of competition, INNO The degree of innovation in our products, COMPINNO Level of competition & innovation
- c. Dependent Variable: MRKSHARE Market share achieved

Coefficients *

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.765	.408		9.235	.000
	INNO The degree of innovation in our products	.147	.094	.192	1.567	.122
	COMPTION level of competition	.073	.233	.038	.312	.756
2	(Constant)	1.705	1.027		1.660	.102
	INNO The degree of innovation in our products	1.384	.278	.555	1.528	.132
	COMPTION level of competition	2.317	.799	.915	2.175	.033
	COMPINNO Level of competition & innovation	.745	.210	1.244	2.172	.033

- a. Dependent Variable: MRKSHARE Market share achieved

B) Innovation competitive positioning, market share and customer requirements

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.423 ^a	.179	.154	.648	.179	7.090	2	65	.002
2	.490 ^b	.240	.204	.628	.061	5.117	1	64	.027

- a. Predictors: (Constant), CUSREQ customer requirements, INNO The degree of innovation in our products
- b. Predictors: (Constant), CUSREQ customer requirements, INNO The degree of innovation in our products, CUSINNOV Customer requirements & innovation

ANOVA *

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5 950	2	2.975	7.090	.002 ^a
	Residual	27.271	65	.420		
	Total	33 221	67			
2	Regression	7.969	3	2.656	6.732	.001 ^b
	Residual	25.252	64	.395		
	Total	33 221	67			

- a. Predictors: (Constant), CUSREQ customer requirements, INNO The degree of innovation in our products
- b. Predictors: (Constant), CUSREQ customer requirements, INNO The degree of innovation in our products, CUSINNOV Customer requirements & innovation
- c. Dependent Variable: MRKSHARE Market share achieved

Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.771	.415		11.500	.000
	INNO The degree of innovation in our products	.152	.086	.199	1.773	.081
	CUSREQ customer requirements	.472	.140	.380	3.376	.001
2	(Constant)	2.365	1.137		2.079	.042
	INNO The degree of innovation in our products	.655	.366	.858	1.787	.079
	CUSREQ customer requirements	.797	.577	.641	1.381	.172
	CUSINNOV Customer requirements & innovation	.426	.188	1.467	2.262	.027

a. Dependent Variable: MRKSHARE Market share achieved

C) Innovation competitive positioning, market share and technological change

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.317 ^a	.101	.073	.678	.101	3.638	2	65	.032
2	.319 ^b	.102	.060	.683	.001	.072	1	64	.789

a. Predictors: (Constant), TCHNOCHG the technological change is , INNO The degree of innovation in our products

b. Predictors: (Constant), TCHNOCHG the technological change is , INNO The degree of innovation in our products, TCHINNOV Technological change & innovation

ANOVA ^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.344	2	1.672	3.638	.032 ^a
	Residual	29.876	65	.460		
	Total	33.221	67			
2	Regression	3.378	3	1.126	2.415	.075 ^b
	Residual	29.843	64	.466		
	Total	33.221	67			

a. Predictors: (Constant), TCHNOCHG the technological change is , INNO The degree of innovation in our products

b. Predictors: (Constant), TCHNOCHG the technological change is , INNO The degree of innovation in our products, TCHINNOV Technological change & innovation

c. Dependent Variable: MRKSHARE Market share achieved

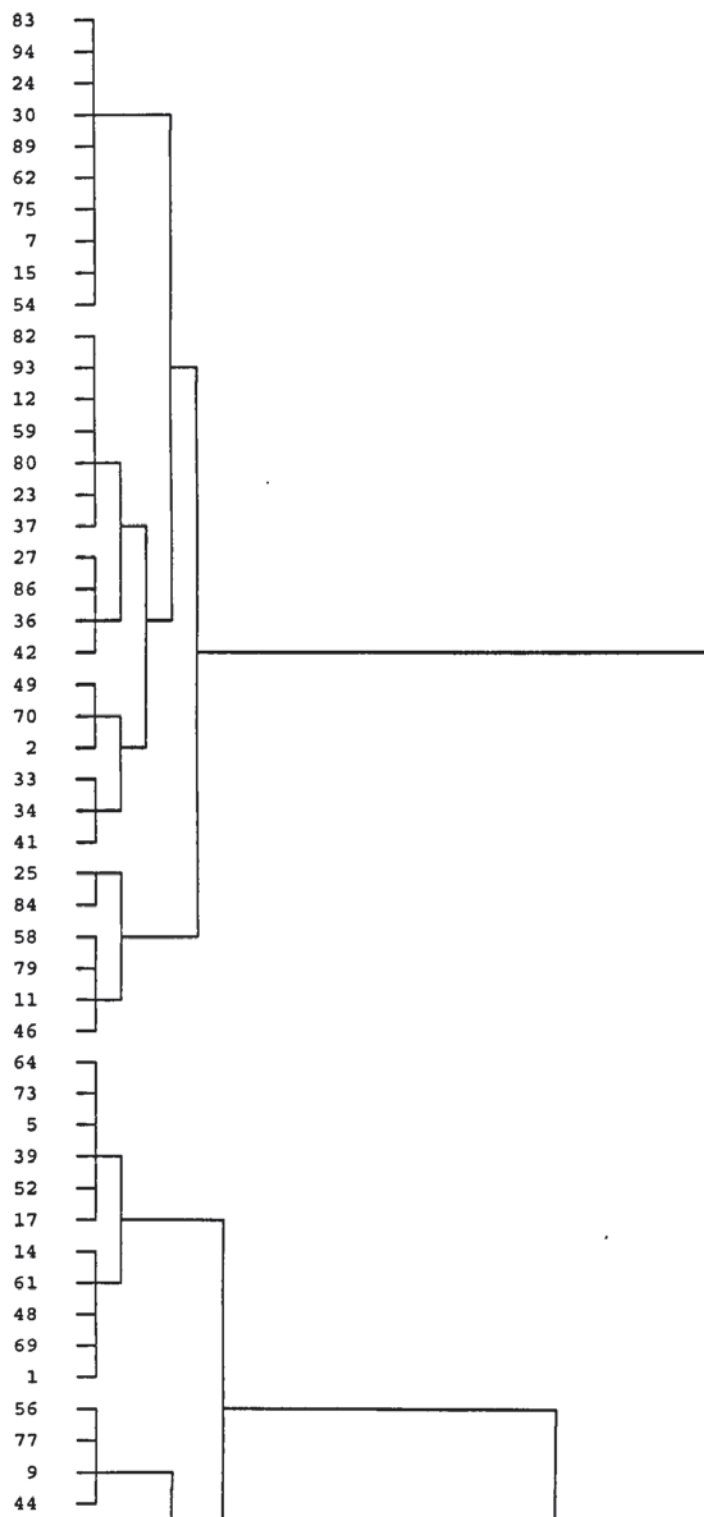
Coefficients ^a

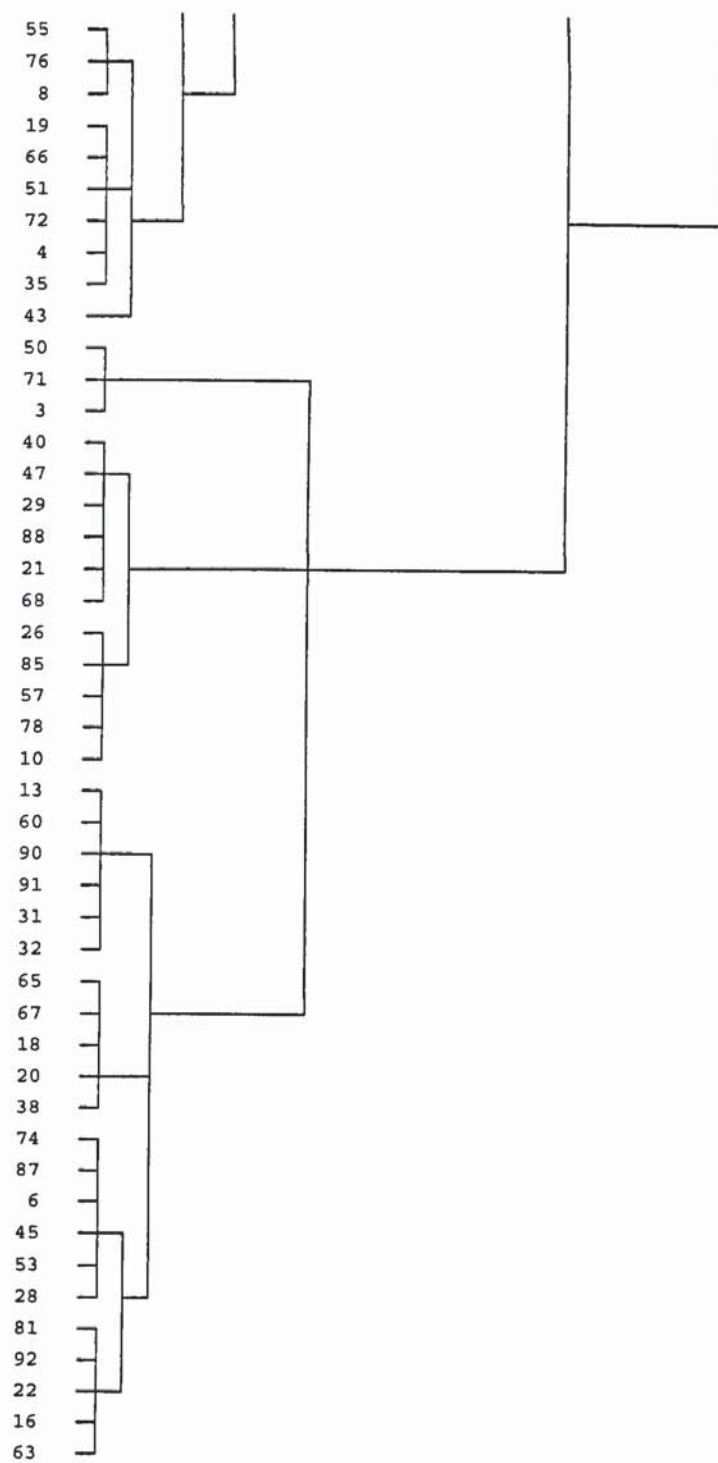
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.435	.424		10.449	.000
	INNO The degree of innovation in our products	-.145	.090	-.190	-1.615	.111
	TCHNOCHG the technological change is	-.347	.159	-.256	-2.175	.033
2	(Constant)	4.749	1.245		3.815	.000
	INNO The degree of innovation in our products	-.238	.357	-.312	-.667	.507
	TCHNOCHG the technological change is	-.528	.691	-.300	-.763	.448
	TCHINNOV Technological change & innovation	.053	.199	.183	.269	.789

a. Dependent Variable: MRKSHARE Market share achieved

Appendix 5-14

Dendrogram using Ward's method and Squared Euclidean Distance (SPSS release 11)





Appendix 5-15

K-means with 3 cluster solutions

Initial Cluster Centers

	Cluster		
	1	2	3
The technical quality of our products	3.00	5.00	4.00
The price levels charged for our products	1.00	5.00	5.00
The degree of innovation in our products	3.00	5.00	2.00

Final Cluster Centers

	Cluster		
	1	2	3
The technical quality of our products	3.30	4.12	3.21
The price levels charged for our products	2.53	4.06	4.21
The degree of innovation in our products	3.02	4.18	3.07

Number of Cases in each Cluster

Cluster	1	36
	2	41
	3	17
Valid		94
Missing		6

Appendix 5-16

ANOVA OF Assets, capabilities, and isolating mechanism (as items):

a) Assets

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Cost advantage in production	Between Groups	.481	2	.241	2.748	.069
	Within Groups	7.971	91	.088		
	Total	8.453	93			
Superior marketing information systems	Between Groups	.387	2	.193	1.564	.215
	Within Groups	11.252	91	.124		
	Total	11.639	93			
Superior levels of customer services	Between Groups	1.313	2	.656	8.917	.000
	Within Groups	6.699	91	.074		
	Total	8.012	93			
Relationship with key target customers	Between Groups	1.083	2	.542	8.485	.000
	Within Groups	5.809	91	.064		
	Total	6.893	93			
Company or brand name and reputation	Between Groups	.567	2	.284	2.964	.057
	Within Groups	8.709	91	.096		
	Total	9.277	93			
Customer credibility by being well established in the market	Between Groups	.318	2	.159	2.089	.130
	Within Groups	6.934	91	.076		
	Total	7.252	93			
Good relationships with suppliers	Between Groups	.340	2	.170	3.251	.043
	Within Groups	4.757	91	.052		
	Total	5.097	93			
Copyrights and patents	Between Groups	.424	2	.212	5.904	.004
	Within Groups	3.268	91	.036		
	Total	3.692	93			
Superior cost control system	Between Groups	.042	2	.021	.791	.457
	Within Groups	2.401	91	.026		
	Total	2.443	93			
Extent or nature of the distribution network	Between Groups	.654	2	.327	6.460	.002
	Within Groups	4.607	91	.051		
	Total	5.262	93			
The uniqueness of our distribution approach	Between Groups	1.226	2	.613	12.917	.000
	Within Groups	4.319	91	.047		
	Total	5.546	93			
Relationships with distribution channel intermediaries	Between Groups	.062	2	.031	1.537	.220
	Within Groups	1.846	91	.020		
	Total	1.909	93			

Multiple Comparisons

Scheffe

Dependent Variable	(I) Hierarchal cluster analysis	(J) Hierarchal cluster analysis	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Cost advantage in production	1	2	.12	.078	.286	-.07	.32
		3	-.04	.077	.892	-.23	.15
	2	1	-.12	.078	.286	-.32	.07
		3	-.18	.071	.082	-.34	.02
Superior marketing information systems	1	2	.04	.077	.892	-.15	.23
		3	.16	.071	.082	-.02	.34
	2	1	.16	.093	.226	-.07	.39
		3	.07	.092	.757	-.18	.30
Superior levels of customer services	1	2	-.16	.093	.226	-.39	.07
		3	-.09	.085	.645	-.30	.12
	2	1	-.07	.092	.757	-.30	.16
		3	.09	.085	.645	-.12	.30
Relationship with key target customers	1	2	.13	.072	.187	-.05	.31
		3	-.14	.071	.135	-.32	.03
	2	1	-.13	.072	.187	-.31	.05
		3	-.28*	.065	.000	-.44	-.11
Company or brand name and reputation	1	2	.14	.071	.135	-.03	.32
		3	.28*	.065	.000	.11	.44
	2	1	-.16	.067	.067	-.32	.01
		3	-.27*	.068	.000	-.43	-.11
Customer credibility by being well established in the market	1	2	.16	.067	.067	-.01	.32
		3	-.11	.061	.184	-.28	.04
	2	1	.27*	.068	.000	.11	.43
		3	.11	.061	.184	-.04	.26
Good relationships with suppliers	1	2	.19	.062	.072	-.01	.40
		3	.06	.061	.745	-.14	.26
	2	1	-.19	.062	.072	-.40	.01
		3	-.13	.075	.229	-.31	.06
Copyrights and patents	1	2	-.06	.061	.745	-.28	.14
		3	.13	.075	.229	-.06	.31
	2	1	-.11	.073	.339	-.29	.07
		3	-.14	.072	.139	-.32	.03
Superior cost control system	1	2	.11	.073	.339	-.07	.29
		3	-.04	.067	.865	-.20	.13
	2	1	.14	.072	.139	-.03	.32
		3	.04	.067	.865	-.13	.20
Extent or nature of the distribution network	1	2	.09	.061	.371	-.07	.24
		3	-.05	.060	.663	-.20	.09
	2	1	-.09	.061	.371	-.24	.07
		3	-.14*	.055	.044	-.28	.00
The uniqueness of our distribution approach	1	2	.05	.060	.663	-.09	.20
		3	.14*	.055	.044	.00	.28
	2	1	-.08	.060	.289	-.20	.05
		3	-.09	.048	.161	-.20	.03
Relationships with distribution channel intermediaries	1	2	.17*	.049	.004	.06	.29
		3	.09	.048	.161	-.03	.20
	2	1	-.02	.043	.862	-.13	.08
		3	-.05	.042	.465	-.18	.06
Superior cost control system	1	2	.02	.043	.862	-.08	.13
		3	-.03	.039	.773	-.13	.07
	2	1	.06	.042	.465	-.06	.18
		3	.03	.039	.773	-.07	.13
Extent or nature of the distribution network	1	2	.03	.038	.729	-.06	.12
		3	-.03	.037	.720	-.12	.06
	2	1	-.03	.038	.729	-.12	.06
		3	-.06	.034	.221	-.15	.03
The uniqueness of our distribution approach	1	2	.03	.037	.720	-.06	.12
		3	.06	.034	.221	-.03	.15
	2	1	-.03	.038	.729	-.12	.06
		3	-.06	.034	.221	-.15	.03
Relationships with distribution channel intermediaries	1	2	.03	.038	.729	-.06	.12
		3	-.03	.037	.720	-.12	.06
	2	1	-.03	.038	.729	-.12	.06
		3	-.06	.034	.221	-.15	.03

* The mean difference is significant at the .05 level

b) Capabilities

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Strong financial management	Between Groups	.516	2	.258	7.988	.001
	Within Groups	2.939	91	.032		
	Total	3.455	93			
Effective human resource management	Between Groups	10.587	2	5.293	8.607	.000
	Within Groups	55.966	91	.615		
	Total	66.553	93			
Production and manufacturing expertise	Between Groups	.823	2	.412	5.898	.004
	Within Groups	6.351	91	.070		
	Total	7.174	93			
Good marketing management ability	Between Groups	5.186	2	2.593	6.278	.003
	Within Groups	37.590	91	.413		
	Total	42.777	93			
Good at using information about markets, customer and competitors	Between Groups	11.522	2	5.761	8.288	.000
	Within Groups	63.255	91	.695		
	Total	74.777	93			
Good at understanding what customer needs and requirements are	Between Groups	2.273	2	1.136	2.322	.104
	Within Groups	44.546	91	.490		
	Total	46.819	93			
Good at enhancing and maintaining relationships with key customers	Between Groups	.205	2	.103	1.238	.295
	Within Groups	7.534	91	.083		
	Total	7.739	93			
Good at creating relationships with customers	Between Groups	6.017	2	3.008	5.345	.006
	Within Groups	51.217	91	.563		
	Total	57.234	93			
Effective new products development processes	Between Groups	2.092	2	1.046	8.157	.001
	Within Groups	11.667	91	.128		
	Total	13.759	93			
Ability to launch new product development which is responsive to customer needs	Between Groups	.746	2	.373	.694	.502
	Within Groups	48.415	90	.538		
	Total	49.161	92			
Good at set prices which both attract customer and achieve financial objectives	Between Groups	1.956	2	.978	.976	.381
	Within Groups	91.161	91	1.002		
	Total	93.117	93			

Multiple Comparisons

Scheffe

Dependent Variable	(I) Cluster membership	(J) Cluster membership	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Strong financial management	1	2	.01	.041	.957	-.09	.11
		3	-.19*	.053	.003	-.32	-.05
	2	1	-.01	.041	.957	-.11	.09
		3	-.20*	.052	.001	-.33	-.07
	3	1	.19*	.053	.003	.05	.32
		2	.20*	.052	.001	.07	.33
Effective human resource management	1	2	-.48*	.179	.031	-.93	-.04
		3	.41	.231	.214	-.17	.98
	2	1	.48*	.179	.031	.04	.93
		3	.89*	.226	.001	.33	1.45
	3	1	-.41	.231	.214	-.98	.17
		2	-.89*	.226	.001	-1.45	-.33
Production and manufacturing expertise	1	2	.19*	.060	.011	.03	.34
		3	-.01	.078	.990	-.20	.18
	2	1	-.19*	.060	.011	-.34	-.03
		3	-.20*	.076	.041	-.39	-.01
	3	1	.01	.078	.990	-.18	.20
		2	.20*	.076	.041	.01	.39
Good marketing management ability	1	2	-.39*	.147	.033	-.76	-.03
		3	.19	.189	.591	-.28	.67
	2	1	.39*	.147	.033	.03	.76
		3	.59*	.185	.009	.12	1.05
	3	1	-.19	.189	.591	-.67	.28
		2	-.59*	.185	.009	-1.05	-.12
Good at using information about markets, customer and competitors	1	2	-.77*	.190	.001	-1.25	-.30
		3	-.46	.245	.184	-1.07	.15
	2	1	.77*	.190	.001	.30	1.25
		3	.32	.241	.420	-.28	.92
	3	1	.46	.245	.184	-.15	1.07
		2	-.32	.241	.420	-.92	.28
Good at understanding what customer needs and requirements are	1	2	-.34	.160	.111	-.74	.06
		3	-.11	.206	.861	-.63	.40
	2	1	.34	.160	.111	-.06	.74
		3	.23	.202	.535	-.28	.73
	3	1	.11	.206	.861	-.40	.63
		2	-.23	.202	.535	-.73	.28
Good at enhancing and maintaining relationships with key customers	1	2	.09	.066	.409	-.08	.25
		3	.11	.085	.432	-.10	.32
	2	1	-.09	.066	.409	-.25	.08
		3	.02	.083	.966	-.18	.23
	3	1	-.11	.085	.432	-.32	.10
		2	-.02	.083	.966	-.23	.18
Good at creating relationships with customers	1	2	-.54*	.171	.009	-.96	-.11
		3	-.10	.221	.903	-.65	.45
	2	1	.54*	.171	.009	.11	.96
		3	.44	.216	.135	-.10	.98
	3	1	.10	.221	.903	-.45	.65
		2	-.44	.216	.135	-.98	.10
Effective new products development processes	1	2	.32*	.082	.001	.12	.53
		3	.25	.105	.081	-.01	.52
	2	1	-.32*	.082	.001	-.53	-.12
		3	-.07	.103	.797	-.33	.19
	3	1	-.25	.105	.081	-.52	.01
		2	.07	.103	.797	-.19	.33
Ability to launch new product development which is responsive to customer needs	1	2	-.19	.169	.532	-.61	.23
		3	-.04	.217	.987	-.67	.50
	2	1	.19	.169	.532	-.23	.61
		3	.15	.212	.765	-.37	.68
	3	1	.04	.217	.987	-.50	.57
		2	-.15	.212	.765	-.68	.37
Good at set prices which both attract customer and achieve financial objectives	1	2	.32	.229	.383	-.25	.89
		3	.20	.295	.796	-.53	.93
	2	1	-.32	.229	.383	-.89	.25
		3	-.12	.289	.919	-.84	.60
	3	1	-.20	.295	.796	-.93	.53
		2	.12	.289	.919	-.60	.84

*. The mean difference is significant at the .05 level.

c) Isolating mechanism

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Our products are highly valued by customers creating a barrier against competitors' products	Between Groups	4.902	2	2.451	3.986	.022
	Within Groups	55.949	91	.615		
	Total	60.851	93			
There would be significant cost for customers if they switched from our products to those of competitors	Between Groups	1.992	2	.996	1.783	.174
	Within Groups	50.859	91	.559		
	Total	52.851	93			
Only we have the access to the resources we use	Between Groups	3.375	2	1.687	2.224	.114
	Within Groups	69.051	91	.759		
	Total	72.426	93			
It took time to build competitive position and competitors would find it time consuming to follow a similar route	Between Groups	10.022	2	5.011	3.785	.026
	Within Groups	119.161	90	1.324		
	Total	129.183	92			
Competitors would find it difficult to imitate the managerial capabilities needed to create a similar competitive advantage	Between Groups	4.660	2	2.330	1.864	.161
	Within Groups	113.776	91	1.250		
	Total	118.436	93			
Our employees are the source of competitive advantage and we are confident we won't lose them to competitors	Between Groups	2.146	2	1.073	.716	.491
	Within Groups	134.779	90	1.498		
	Total	136.925	92			
We protect our resources legally through copyrights and patents	Between Groups	1.688	2	.844	1.168	.316
	Within Groups	65.043	90	.723		
	Total	66.731	92			
Competitors could copy our competitive positioning but it would be uneconomical for them to do so	Between Groups	.062	2	.031	.027	.973
	Within Groups	103.097	91	1.133		
	Total	103.160	93			
Competitors find it difficult to see how we created our competitive position in the market in the first place	Between Groups	1.688	2	.844	1.168	.316
	Within Groups	65.043	90	.723		
	Total	66.731	92			

Multiple Comparisons

Scheffe

Dependent Variable	(I) Hierarchal cluster analysis	(J) Hierarchal cluster analysis	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Our products are highly valued by our customers creating a barrier against competitors' products	1	2	-.02	.208	.993	-.54	.49
		3	.46	.204	.089	-.05	.96
	2	1	.02	.208	.993	-.49	.54
		3	.48*	.189	.044	.01	.95
	3	1	-.46	.204	.089	-.96	.05
		2	-.48*	.189	.044	-.95	-.01
There would be significant cost for customers if they switched from our products to those of competitors	1	2	.10	.198	.887	-.40	.59
		3	.34	.195	.214	-.14	.83
	2	1	-.10	.198	.887	-.59	.40
		3	.25	.180	.393	-.20	.70
	3	1	-.34	.195	.214	-.83	.14
		2	-.25	.180	.393	-.70	.20
Only we have the access to the resources we use	1	2	-.10	.231	.918	-.67	.48
		3	-.44	.227	.163	-1.00	.13
	2	1	.10	.231	.918	-.48	.67
		3	-.34	.210	.273	-.86	.18
	3	1	.44	.227	.163	-.13	1.00
		2	.34	.210	.273	-.18	.86
It took time to build competitive position and competitors would find it time consuming to follow a similar route	1	2	-.15	.305	.889	-.91	.61
		3	.58	.301	.160	-.17	1.33
	2	1	.15	.305	.889	-.61	.91
		3	.73*	.279	.037	.04	1.43
	3	1	-.58	.301	.160	-1.33	.17
		2	-.73*	.279	.037	-1.43	-.04
Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage	1	2	-.47	.296	.291	-1.21	.27
		3	.00	.291	1.000	-.73	.72
	2	1	.47	.296	.291	-.27	1.21
		3	.46	.269	.232	-.21	1.14
	3	1	.00	.291	1.000	-.72	.73
		2	-.46	.269	.232	-1.14	.21
Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors	1	2	.24	.324	.768	-.57	1.04
		3	-.11	.320	.938	-.91	.68
	2	1	-.24	.324	.768	-1.04	.57
		3	-.35	.297	.501	-1.09	.39
	3	1	.11	.320	.938	-.68	.91
		2	.35	.297	.501	-.39	1.09
We protect our resources legally through copyrights and patents	1	2	.34	.225	.316	-.22	.91
		3	.21	.223	.654	-.35	.76
	2	1	-.34	.225	.316	-.91	.22
		3	-.14	.206	.799	-.65	.37
	3	1	-.21	.223	.654	-.76	.35
		2	.14	.206	.799	-.37	.65
Competitors could copy our competitive positioning but it would be uneconomic for them to do so	1	2	.05	.282	.983	-.65	.75
		3	.06	.277	.975	-.63	.75
	2	1	-.05	.282	.983	-.75	.65
		3	.01	.257	.999	-.63	.65
	3	1	-.06	.277	.975	-.75	.63
		2	-.01	.257	.999	-.65	.63
Competitors find it difficult to see how we created our competitive positioning in the market in the first place	1	2	.34	.225	.316	-.22	.91
		3	.21	.223	.654	-.35	.76
	2	1	-.34	.225	.316	-.91	.22
		3	-.14	.206	.799	-.65	.37
	3	1	-.21	.223	.654	-.76	.35
		2	.14	.206	.799	-.37	.65

*. The mean difference is significant at the .05 level.

Appendix 5-17

Results of ANOVA with resources and IM (as scales)

a) Assets, capabilities and market orientation

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Customer based assets	Between Groups	10.707	2	5.354	5.920	.004
	Within Groups	82.293	91	.904		
	Total	93.000	93			
Internal based assets	Between Groups	7.551	2	3.775	4.020	.061
	Within Groups	85.449	91	.939		
	Total	93.000	93			
Distribution based assets	Between Groups	7.750	2	3.875	4.136	.019
	Within Groups	85.250	91	.937		
	Total	93.000	93			
Spanning Capabilities	Between Groups	13.639	2	6.820	7.833	.001
	Within Groups	78.361	90	.871		
	Total	92.000	92			
Outside- in	Between Groups	5.318	2	2.659	2.781	.069
	Within Groups	86.682	90	.963		
	Total	92.000	92			
Inside- out	Between Groups	4.044	2	2.022	2.069	.132
	Within Groups	87.956	90	.977		
	Total	92.000	92			
Market Orientation	Between Groups	20.745	2	10.372	13.180	.000
	Within Groups	69.255	88	.787		
	Total	90.000	90			

Multiple comparison

Multiple Comparisons

Scheffe

Dependent Variable	(I) Hierarchal cluster analysis	(J) Hierarchal cluster analysis	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Customer based assets	1	2	-.3709311	.25214295	.343	-.9984128	.2565506
		3	-.8386850*	.24757311	.004	-1.4547942	-.2225758
	2	1	.3709311	.25214295	.343	-.2565506	.9984128
		3	-.4677539	.22917969	.130	-1.0380893	.1025816
	3	1	.8386850*	.24757311	.004	.2225758	1.4547942
		2	.4677539	.22917969	.130	-.1025816	1.0380893
Internal based assets	1	2	.6295180	.25693366	.055	-.0098858	1.2689218
		3	.0646623	.25227699	.968	-.5631529	.6924776
	2	1	-.6295180	.25693366	.055	-1.2689218	.0098858
		3	-.5648557	.23353410	.059	-1.1460275	.0163161
	3	1	-.0646623	.25227699	.968	-.6924776	.5631529
		2	.5648557	.23353410	.059	-.0163161	1.1460275
Distnbution based assets	1	2	.1003074	.25663336	.927	-.5383491	.7389639
		3	-.5281316	.25198214	.117	-1.1552131	.0989499
	2	1	-.1003074	.25663336	.927	-.7389639	.5383491
		3	-.6284390*	.23326115	.030	-1.2089316	-.0479465
	3	1	.5281316	.25198214	.117	-.0989499	1.1552131
		2	.6284390*	.23326115	.030	.0479465	1.2089316
Spanning Capabilities	1	2	-.0665274	.24740861	.965	-.6823411	.5492863
		3	.7508003*	.24434271	.011	.1426178	1.3589829
	2	1	.0665274	.24740861	.965	-.5492863	.6823411
		3	.8173278*	.22640773	.002	.2537864	1.3808691
	3	1	-.7508003*	.24434271	.011	-1.3589829	-.1426178
		2	-.8173278*	.22640773	.002	-1.3808691	-.2537864
Outside- in	1	2	-.3153879	.26021401	.483	-.9630749	.3322992
		3	.2434089	.25698942	.640	-.3962520	.8830698
	2	1	.3153879	.26021401	.483	-.3322992	.9630749
		3	.5587968	.23812616	.069	-.0339124	1.1515060
	3	1	-.2434089	.25698942	.640	-.8830698	.3962520
		2	-.5587968	.23812616	.069	-1.1515060	.0339124
Inside- out	1	2	.1755457	.26211941	.800	-.4768840	.8279754
		3	.5062943	.25887121	.154	-.1380505	1.1506390
	2	1	-.1755457	.26211941	.800	-.8279754	.4768840
		3	.3307485	.23986983	.390	-.2663007	.9277978
	3	1	-.5062943	.25887121	.154	-1.1506390	.1380505
		2	-.3307485	.23986983	.390	-.9277978	.2663007
Market Orientation	1	2	.4491843	.23521918	.168	-.1365132	1.0348818
		3	1.1774361*	.23521918	.000	.5917387	1.7631336
	2	1	-.4491843	.23521918	.168	-1.0348818	.1365132
		3	.7282518*	.21839551	.005	.1844454	1.2720583
	3	1	-1.1774361*	.23521918	.000	-1.7631336	-.5917387
		2	-.7282518*	.21839551	.005	-1.2720583	-.1844454

*. The mean difference is significant at the .05 level.

b) Isolating mechanism as scales

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
legal and economic	Between Groups	1.653	2	.827	.824	.442
	Within Groups	90.347	90	1.004		
	Total	92.000	92			
Scarce and unique resources	Between Groups	1.464	2	.732	.728	.486
	Within Groups	90.536	90	1.006		
	Total	92.000	92			
Tacit knowledge and skills based isolation	Between Groups	.149	2	.074	.073	.930
	Within Groups	91.851	90	1.021		
	Total	92.000	92			

Multiple comparison

Multiple Comparisons

Scheffe

Dependent Variable	(I) Hierarchal cluster analysis	(J) Hierarchal cluster analysis	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
legal and economic	1	2	.3395430	.26565724	.445	-.3216926	1.0007785
		3	.2180696	.26236520	.709	-.4349719	.8711110
	2	1	-.3395430	.26565724	.445	-1.0007785	.3216926
		3	-.1214734	.24310736	.883	-.7265810	.4836342
	3	1	-.2180696	.26236520	.709	-.8711110	.4349719
		2	.1214734	.24310736	.883	-.4836342	.7265810
Scarce and unique resources	1	2	-.1460963	.26593567	.860	-.8080249	.5158323
		3	.1474360	.26264018	.854	-.5062899	.8011619
	2	1	.1460963	.26593567	.860	-.5158323	.8080249
		3	.2935323	.24336215	.486	-.3122095	.8992741
	3	1	-.1474360	.26264018	.854	-.8011619	.5062899
		2	-.2935323	.24336215	.486	-.8992741	.3122095
Tacit knowledge and skills based isolation	1	2	-.0998805	.26786025	.933	-.7665995	.5668385
		3	-.0390983	.26454091	.989	-.6975552	.6193587
	2	1	.0998805	.26786025	.933	-.5668385	.7665995
		3	.0607822	.24512337	.970	-.5493434	.6709078
	3	1	.0390983	.26454091	.989	-.6193587	.6975552
		2	-.0607822	.24512337	.970	-.6709078	.5493434

Appendix 5-18

Firm performance: Significance of Between Cluster Differences (Scheffe test)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
overall profit levels achieved	Between Groups	.926	2	.463	.754	.475
	Within Groups	38.059	62	.614		
	Total	38.985	64			
return on investment	Between Groups	.018	2	.009	.015	.985
	Within Groups	35.736	62	.576		
	Total	35.754	64			
sales volume achieved	Between Groups	7.891	2	3.945	6.230	.003
	Within Groups	44.328	70	.633		
	Total	52.219	72			
market share achieved	Between Groups	.211	2	.105	.195	.824
	Within Groups	35.731	66	.541		
	Total	35.942	68			

multiple comparison

Multiple Comparisons

Scheffe

Dependent Variable	(I) 3 clusters	(J) 3 clusters	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
overall profit levels achieved	1	2	.23	.290	.739	-.50	.95
		3	-.02	.289	.997	-.75	.70
	2	1	-.23	.290	.739	-.95	.50
		3	-.25	.211	.508	-.78	.28
return on investment	1	2	-.05	.281	.985	-.75	.66
		3	-.04	.280	.988	-.74	.66
	2	1	.05	.281	.985	-.66	.75
		3	.01	.205	1.000	-.51	.52
sales volume achieved	1	2	.88*	.256	.004	.24	1.53
		3	.75*	.260	.020	.10	1.40
	2	1	-.88*	.256	.004	-1.53	-.24
		3	-.13	.207	.810	-.65	.38
market share achieved	1	2	-.02	.268	.996	-.69	.65
		3	-.13	.271	.894	-.81	.55
	2	1	.02	.268	.996	-.65	.69
		3	-.11	.192	.859	-.59	.37
	3	1	.13	.271	.894	-.55	.81
		2	.11	.192	.859	-.37	.59

*. The mean difference is significant at the .05 level.

Appendix 5-19

Discriminant analysis stepwise for scales

b) All Resources (as scales)

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.295 ^a	76.2	76.2	.477
2	.092 ^a	23.8	100.0	.291

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.71	30.00	4	.000
2	.92	7.64	1	.006

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
Internal based assets	.158	1.007
Market Orientation	1.019	.042

Structure Matrix

	Function	
	1	2
Market Orientation	.99*	-.16
Inside-out *	.57*	-.13
Customer based assets	-.44*	-.03
Spanning Capabilities	.32*	-.17
Distribution based assets	-.23*	-.07
Internal based assets	-.04	1.00*
Outside-in *	-.04	-.17*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

a. This variable not used in the analysis.

Classification Results

		Hierarchical cluster analysis	Predicted Group Membership			Total
			1	2	3	
Original	Count	1	18	3	4	25
		2	5	17	11	33
		3	9	8	19	33
	%	1	72.0	12.0	16.0	100.0
		2	15.2	51.5	33.3	100.0
		3	27.3	15.2	57.6	100.0
Cross-validated	Count	1	18	3	4	25
		2	5	17	11	33
		3	9	8	15	33
	%	1	72.0	12.0	16.0	100.0
		2	15.2	51.5	33.3	100.0
		3	27.3	27.3	45.5	100.0

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 59.3% of original grouped cases correctly classified.

c. 54.9% of cross-validated grouped cases correctly classified.

Appendix 5-20

Discriminant analysis (Step-wise) for items

a) Assets

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.289 ^a	70.9	70.9	.474
2	.118 ^a	29.1	100.0	.325

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.694	33.116	4	.000
2	.894	10.132	1	.001

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
Extent or nature of the distribution network	.179	1.005
The uniqueness of our distribution approach	.948	-.379

Structure Matrix

	Function	
	1	2
The uniqueness of our distribution approach	.98*	-.18
Relationships with distribution channel ^a intermediaries	.68*	-.01
Good relationships ^a with suppliers	.47*	.32
Customer credibility by being well established in the market	.34*	.22
Company or brand name and reputation ^a	.31*	.14
Relationship with key target customers ^a	.30*	-.20
Superior levels of customer services ^a	.28*	.08
Copyrights and patents ^a	.22*	-.11
Extent or nature of the distribution network	.37	.93*
Superior marketing information systems ^a	.11	.32*
Superior cost control system	-.12	.22*
Cost advantage in production	-.07	.13*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

a. This variable not used in the analysis.

Functions at Group Centroids

Hierarchical cluster analysis	Function	
	1	2
1	-.45	.48
2	-.39	-.39
3	.67	.02

Unstandardized canonical discriminant functions evaluated at group means

Classification Results ^{a, b}

Hierarchical cluster analysis				Predicted Group Membership			Total
				1	2	3	
Original	Count	1		15	3	7	25
		2		9	14	10	33
		3		5	2	29	36
	%	1		60.0	12.0	28.0	100.0
		2		27.3	42.4	30.3	100.0
		3		13.9	5.6	80.6	100.0
Cross-validated ^a	Count	1		15	3	7	25
		2		10	13	10	33
		3		5	2	29	36
	%	1		60.0	12.0	28.0	100.0
		2		30.3	39.4	30.3	100.0
		3		13.9	5.6	80.6	100.0

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 61.7% of original grouped cases correctly classified.

c. 60.6% of cross-validated grouped cases correctly classified.

b) capabilities

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.369 ^a	64.4	64.4	.519
2	.204 ^a	35.6	100.0	.412

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.606	44.524	6	.000
2	.830	16.550	2	.000

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
Strong financial management	-.501	-.484
Good at understanding what customer needs and requirements are	.902	.144
Effective new products development processes	.180	1.107

Structure Matrix

	Function	
	1	2
Good at understanding what customer needs and requirements are	.88*	-.24
Good at enhancing and maintaining relationships with key customers	-.56*	.36
Strong financial management	-.53*	-.12
Good at using Information about markets, customer and competitors	.50*	-.24
Good at creating relationships with customers	.47*	-.11
Good marketing management ability ^a	.36*	-.27
Effective human resource management	.34*	.07
Production and manufacturing expertise ^a	-.31*	.24
Good at set prices which both attract customer and achieve financial objectives	.08*	-.05
Effective new products development processes	-.35	.88*
Ability to launch new product development which is responsive to customer needs	.34	-.35*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

a. This variable not used in the analysis.

Functions at Group Centroids

Hierarchal cluster analysis	Function	
	1	2
1	.62	.57
2	.33	.55
3	-.76	.11

Unstandardized canonical discriminant functions evaluated at group means

Classification Results b,c

			Predicted Group Membership			Total
			1	2	3	
Original	Count	1	14	4	7	25
		2	9	17	7	33
		3	11	7	18	36
	%	1	56.0	16.0	28.0	100.0
		2	27.3	51.5	21.2	100.0
		3	30.6	19.4	50.0	100.0
Cross-validated ^a	Count	1	14	4	7	25
		2	11	15	7	33
		3	11	7	18	36
	%	1	56.0	16.0	28.0	100.0
		2	33.3	45.5	21.2	100.0
		3	30.6	19.4	50.0	100.0

- a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
- b. 52.1% of original grouped cases correctly classified.
- c. 50.0% of cross-validated grouped cases correctly classified.

C) Isolating mechanism

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.262 ^a	100.0	100.0	.455

- a. First 1 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.793	20.915	2	.000

Standardized Canonical Discriminant Function Coefficients

	Function
	1
It took time to build competitive position and competitors would find it time consuming to follow a similar route	1.000

Structure Matrix

	Function
	1
It took time to build competitive position and competitors would find it time consuming to follow a similar route	1.000
We protect our resources legally through copyrights and patents	.315
Competitors find it difficult to see how we created our competitive positioning in the market in the first place	.315
Competitors could copy our competitive positioning but it would be uneconomic for them to do so	.307
Our products are highly valued by our customers creating a barrier against competitors' products	.300
Only we have the access to the resources we use	.215
There would be significant cost for customers if they switched from our products to those of competitors	.182
Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors	-.129
Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage	.009

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

Variables ordered by absolute size of correlation within function.

a. This variable not used in the analysis.

Functions at Group Centroids

	Function
Cluster membership	1
1	-.079
2	.448
3	-.971

Unstandardized canonical discriminant functions evaluated at group means

Classification Results ^{b,c}

			Predicted Group Membership			Total
			1	2	3	
Original	Count	Cluster membership 1	17	14	5	36
		2	10	25	6	41
		3	3	2	11	16
	%	1	47.2	38.9	13.9	100.0
		2	24.4	61.0	14.6	100.0
		3	18.8	12.5	68.8	100.0
Cross-validated ^a	Count	Cluster membership 1	17	14	5	36
		2	10	25	6	41
		3	3	2	11	16
	%	1	47.2	38.9	13.9	100.0
		2	24.4	61.0	14.6	100.0
		3	18.8	12.5	68.8	100.0

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 57.0% of original grouped cases correctly classified.

c. 57.0% of cross-validated grouped cases correctly classified.

Appendix 5-21

Discriminant Analysis Enter scales

a) Assets, capabilities and market orientation scales (enter)

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.351 ^a	69.6	69.6	.510
2	.153 ^a	30.4	100.0	.364

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.642	37.242	14	.001
2	.867	11.961	6	.063

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
Customer based assets	-.127	-.157
Internal based assets	.043	.717
Distribution based assets	-.228	.267
Spanning Capabilities	.298	-.332
Outside- in	.203	-.381
Inside- out	.009	-.057
Market Orientation	.697	.504

Structure Matrix

	Function	
	1	2
Market Orientation	.896*	.233
Spanning Capabilities	.577*	-.270
Inside- out	.546*	.018
Customer based assets	.511*	-.240
Distribution based assets	-.472*	.265
Internal based assets	-.167	.736*
Outside- in	.168	.414*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

Functions at Group Centroids

Hierarchal cluster analysis	Function	
	1	2
1	.603	.476
2	.286	-.469
3	-.766	.112

Unstandardized canonical discriminant functions evaluated at group means

Classification Results ^{b,c}

			Predicted Group Membership			Total
			1	2	3	
Original	Count	1	14	7	4	25
		2	3	19	11	33
		3	9	6	17	32
	%	1	56.0	28.0	16.0	100.0
		2	9.1	57.6	33.3	100.0
		3	28.1	18.8	53.1	100.0
Cross-validated ^a	Count	1	14	7	4	25
		2	7	15	11	33
		3	9	6	17	32
	%	1	56.0	28.0	16.0	100.0
		2	21.2	45.5	33.3	100.0
		3	28.1	18.8	53.1	100.0

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 55.6% of original grouped cases correctly classified.

c. 51.1% of cross-validated grouped cases correctly classified.

b) Isolating mechanism scale Enter

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.026 ^a	70.4	70.4	.158
2	.011 ^a	29.6	100.0	.103

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.965	3.193	6	.784
2	.989	.950	2	.622

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
legal and economic	.750	.617
Scarce and unique resources	.618	.780
Tacit knowledge and skills based isolation	.253	.074

Structure Matrix

	Function	
	1	2
legal and economic	.745*	.621
Tacit knowledge and skills based isolation	.247*	.073
Scarce and unique resources	.613	.784*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

Functions at Group Centroids

Hierarchal cluster analysis	Function	
	1	2
1	.162	.131
2	.207	.028
3	-.080	.121

Unstandardized canonical discriminant functions evaluated at group means

Classification Results b.a

		Hierarchal cluster analysis	Predicted Group Membership			Total
			1	2	3	
Original	Count	1	8	8	9	25
		2	15	13	5	33
		3	13	12	10	35
	%	1	32.0	32.0	36.0	100.0
		2	45.5	39.4	15.2	100.0
		3	37.1	34.3	28.6	100.0
Cross-validated	Count	1	4	10	11	25
		2	16	10	7	33
		3	13	12	10	35
	%	1	16.0	40.0	44.0	100.0
		2	48.5	30.3	21.2	100.0
		3	37.1	34.3	28.6	100.0

- a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
- b. 33.3% of original grouped cases correctly classified.
- c. 25.8% of cross-validated grouped cases correctly classified

Appendix 5-22

Discriminant Analysis Enter items

a) Assets

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.681 ^a	58.7	58.7	.637
2	.480 ^a	41.3	100.0	.570

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.402	77.953	24	.000
2	.676	33.534	11	.000

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
Cost advantage in production	.476	.177
Superior marketing information systems	-.618	-.237
Superior levels of customer services	.368	.851
Relationship with key target customers	.443	-.216
Company or brand name and reputation	-.342	.422
Customer credibility by being well established in the market	-.334	-.632
Good relationships with suppliers	.197	.216
Copyrights and patents	-.066	.078
Superior cost control system	.171	-.472
Extent or nature of the distribution network	.368	.483
The uniqueness of our distribution approach	.952	-.634
Relationships with distribution channel intermediaries	-.585	.385

Structure Matrix

	Function	
	1	2
The uniqueness of our distribution approach	.64*	-.04
Relationship with key target customers	.46*	-.30
Superior levels of customer services	.45*	.34
Copyrights and patents	.41*	-.19
Good relationships with suppliers	.25*	.25
Relationships with distribution channel intermediaries	.19*	.15
Superior cost control system	.15*	-.07
Extent or nature of the distribution network	.22	.48*
Company or brand name and reputation	.06	.36*
Cost advantage in production	.20	.27*
Superior marketing information systems	.02	.27*
Customer credibility by being well established in the market	.20	.20*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

- *. Largest absolute correlation between each variable and any discriminant function

Classification Results^{b,c}

			Predicted Group Membership			Total
			1	2	3	
Original	Count	1	21	4	0	25
		2	3	20	10	33
		3	4	5	27	36
	%	1	84.0	16.0	.0	100.0
		2	9.1	60.6	30.3	100.0
		3	11.1	13.9	75.0	100.0
Cross-validated ^a	Count	1	12	10	3	25
		2	12	11	10	33
		3	4	5	27	36
	%	1	48.0	40.0	12.0	100.0
		2	36.4	33.3	30.3	100.0
		3	11.1	13.9	75.0	100.0

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 72.3% of original grouped cases correctly classified.

c. 53.2% of cross-validated grouped cases correctly classified.

b) Capabilities

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.516 ^a	64.9	64.9	.583
2	.279 ^a	35.1	100.0	.467

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.516	56.609	20	.000
2	.782	21.059	9	.012

Structure Matrix

	Function	
	1	2
Effective new products development processes	-.415*	.312
Good at enhancing and maintaining relationships with key customers	-.189*	.042
Effective human resource management	.001	-.688*
Good marketing management ability	.081	-.595*
Strong financial management	.285	.536*
Production and manufacturing expertise	-.166	.528*
Good at creating relationships with customers	.227	-.462*
Good at using information about markets, customer and competitors	.391	-.418*
Good at understanding what customer needs and requirements are	.175	-.279*
Ability to launch new product development which is responsive to customer needs	.076	-.164*
Good at set prices which both attract customer and achieve financial objectives	-.127	.131*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

* Largest absolute correlation between each variable and any discriminant function

Classification Results^{a, b}

		Hierarchical cluster analysis	Predicted Group Membership			Total
			1	2	3	
Original	Count	1	18	4	3	25
		2	10	17	6	33
		3	7	7	21	35
	%	1	72.0	16.0	12.0	100.0
		2	30.3	51.5	18.2	100.0
		3	20.0	20.0	60.0	100.0
Cross-validated ^a	Count	1	11	4	10	25
		2	10	16	7	33
		3	12	7	16	35
	%	1	44.0	18.0	40.0	100.0
		2	30.3	48.5	21.2	100.0
		3	34.3	20.0	45.7	100.0

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 60.2% of original grouped cases correctly classified.

c. 46.2% of cross-validated grouped cases correctly classified.

c) Isolating mechanism

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.444 ^a	75.5	75.5	.555
2	.144 ^a	24.5	100.0	.355

a. First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.605	43.416	16	.000
2	.874	11.634	7	.113

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
Our products are highly valued by our customers creating a barrier against competitors' products	.720	.115
There would be significant cost for customers if they switched from our products to those of competitors	.384	.514
Only we have the access to the resources we use	-.889	-.254
It took time to build competitive position and competitors would find it time consuming to follow a similar route	.467	-.097
Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage	.188	-.775
Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors	-.149	.567
We protect our resources legally through copyrights and patents	-.241	1.131
Competitors could copy our competitive positioning but it would be uneconomic for them to do so	-.143	-.898

Structure Matrix

	Function	
	1	2
Our products are highly valued by our customers creating a barrier against competitors' products	.44*	.04
It took time to build competitive position and competitors would find it time consuming to follow a similar route	.43*	-.07
Only we have the access to the resources we use	.34*	-.17
There would be significant cost for customers if they switched from our products to those of competitors	.31*	.18
We protect our resources legally through copyrights and patents	-.01	.42*
Competitors find it difficult to see how we created our competitive positioning in the market in the first place	-.01	.42*
Competitors would find it difficult to acquire the managerial capabilities needed to create a similar competitive advantage	.19	.41*
Our employees are the source of our competitive advantage and we ensure we won't lose them to competitors	-.16	.18*
Competitors could copy our competitive positioning but it would be uneconomic for them to do so	.00	.05*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

a. This variable not used in the analysis.

Functions at Group Centroids

Hierarchal cluster analysis	Function	
	1	2
1	.42	.57
2	.57	-.38
3	.84	-.04

Unstandardized canonical discriminant functions evaluated at group means

Classification Results ^{b,c}

			Predicted Group Membership			Total
			1	2	3	
Original	Count	Hierarchal cluster analysis 1	13	7	5	25
		2	10	17	6	33
		3	4	6	25	35
	%	1	52.0	28.0	20.0	100.0
		2	30.3	51.5	18.2	100.0
		3	11.4	17.1	71.4	100.0
Cross-validated ^a	Count	1	12	8	5	25
		2	12	15	6	33
		3	4	7	24	35
	%	1	48.0	32.0	20.0	100.0
		2	36.4	45.5	18.2	100.0
		3	11.4	20.0	68.6	100.0

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 59.1% of original grouped cases correctly classified.

c. 54.8% of cross-validated grouped cases correctly classified.

d) Firm performance

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
overall profit levels achieved	.746	1.230
return on investment	-.638	-.911
sales volume achieved	1.169	-.607
market share achieved	-.930	.622

Structure Matrix

	Function	
	1	2
sales volume achieved	.741*	.152
return on investment	-.055*	.032
market share achieved	.110	.640*
overall profit levels achieved	.269	.588*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

Functions at Group Centroids

3 clusters	Function	
	1	2
1	.811	-.188
2	.324	-.158
3	2.256E-02	.220

Unstandardized canonical discriminant functions evaluated at group means

Classification Results ^{b,c}

			Predicted Group Membership			Total
			1	2	3	
Original	Count	Hierarchical cluster analysis 1	5	5	0	10
		2	0	17	14	31
		3	3	14	11	28
	%	1	50.0	50.0	.0	100.0
		2	.0	54.8	45.2	100.0
		3	10.7	50.0	39.3	100.0
Cross-validated ^a	Count	Hierarchical cluster analysis 1	5	5	0	10
		2	0	17	14	31
		3	3	14	11	28
	%	1	50.0	50.0	.0	100.0
		2	.0	54.8	45.2	100.0
		3	10.7	50.0	39.3	100.0

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 47.8% of original grouped cases correctly classified.

c. 47.8% of cross-validated grouped cases correctly classified.