CHAPTER 6:
DATA ANALYSIS AND FINDINGS

6.1 INTRODUCTION

The previous chapters have outlined the measures of market driving and described the factors influencing market-driving ability. It was argued that the model for market-driving ability can be best estimated with partial least squares path modelling. The estimation procedures of PLS-PM were described in chapter five.

The focus of this chapter is to perform the analysis and interpret the findings. First, this chapter will outline the descriptive statistics for this study, considering biographical information of respondents. Second, the measurement models for all latent variables will be estimated and the formative constructs identified. Third, the structural model of market-driving ability will be estimated using the model fit indicators outlined in chapter five.

Finally, the moderating variables management level and industry focus will be analysed in separate models.

6.2 DESCRIPTIVE ANALYSIS

The descriptive analysis provides a very useful first step in data analysis. The specific purpose of descriptive analysis is to (Diamantopoulos & Schlegelmilch, 2000:73):

- Provide insights into the distribution of values for each variable.
- Help detect errors in the coding process.
- Present data in an appealing way by using tables and graphs.

Frequency distributions show how often the different values are present in the sample (Babbie, 2010:428; Diamantopoulos & Schlegelmilch, 2000:74).

A descriptive analysis is provided for the biographical information captured in the questionnaire which relates to gender, age, industry focus of the organisation, department the respondent currently worked in, number of years of experience in the healthcare industry and number of years the respondent had worked in the current position.

The first screening question related to the industry focus of the organisation. The majority of respondents, 69.5%, worked for a pharmaceutical manufacturer, 19.2% were in the medical device business and 9.2% worked for pharmaceutical wholesalers or distributors. Open medical schemes were hardly represented in the sample, which is not surprising as the number of open medical schemes is low and also constantly decreasing. Currently 33 open medical schemes operate in South Africa (Council of Medical Schemes, 2010:157). The results are summarised in Table 6.1.

TABLE: 6.1: Industry focus of organisation

Industry focus	Frequency (n)	Percentage (%)
Pharmaceutical manufacturer	228	69.5
Medical device manufacturer	63	19.2
Pharmaceutical distributor/wholesaler	30	9.2
Open medical scheme	7	2.1
Total	**328**	**100**

The second screening question dealt with the management level of respondents. As indicated in Table 6.2, 20.1% of respondents were on a top management level which included positions like Chief Executive Officer, Chief Financial Officer, Chief Operating Officer or Head of Business Unit. The majority of respondents, 53.1%, were in a middle management position, which included positions such as Senior Director or Group Leader. Junior management positions included positions such as Brand/Financial/Communications Manager, which accounted for 26.8% of all respondents.

TABLE 6.2: Management level

Management level	Frequency (n)	Percentage (%)
Top management	66	20.1
Middle management	174	53.1
Junior management	88	26.8
Total	**328**	**100**

As far as gender was concerned, the sample was almost equally distributed between male and female respondents. As presented in Table 6.3, 55.5% of respondents were male and 44.5% were female.

TABLE 6.3: Gender of respondents

Gender	Frequency (n)	Percentage (%)
Male	182	55.5
Female	146	44.5
Total	**328**	**100**

Table 6.4 presents the age range of respondents. The majority of respondents (71%) were between 31 and 50 years old. When considering the high number of respondents in middle management positions, the question could be asked whether management level was associated with age. To test the null hypothesis that the management level was independent of age, a one-sample chi-square was used (Cooper & Schindler, 2008:484; Morgan, Leech, Gloeckner & Barrett, 2007:107). When considering the management level and age of respondents it was found that the management level was dependent on age (χ^2 = 31.84, *df* = 8, n = 327, p = 0.01).

TABLE 6.4: Age range of respondents

Age range	Frequency (n)	Percentage (%)
21 – 30 years	38	11.6
31 – 40 years	124	37.8
41 – 50 years	109	33.2
51 – 60+ years	52	15.9
No answer	5	1.5
Total	**328**	**100**

As indicated in Table 6.5, the majority of respondents, 43.9%, worked in marketing and sales; 22.6% of respondents worked in other departments not listed in the questionnaire. These departments included mainly regulatory affairs and logistics. Chief Executive Officers who participated in the survey worked across all departments and hence did not assign themselves to a specific department.

TABLE 6.5: Current department

Current department	Frequency (n)	Percentage (%)
Finance	33	10.1
Human Resources (HR)	15	4.6
Information Technology (IT)	7	2.1
Legal	5	1.5
Marketing & Sales	144	43.9
Medical Research & Development (R&D)	21	6.4
Other	74	22.6
Production	29	8.8
Total	**328**	**100**

60% of respondents had had more than nine years' experience in the healthcare environment. The question could be asked whether the management level and the years of experience in the healthcare environment were related. In order to test the null hypothesis that the management level was independent of years of experience in the healthcare industry, a one-sample chi-square was used (Cooper & Schindler, 2008:484; Morgan *et al*., 2007:107). It was found that the management level was dependent on the number of years of experience ($\chi^2 = 27.37$, $df = 8$, $n = 327$, $p < 0.01$). Therefore it can be concluded that the more experienced employees are, the higher the management level they can achieve.

TABLE 6.6: Years of experience in healthcare environment

Years of experience in healthcare environment	Frequency (n)	Percentage (%)
less than 1 year	6	1.8
1 – 3 years	37	11.3
4 – 6 years	53	16.1
7 – 9 years	35	10.7
More than 9 years	196	59.8
No answer	1	0.3
Total	**328**	**100**

When considering the number of years respondents had been working in their current job (Table 6.7) it can be noted that on the one hand almost 50% of respondents had been in their current job for no longer than 3 years; on the other hand, almost 60% of respondents had had experience of more than 9 years in the healthcare environment (Table 6.6). To test whether there was an association between the number of years in the present job and the number of years of experience, a correlation was computed. The Spearman rho statistic was calculated, $r_s (319) = 0.404$, $p < 0.01$. The direction of the correlation was positive; indicating respondents with higher experience level had also been in their present job for longer. Although the test statistics indicated a positive relation, it should be noted that, based on the cross-tabulation, almost one-third of respondents with experience of more than 9 years had been in their present job for less than three years. This also indicates that experienced people remain flexible to take on new positions either within their organisation or outside.

TABLE 6.7: Number of years working in current job

Number of years in current job	Frequency (n)	Percentage (%)
less than 1 year	46	14.0
1 – 3 years	113	34.5
4 – 6 years	78	23.8
7 – 9 years	21	6.4
More than 9 years	62	18.9
No answer	8	2.4
Total	**328**	**100**

Overall, the average respondent can be characterised as male, between 31 and 50 years, working for a pharmaceutical manufacturer in a middle management position, having more than 9 years of experience and working in his present job for up to 6 years.

To test whether the variables followed a normal distribution, a Kolmogorov-Smirnov test was conducted using SPSS V 9.0 (2004). The null hypothesis, which states that the data are normally distributed, has to be rejected. The test showed that all measurement variables in the questionnaire are not normally distributed ($p < 0.001$). Since the partial least squares approach does not make any assumptions regarding the distribution of measurement variables (Chin & Newsted, 1999:336), this has no further implications for the subsequent analysis.

6.3 MEASUREMENT MODELS

As outlined in chapter five, PLS path models consist of a measurement model and a structural model. The assessment of the model follows a two-step process which uses a separate analysis of the measurement model and the structural model (Hair *et al*., 2011:144; Hulland, 1999:198). The following paragraphs outline the measurement models of all specified constructs. In order to identify the formative constructs of market driving, corporate entrepreneurial management, strategic orientation and entrepreneurial behaviour, two related outcomes parameters were used, as suggested by various researchers (Diamantopoulos *et al*., 2008:1216;

Foedermayr *et al*., 2009:63; Henseler *et al*., 2009:302). The two outcomes parameters for this study are firm performance and relative competitive strength.

SmartPLS (Ringle *et al*., 2005) was used to analyse the models. The following standard settings of the programme were applied: mean=0 and variance=1. The missing value algorithm was set to mean replacement.

In order to account for variance in the measurement model and the structural model the following procedures were applied. In the measurement model disturbance terms of second-order formative constructs were set to zero, since PLS assumes that the latent variable is a linear function of its predictor and that there are no linear relationships between the predictors and the residual (Chin & Newsted, 1999:322; Diamantopoulos *et al*., 2008:1215). Measurement error is accounted for in reflective first-order indicators. Squared loadings give an indication of how much variance of the observed variable is related to the component. Hence calculating one minus the squared loading gives the amount of variance due to measurement error (Falk & Miller, 1992:64; Götz, Liehr-Gobbers & Krafft, 2010:694). In the structural model the variance unaccounted for by the exogenous latent variable is measured by calculating one minus R^2 (Falk & Miller, 1992:72).

To test for significance, the bootstrapping technique was applied with resamples of n = 500. Two-tailed tests were performed for the loadings of the reflective constructs and path coefficients in the measurement model. One-tailed tests were performed for the path coefficients in the structural model, since a positive influence had been hypothesised.

Table 6.8 summarises the abbreviations of the concepts and constructs used in the analysis in an alphabetical order.

TABLE 6.8: Abbreviations for PLS analysis

Abbreviation	Description
ALL	Alliance formation
BE	Entrepreneurial behaviour
CA	Entrepreneurial capital
CE	Corporate entrepreneurial management
COMP	Relative competitive strength
COO	Interdepartmental coordination
CUST	Customer preferences
DIS	Information dissemination
FIN	Financial capital
GEN	Information generation
HUM	Human capital
MD	Market driving
MD-ability	Market-driving ability
MGT	Management support
PERF	Firm performance
PRO	Proactiveness
RESP	Responsiveness to information
RISK	Risk-taking
SENS	Market sensing
SO	Strategic orientation
SOC	Social capital
STRU	Organisational structure

6.3.1 Measurement model for market driving

Market driving (MD) was measured as a second-order formative, first-order reflective construct. The concepts include alliance formation (ALL), market sensing (SENS) and influencing customer preferences (CUST).

Alliance formation was originally designed to consist of five measurement questions. However, as indicated in chapter five, due to low loadings of question 54 (outer loading = 0.0575) and question 57 (outer loading = 0.1633), these were removed.

For market sensing and influencing customer preferences all questions could be used for further analysis, as they showed significantly high loadings (>0.61) on the respective concept.

As explained in chapter five, the cut-off criterion for outer standardised loadings is set at 0.5 since research regarding market driving is in its early stages (Chin, 1998:325). This, however, also implies that residual variance for items with loadings below 0.7 will be higher. As indicated by Falk and Miller (1992:64), residual variance accounts for variance that does not contribute to the definition of the latent variable.

After all indicators with low loadings had been removed, the market-driving measurement model was calculated, resulting in the following outer loadings, AVE values and composite reliability.

TABLE 6.9: Outer loadings, AVE and composite reliability of reflective concepts for market driving after recalculation

Concept / Indicator	Outer loading after recalculation	AVE	Composite reliability
Alliance formation			
Q55	0.7404*	0.6284	0.8350
Q56	0.8199*		
Q58	0.8152*		
Market sensing			
Q61	0.7672*	0.5540	0.8608
Q62	0.8002*		
Q63	0.6608*		
Q64	0.7116*		
Q65	0.7733*		
Influencing customer preferences			
Q50	0.6896*	0.5587	0.8345
Q51	0.7052*		
Q52	0.7782*		
Q53	0.8100*		

Note: * indicates significance at 0.01 level

The average variance extracted (AVE) for each reflective concept was higher than 0.5, which indicates that 50% of the variance of the indicators was accounted for by the latent variable. This shows satisfactory convergent validity (Barclay, Higgins & Thompson, 1995:297; Chin, 1998:321; Fornell & Larcker, 1981:46; Henseler *et al*., 2009:299).

Composite reliability for the three first-order reflective concepts, alliance formation (0.8350), market sensing (0.8608) and customer preferences (0.8345) was acceptable, which means that the indicators measured the latent variable well. The interpretation of composite reliability is the same as for Cronbach's alpha, which considers values above 0.7 as acceptable (Henseler *et al*., 2009:299).

The next step in data analysis deals with the level and significance of path coefficients (Hair *et al*., 2011:147). The path coefficients determine the contribution each concept makes to form the index and represent indicator relevance of the formative concepts (Götz *et al*., 2010:698; Henseler *et al*., 2009:301). Path values can range from -1 to 1, whereby values of one indicate a perfect positive correlation which would indicate that the same concept is measured twice (Lehner & Haas, 2010:82). Lohmöller (1989:60) restricts the path model and considers paths from 0.1 as significant. However, Falk and Miller (1992:77) argue that given the theoretical formulation of the model, all paths should be reported and their contribution towards the overall model should be presented. For the purpose of this study all paths are reported and their magnitude and significance are presented.

The path coefficients for alliance formation (0.259), market sensing (0.552) and influencing customer preferences (0.413) were all positive and significant. Market sensing and influencing customer preferences contributed to a higher degree to the explanation of market driving than did alliance formation.

Revisiting the hypothesis stated in chapter one, the following can be deduced:

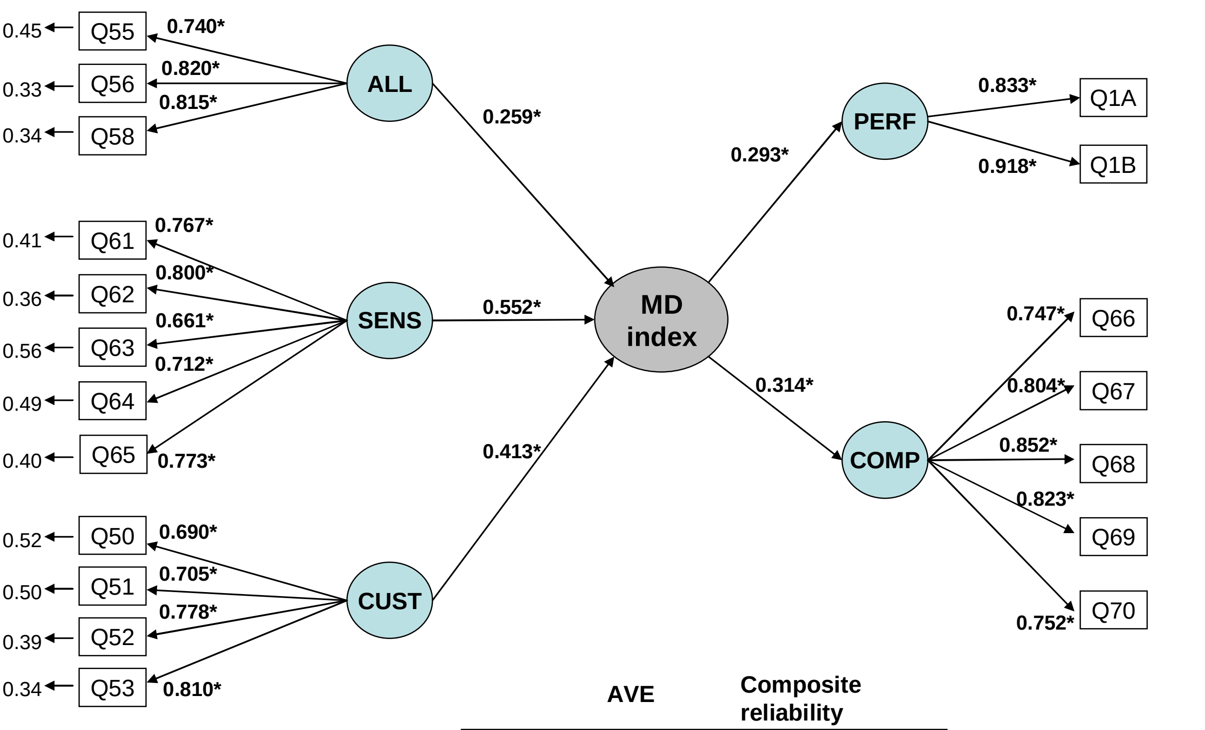
Hypothesis $H_0$1 is rejected: Market driving cannot be measured with market-sensing activities.

Hypothesis $H_0$2 is rejected: Market driving cannot be measured with activities related to influencing customer preferences.

Hypothesis $H_0$3 is rejected: Market driving cannot be measured with alliance formation activities.

Figure 6.1 summarises the measurement model for market driving.

FIGURE 6.1: Measurement model for market driving



	AVE	Composite reliability
ALL	0.6284	0.8350
SENS	0.5540	0.8608
CUST	0.5587	0.8345

*significant at 0.01 level
**significant at 0.05 level
***significant at 0.10 level
ns – not significant

6.3.2 Measurement model for corporate entrepreneurial management

Corporate entrepreneurial management (CE) is a second-order formative, first-order reflective construct which was measured by risk-taking (RISK), management support (MGT) and organisational structure (STRU).

Risk-taking (RISK) consisted of two variables that showed satisfactory loadings (0.9282 and 0.7575).

Management support (MGT) was designed as a concept including four variables that also showed satisfactory loadings (0.8134, 0.8723, 0.8725, 0.8955).

Organisational structure (STRU) considered four variables, of which two showed low loadings (0.1536; -0.3989). These two variables were therefore removed from further analysis.

After recalculating the measurement model with the retained variables, the following outer loadings, AVE values and composite reliability were achieved.

TABLE 6.10: Outer loadings, AVE and composite reliability of reflective concepts for corporate entrepreneurial management after recalculation

Concept / Indicator	Outer loading after recalculation	AVE	Composite reliability
Risk-taking			
Q9	0.8527*	0.7301	0.8440
Q10	0.8563*		
Management support			
Q5	0.8823*	0.7488	0.9226
Q6	0.8899*		
Q7	0.8360*		
Q8	0.8521*		
Organisational structure			
Q3	0.9204*	0.8309	0.9076
Q4	0.9025*		

Note: * indicates significance at 0.01 level

Average variance extracted (AVE) showed a satisfactory level for all reflective concepts with values of 0.7301, 0.7488 and 0.8309. Composite reliability was very satisfactory with values at 0.844 and higher.

The path coefficients for risk-taking (-0.441) and organisational structure (0.588) explained corporate entrepreneurial management well and were significant at the 0.01 level and 0.05 level respectively. The path for management support was lower (0.327) and not significant. As corporate entrepreneurial management was measured as a formative construct, the concepts could have either a positive or negative relationship with the construct (Diamantopoulos *et al*., 2008:1205).

Although the path for management support was not significant it was retained for further analysis, since the removal of a concept in formative measurement could alter the nature of the overall construct (Diamantopoulos *et al*., 2008:1205).

Revisiting the hypothesis stated in chapter one, the following can be deduced:

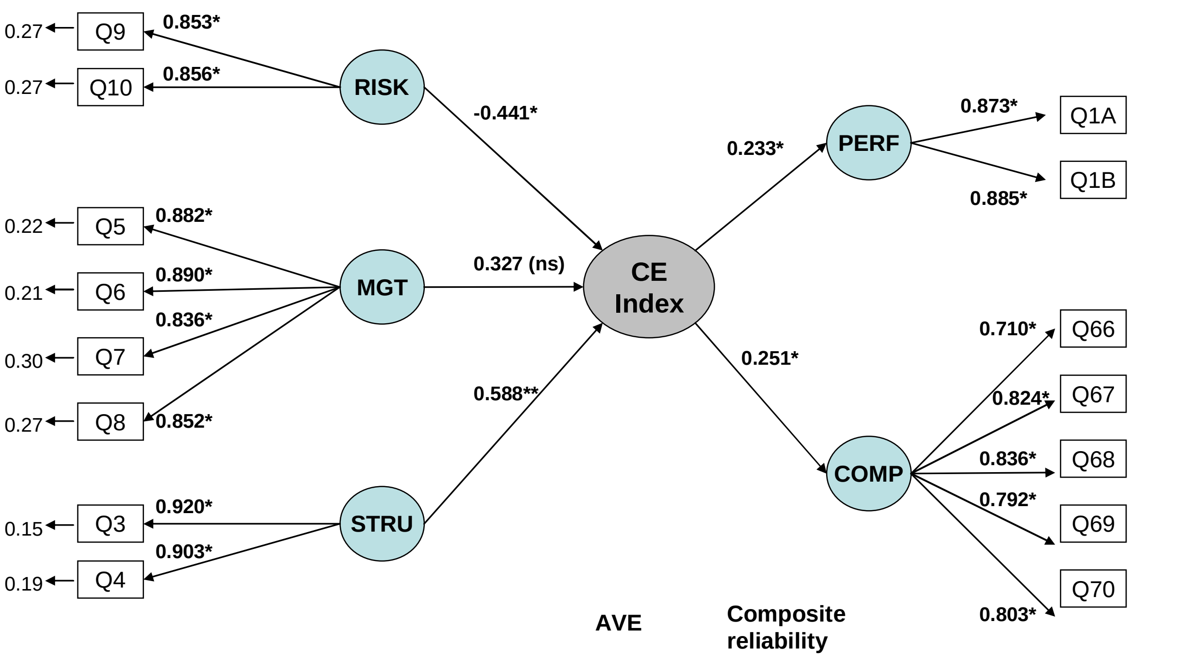
Hypothesis $H_0$4 is rejected: Corporate entrepreneurial management cannot be measured with risk-taking activities.

Hypothesis $H_0$5 cannot be rejected: Corporate entrepreneurial management cannot be measured with management support.

Hypothesis $H_0$6 is rejected: Corporate entrepreneurial management cannot be measured with organisational structure.

The following figure summarises the measurement model for corporate entrepreneurial management.

FIGURE 6.2: Measurement model for corporate entrepreneurial management



*significant at 0.01 level
**significant at 0.05 level
***significant at 0.10 level
ns – not significant

	AVE	Composite reliability
RISK	0.7301	0.8440
MGT	0.7488	0.9226
STRU	0.8309	0.9076

6.3.3 Measurement model for entrepreneurial capital

Entrepreneurial capital (CA) was designed as a second-order reflective, first-order reflective construct. The first-order concepts were financial capital (FIN), human capital (HUM) and social capital (SOC).

Financial capital consisted of three measurement questions. Due to low loadings of question 36 (-0.3941) it was removed from further analysis.

Human capital and social capital were measured using three variables each. All variables could be retained for further analysis since the loadings were acceptable (>0.60).

After recalculating the measurement model with the retained variables, the following outer loadings, AVE values and composite reliability were achieved.

TABLE 6.11: Outer loadings, AVE and composite reliability of reflective concepts for entrepreneurial capital after recalculation

Concept / Indicator	Outer loading after recalculation	AVE	Composite reliability
Latent variable (CA)	-	0.2666	0.7404
Financial capital			
Q35	0.8930*	0.7144	0.8330
Q37	0.7964*		
Human capital			
Q41	0.6138*	0.4781	0.7321
Q42	0.7296*		
Q43	0.7248*		
Social capital			
Q38	0.6502*	0.5334	0.7730
Q39	0.7954*		
Q40	0.7381*		

Note: * indicates significance at 0.01 level

The average variance extracted (AVE) for the financial capital (0.7144) and social capital (0.5334) concept was higher than 0.5, which indicates that the latent variables captured at least 50% of the variance of the indicators (Chin, 1998:321; Fornell & Larcker, 1981:46; Henseler *et al*., 2009:299). Human capital (0.4781) and the overall construct entrepreneurial capital (0.2666) showed lower levels of AVE, which indicated a lack of convergent validity (Hair *et al*., 2011:146).

Composite reliability for all reflective concepts: financial capital (0.833), human capital (0.7321), and social capital (0.7730), and the overall construct entrepreneurial capital (0.7404) were acceptable, which indicated that the variables adequately represented the latent variable.

Considering the path coefficients which reflect the latent variable, it can be noted that all paths were significant at the 0.01 level. Financial capital (0.604), human capital (0.706) and social capital (0.757) were all well reflected by their latent variable.

Revisiting the hypothesis for entrepreneurial capital the following can be deduced:

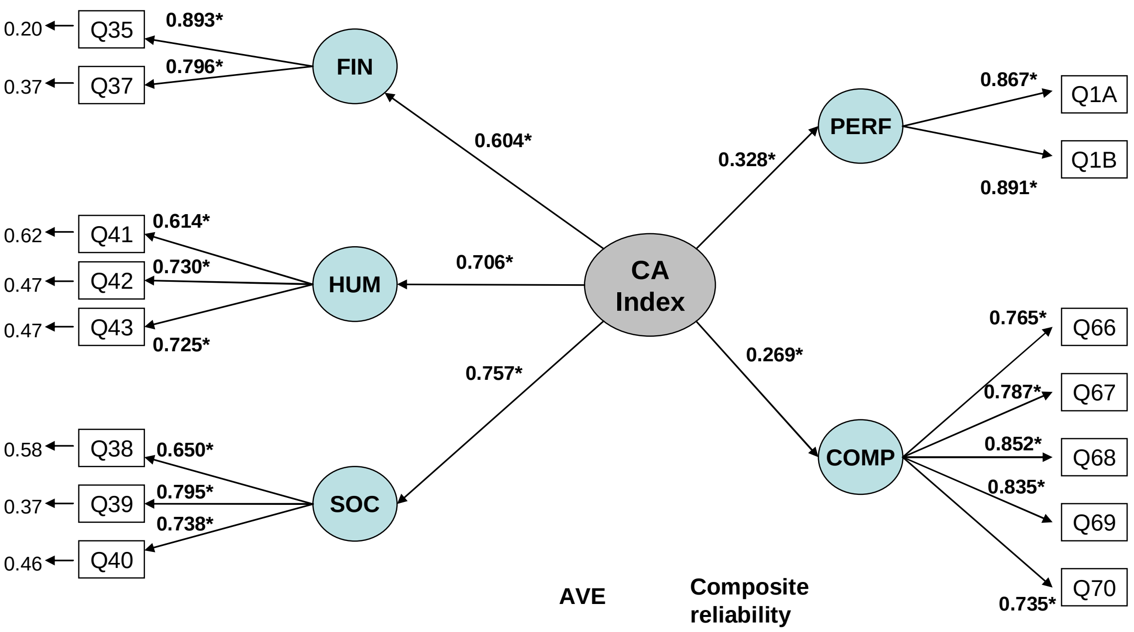
Hypothesis $H_0$7 is rejected: Entrepreneurial capital does not reflect financial capital.

Hypothesis $H_0$8 is rejected: Entrepreneurial capital does not reflect human capital.

Hypothesis $H_0$9 is rejected: Entrepreneurial capital does not reflect social capital.

The following figure summarises the measurement model for entrepreneurial capital.

FIGURE 6.3: Measurement model for entrepreneurial capital



	AVE	Composite reliability
FIN	0.7144	0.8330
HUM	0.4781	0.7321
SOC	0.5334	0.7730
CA	0.2666	0.7404

*significant at 0.01 level
**significant at 0.05 level
***significant at 0.10 level
ns – not significant

6.3.4 Measurement model for strategic orientation

Strategic orientation (SO) was designed as a second-order formative, first-order reflective construct. The reflective concepts included information generation (GEN), information dissemination (DIS), interfunctional coordination (COO) and innovation intensity (INN).

Information generation (GEN) was designed with four questions. However, question 18 had to be deleted due to low outer loading (0.1428).

Information dissemination (DIS) consisted of four questions, of which question 23 had to be removed due to low outer loading (0.1895).

Interfunctional coordination (COO) included four questions of which all showed high loadings (>0.69).

Innovation intensity (INN) was based on three questions, of which question 31 had to be removed due to low loading (-0.1256).

After recalculating the measurement model with the retained variables, the following outer loadings, AVE values and composite reliability were achieved.

TABLE 6.12: Outer loadings, AVE and composite reliability of reflective concepts for strategic orientation after recalculation

Concept / Indicator	Outer loading after recalculation	AVE	Composite reliability
Information generation			
Q17	0.7121*	0.5878	0.8100
Q19	0.7600*		
Q20	0.8239*		
Information dissemination			
Q21	0.8537*	0.7087	0.8793
Q22	0.8754*		
Q24	0.7942*		
Interfunctional coordination			
Q25	0.8048*	0.6569	0.8840
Q26	0.8762*		
Q27	0.8291*		
Q28	0.7243*		
Innovation intensity			
Q29	0.9131*	0.7922	0.8840
Q30	0.8664*		

Note: * indicates significance at 0.01 level

Average variance extracted (AVE) showed a satisfactory level for all reflective concepts, with values between 0.5878 and 0.7922. Composite reliability was very satisfactory, with values of 0.8100 and higher.

The path coefficients for information generation, information dissemination and innovation intensity were positive and significant. Interfunctional coordination showed a positive but non-significant path. Although interfunctional coordination was not significant, it was retained for further analysis since the removal of a concept in formative measurement could alter the nature of the overall construct (Diamantopoulos *et al*., 2008:1205).

The highest contribution to the explanation of strategic orientation was made by information dissemination (0.426), followed by information generation (0.327) and innovation intensity (0.251). The lowest contribution was made by interfunctional coordination (0.229).

Revisiting the hypothesis the following can be deduced:

Hypothesis $H_0$10 is rejected: Strategic orientation cannot be measured with information generation.

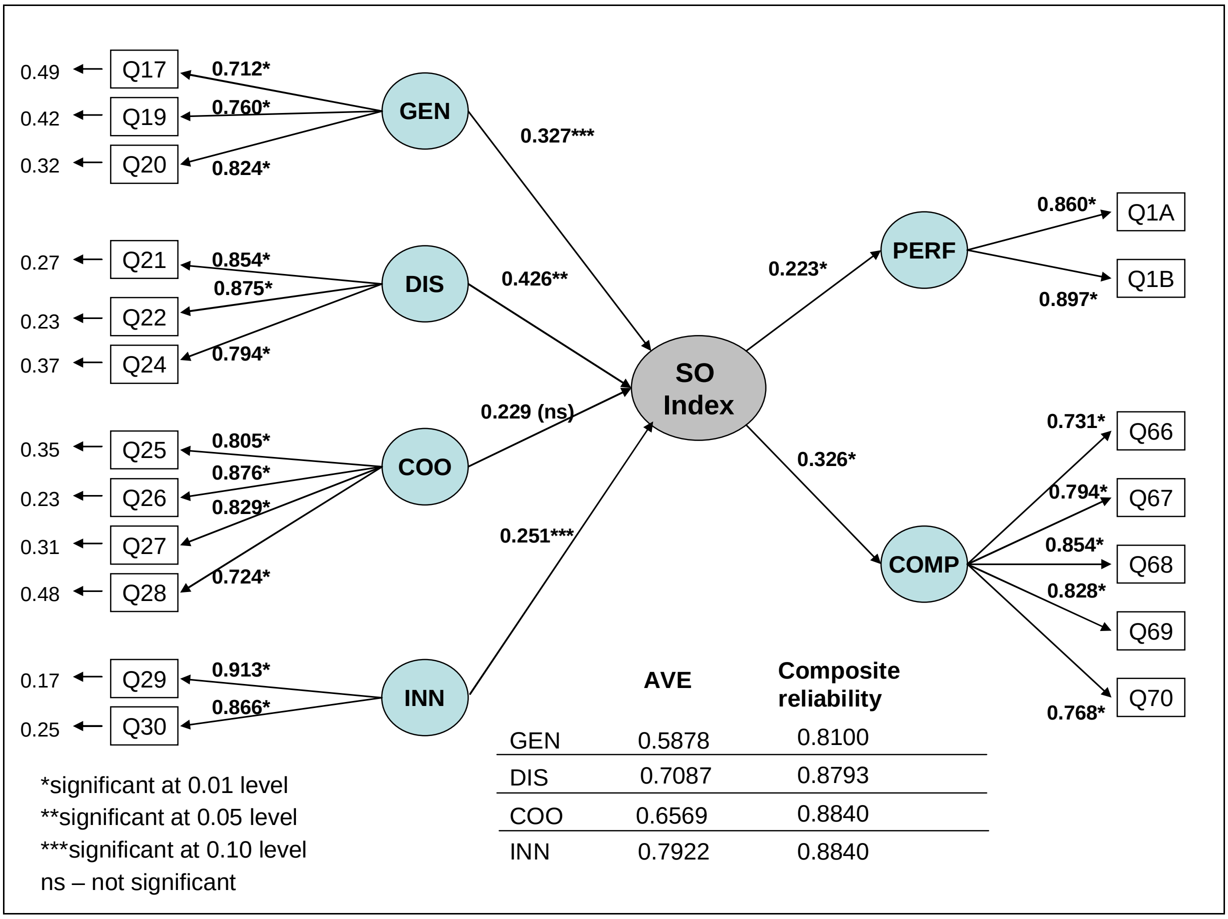
Hypothesis $H_0$11 is rejected: Strategic orientation cannot be measured with information dissemination.

Hypothesis $H_0$12 cannot be rejected: Strategic orientation cannot be measured with interfunctional coordination.

Hypothesis $H_0$13 is rejected: Strategic orientation cannot be measured with innovation intensity.

The following figure summarises the measurement model for strategic orientation.

FIGURE 6.4: Measurement model for strategic orientation



	AVE	Composite reliability
GEN	0.5878	0.8100
DIS	0.7087	0.8793
COO	0.6569	0.8840
INN	0.7922	0.8840

*significant at 0.01 level
**significant at 0.05 level
***significant at 0.10 level
ns – not significant

6.3.5 Measurement model for entrepreneurial behaviour

Entrepreneurial behaviour (BE) is a second-order formative, first-order reflective construct consisting of proactiveness (PRO) and responsiveness to information (RESP).

Proactiveness (PRO) consisted of three variables. One variable showed low loading (0.0081) and one variable demonstrated a negative loading (-0.3959). In order to obtain internally consistent scales it would be necessary to remove both items from the scale (Spector, 1992:29). The negative sign of the variable was also reflected in the concept's composite reliability, which was very low (0.0806). However, since a latent variable that is constituted by only one variable cannot account for measurement error (Fornell, 1983:445), the indicator with the negative loading was retained for further analysis since it showed the higher loading of the two variables. The negative loading could also be an indication that the concept of proactiveness should have been modelled as a formative concept. As outlined in chapter four, measures of formative concepts can either be positive or negative, as they do not have to share a common theme (Diamantopoulos *et al*., 2008:1205).

Responsiveness to information (RESP) was measured with three variables which all showed acceptable outer loadings (>0.60).

After recalculating the measurement model with the retained variables, the following outer loadings, AVE values and composite reliability were achieved.

TABLE 6.13: Outer loadings, AVE and composite reliability of reflective concepts for entrepreneurial behaviour after recalculation

Concept / Indicator	Outer loadings after recalculation	AVE	Composite reliability
Proactiveness			
Q11	0.8865*	0.5826	0.0806
Q12	-0.6160*		
Responsiveness to information			
Q14	0.6614*	0.6100	0.8225
Q15	0.8684*		
Q16	0.7990*		

Note: * indicates significance at 0.01 level

Average variance extracted (AVE) showed a satisfactory level for both reflective concepts, with values between 0.5826 and 0.61. This indicates that although proactiveness is not a unidimensional concept it measures the latent variable well.

The path coefficients for the two concepts were significant at the 0.01 level. The highest contribution to the explanation of entrepreneurial behaviour was made by proactiveness (0.595), followed by responsiveness to information (0.557).

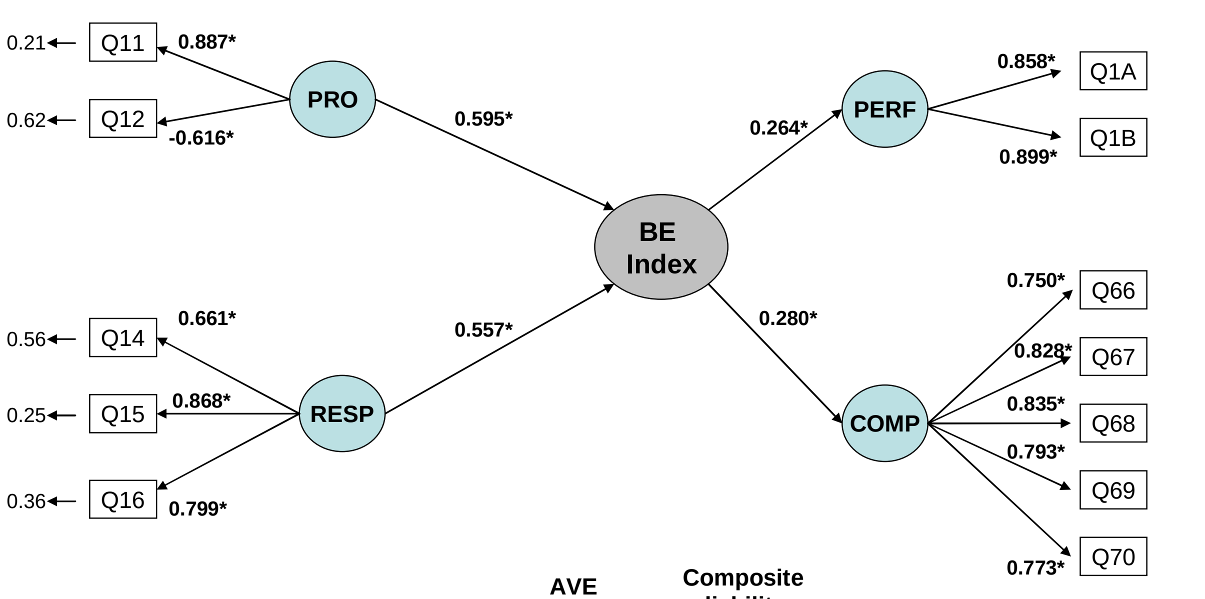
Revisiting the hypothesis for entrepreneurial behaviour, the following can be deduced:

Hypothesis $H_0$14 is rejected: Entrepreneurial behaviour cannot be measured with proactiveness.

Hypothesis $H_0$15 is rejected: Entrepreneurial behaviour cannot be measured with responsiveness to information.

The following figure summarises the measurement model for entrepreneurial behaviour.

FIGURE 6.5: Measurement model for entrepreneurial behaviour



	AVE	Composite reliability
PRO	0.5826	0.0806
RESP	0.6100	0.8225

*significant at 0.01 level
**significant at 0.05 level
***significant at 0.10 level
ns – not significant

6.3.6 Measurement model for firm performance and relative competitive strength

The measurement model for firm performance (PERF) and relative competitive strength (COMP) was established as a part of the structural model.

Firm performance (PERF) was originally measured with three variables. However, question 1C showed low loading (0.4629) and was hence deleted.

Relative competitive advantage (COMP) was measured with five variables. All variables showed high loadings (>0.7479) and were hence retained for further analysis.

After recalculating the measurement model with the retained variables, the following outer loadings, AVE values and composite reliability were achieved.

TABLE 6.14: Outer loadings, AVE and composite reliability of reflective concepts for firm performance and relative competitive strength after recalculation

Concept / Indicator	Outer loading after recalculation	AVE	Composite reliability
Firm performance			
Q1A	0.8330*	0.7687	0.8690
Q1B	0.9185*		
Relative competitive strength			
Q66	0.7471*	0.6349	0.8966
Q67	0.8043*		
Q68	0.8522*		
Q69	0.8233*		
Q70	0.7520*		

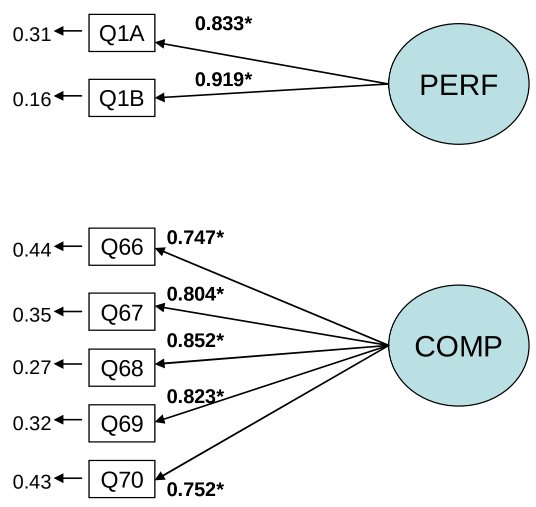
Note: * indicates significance at 0.01 level

Average variance extracted (AVE) showed a satisfactory level for both reflective concepts with values of 0.7687 for firm performance and 0.6349 for relative competitive strength. Composite reliability was very satisfactory, with values of 0.8690 for firm performance and 0.8966 for relative competitive strength.

The path coefficients for firm performance and relative competitive strength were analysed in the structural model as they were considered as endogenous concepts in the model.

The following figure summarises the measurement model for firm performance and relative competitive strength.

FIGURE 6.6: Measurement model for firm performance and relative competitive strength



	AVE	Composite reliability
PERF	0.7687	0.8690
COMP	0.6349	0.8966

*significant at 0.01 level
**significant at 0.05 level
***significant at 0.10 level
ns – not significant

6.4 STRUCTURAL MODELS

Once the measurement models had been analysed, the structural model which considered the relationships between latent variables could be considered.

6.4.1 Direct effects model (model 1)

As outlined in chapter four, the direct-effects model considers the direct relationships between the exogenous latent variables, corporate entrepreneurial management (CE), entrepreneurial behaviour (BE), strategic orientation (SO) and entrepreneurial capital (CA) and relates them to the endogenous latent variable market-driving ability (MD-ability) and its outcomes parameters, firm performance (PERF) and relative competitive strength (COMP).

As outlined in chapter five, the two primary evaluation criteria for the structural model are the coefficient of determination (R^2) and the magnitude, sign and significance of the path coefficients (Hair *et al*., 2011:147).

R^2 for the endogenous latent variable market-driving ability was 0.612, which indicated almost substantial explanatory power according to the values described by Chin (1998:328).

Path coefficients were interpreted as standardised beta coefficients. Path coefficients can be assessed on their sign, magnitude and their significance, which leads to an acceptance or rejection of the a priori formulated hypothesis (Hair *et al*., 2011:147; Henseler *et al*., 2009:303). Standardised path coefficients can have values between one and minus one. Values close to zero indicate a weak influence on the construct, whereas values close to one indicate a strong influence (Lehner & Haas, 2010:82; Nitzl, 2010:34).

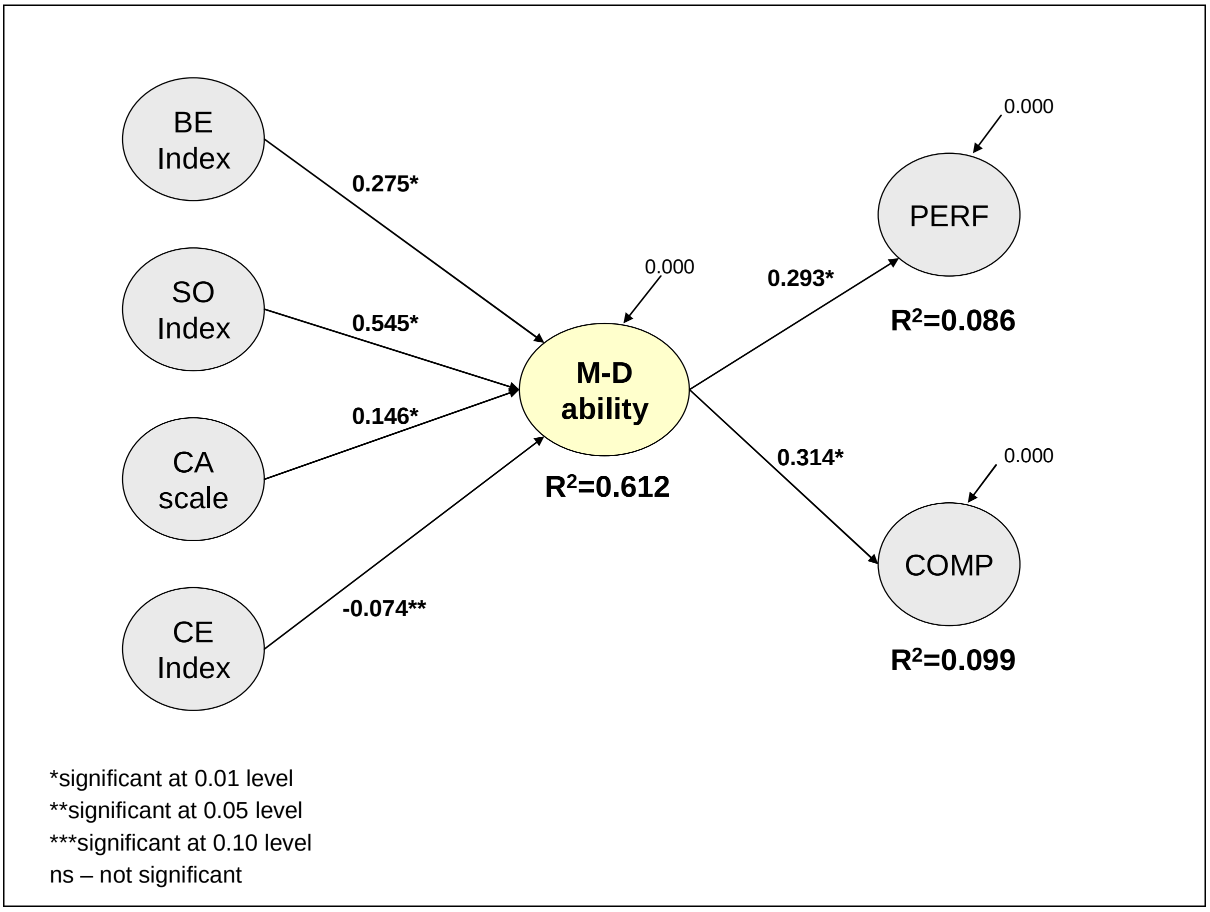
Figure 6.7 shows the path coefficients for the exogenous variables on market-driving ability, as well as the paths for the outcomes parameters firm performance (PERF) and relative competitive strength (COMP).

All path coefficients showed significant results under a one-tailed test via bootstrapping. Strategic orientation (SO) and entrepreneurial behaviour (BE) influence market-driving ability substantially, while entrepreneurial capital (CA) has a weaker influence. Corporate entrepreneurial management (CE) has a slightly negative impact on market-driving ability.

Although the contribution of entrepreneurial capital (CA) and corporate entrepreneurial management (CE) was not high, both constructs were retained for the structural analysis for two reasons. First, the constructs present distinct causes of market-driving ability, and deleting a construct because of its negative or low impact would potentially alter the nature of market-driving ability (Bollen & Lennox, 1991:308; Diamantopoulos *et al*., 2008:1205). Second, as indicated by Chin (1995:4), PLS tends to overestimate loadings and underestimate the structural paths. Hence, the structural paths might even be higher if the number of indicators and sample size increase indefinitely.

The following figure summarises the path coefficients and R^2 for the direct effects model.

FIGURE 6.7: Direct effects model



The path coefficient for corporate entrepreneurial management (-0.074) is not positive, but significant. Therefore the following can be deduced:

Hypothesis $H_0$16 cannot be rejected: Corporate entrepreneurial management does not positively influence market-driving ability.

The path coefficient for entrepreneurial capital (0.146) is positive and significant, which leads to the following deduction:

Hypothesis $H_0$17 is rejected: Entrepreneurial capital does not positively influences market-driving ability.

The path coefficient for strategic orientation (0.545) is positive and significant, which leads to the following deduction:

Hypothesis $H_0$18 is rejected: Strategic orientation does not positively influence market-driving ability.

The path coefficient for entrepreneurial behaviour (0.275) is positive and significant, which leads to the following deduction:

Hypothesis $H_0$19 is rejected: Entrepreneurial behaviour does not positively influence market-driving ability.

The path coefficient for market-driving ability towards firm performance (0.293) is positive and significant, which leads to the following deduction:

Hypothesis $H_0$20 is rejected: Market-driving ability does not positively influence firm performance.

The path coefficient for market-driving ability towards relative competitive strength (0.314) is positive and significant, which leads to the following deduction:

Hypothesis $H_0$21 is rejected: Market-driving ability does not positively influence relative competitive strength.

A further evaluation criterion for structural models is the effect size (f^2), which determines the impact of the exogenous latent variable on the endogenous latent variable (Henseler *et al.*, 2009:303). Calculation followed the formula outlined in chapter five. According to Henseler and Chin (2010:105), values of 0.02 indicate a small effect size. Values of 0.15 indicate a medium effect size and values of 0.35 indicate a large effect size.

As can be seen from Table 6.15 the effect size for strategic orientation was the largest, at 0.358, followed by a medium effect size for entrepreneurial behaviour (0.115) and a small effect size for entrepreneurial capital (0.037). The lowest impact on the structural model was made by corporate entrepreneurial management (0.007).

TABLE 6.15: Effect size (f^2) for direct effects model

Model	R^2	f^2
Overall model	0.612	-
Model without BE	0.567	0.115
Model without SO	0.473	0.358
Model without CA	0.598	0.037
Model without CE	0.609	0.007

To measure the predictive quality of the model, the Stone-Geisser's Q^2 can be applied (Hair *et al*., 2011:147). As Q^2 can only be applied to endogenous reflective constructs predictive quality for firm performance and relative competitive strength can be assessed. Predictive quality for firm performance was 0.0641 and for relative competitive strength 0.0623. Since both values were larger than zero, it can be deduced that market-driving ability exhibits predictive relevance on firm performance and relative competitive strength (Hair *et al*., 2011:147). Q^2 measures of 0.02 indicate small predictive relevance; values at 0.15 indicate medium relevance and values at 0.35 show significant predictive relevance (Henseler *et al*., 2009:305).

6.4.2 Moderating effects model: Management level (model 2)

As outlined in chapter four, moderating effects are considered for the structural models. Moderators are qualitative or quantitative variables that impact on the direction and/or strength of the relationship between the exogenous latent variables and market-driving ability (Helm *et al*., 2010:524; Henseler & Fassott, 2010:713).

The first moderator was management level. The respondents assigned themselves into one of the following groups:

- Level 1: Top management: Chief Executive Officer, Chief Financial Officer, Chief Operating Officer, Head of Business Units etc.
- Level 2: Middle management: Senior Director, Group Leader etc.
- Level 3: Junior management: Band Managers, Financial Manager etc.

The frequencies were outlined in the descriptive analysis in this chapter. Top management consisted of n = 66 respondents, middle management comprised n = 174 respondents and junior management included n = 88 respondents.

For the modelling of moderating effects in PLS, various approaches can be taken depending on the type of moderating variable. As management level could be considered as a categorical variable, the moderating effect was tested by means of group comparisons. Analyses were conducted for each group and the outcomes were compared across groups (Henseler & Chin, 2010:83-84; Henseler & Fassott, 2010:719).

In a first step the measurement models need to be recalculated for all groups separately in order to account for different loadings/weights that can result (Carte & Russel, 2003:493). In a second step the structural model is calculated to obtain path coefficients. The path coefficients are presented in Table 6.16. Significance was tested with the bootstrapping technique considering n = 500 resamples. A two-tailed test was applied.

TABLE 6.16: Path coefficients for different management levels

Path	Path coefficients		
	Level 1	Level 2	Level 3
CE → MD ability	0.2147 (ns)	-0.0989***	0.1693**
CA → MD ability	0.0475 (ns)	0.2137*	0.1588***
SO → MD ability	0.2555**	0.4237*	0.4976*
BE → MD ability	0.3425*	0.3786*	0.1024 (ns)

Note: * indicates significance at 0.01 level; ** indicates significance at 0.05 level, *** indicates significance at 0.10 level; (ns) indicates non significance

In order to test the hypothesis by statistically comparing the path coefficients between the different management levels, partial least squares multiple group analysis (PLS-MGA) was used. Usually a t-test would be applied to test for group differences. However, as indicated in the descriptive statistics of this chapter, variables are not normally distributed. As PLS-MGA accounts for the distribution-free assumption of the data, this approach was applied. PLS-MGA tests whether the parameters from two groups are different (Henseler *et al.*, 2009:308-309). The following formula is used to determine the probability that two samples are different (Henseler *et al.*, 2009:309):

$$P(b^{(1)} > b^{(2)} \mid \beta^{(1)} \leq \beta^{(2)}) = 1 - \sum_{v_{i,j}} \frac{\Theta(2\overline{b}^{(1)} - b_j^{(1)} - 2\overline{b}^{(2)} + b_i^{(2)})}{J^2}$$

As the formula only allows for a pair-wise comparison, a total of three comparisons were made. First, level one and level two were compared. Second, level two and level three were tested and finally level one and level three. Before testing, an alpha level needs to be specified (Henseler *et al.*, 2009:309). The alpha level was set at 5%.

The following tables present the pair wise comparisons.

TABLE 6.17: Path coefficients and PLS-MGA values for level 1 and level 2

Path	Path coefficient		PLS-MGA
	Level 1	Level 2	p value
CE → MD ability	0.2147(ns)	-0.0989***	0.0001
CA → MD ability	0.0475 (ns)	0.2137*	0.1026
SO → MD ability	0.2555**	0.4237*	0.0542
BE → MD ability	0.3425*	0.3786*	0.3608
α = 0.05			

TABLE 6.18: Path coefficients and PLS-MGA values for level 2 and level 3

Path	Path coefficient		PLS-MGA
	Level 2	Level 3	p value
CE → MD ability	-0.0989***	0.1693**	0.0001
CA → MD ability	0.2137*	0.1588***	0.2944
SO → MD ability	0.4237*	0.4976*	0.2876
BE → MD ability	0.3786*	0.1024 (ns)	0.0073
α = 0.05			

TABLE 6.19: Path coefficients and PLS-MGA values for level 1 and level 3

Path	Path coefficient		PLS-MGA
	Level 1	Level 3	p value
CE → MD ability	0.2147(ns)	0.1693**	0.4306
CA → MD ability	0.0475 (ns)	0.1588***	0.2786
SO → MD ability	0.2555**	0.4976*	0.0364
BE → MD ability	0.3425*	0.1024 (ns)	0.0308
α = 0.05			

Note: * indicates significance at 0.01 level; ** indicates significance at 0.05 level, *** indicates significance at 0.10 level; (ns) indicates non significance

The relationship between corporate entrepreneurial management (CE) and market-driving ability was seen to be partly influenced by management level. There was a significant difference between path coefficients for top managers and middle managers ($p<0.001$) and middle managers and junior managers ($p<0.001$). Top managers (0.2147) and junior managers (0.1693) perceived the influence of corporate entrepreneurial management on market-driving ability to be similarly positive. It is interesting to see that middle managers (-0.0989) do not see positive a relationship between corporate entrepreneurial management and market-driving ability.

Revisiting hypothesis $H_0$22 it can be deduced that:

Hypothesis $H_0$22 is rejected: The path between **corporate entrepreneurial management** and market-driving ability will not differ between various levels of management.

> **Hypothesis $H_0$22a is rejected**: The path between corporate entrepreneurial management and market-driving ability will not differ between top management (level 1) and middle management (level 2).
>
> **Hypothesis $H_0$22b is rejected:** The path between corporate entrepreneurial management and market-driving ability will not differ between middle management (level 2) and junior management (level 3).
>
> **Hypothesis $H_0$22c cannot be rejected:** The path between corporate entrepreneurial management and market-driving ability will not differ between top management (level 1) and junior management (level 3).

Considering entrepreneurial capital (CA), it can be seen from the tables that top managers (0.0475) did not see a relationship between entrepreneurial capital and market-driving ability. Middle management (0.2137) and junior management (0.1588) levels assessed the relationship to be positive; however, no significant differences between the management levels could be established.

Revisiting hypothesis $H_0$23 it can be deduced that:

Hypothesis $H_0$23 cannot be rejected: The path between **entrepreneurial capital** and market-driving ability will not differ between various levels of management.

Hypothesis $H_0$23a cannot be rejected: The path between entrepreneurial capital and market-driving ability will not differ between top management (level 1) and middle management (level 2).

Hypothesis $H_0$23b cannot be rejected: The path between entrepreneurial capital and market-driving ability will not differ between middle management (level 2) and junior management (level 3).

Hypothesis $H_0$23c cannot be rejected: The path between entrepreneurial capital and market-driving ability will not differ between top management (level 1) and junior management (level 3).

Strategic orientation (SO) significantly positively influenced market-driving ability in the perception of all management levels. Middle managers (0.4237) and junior managers (0.4976) had a similar perception. Both perceived the relationship to be positive and significant, whereas top managers perceived it to be slightly less positive (0.2555). Considering the different perception between top managers and junior managers significant differences could be established between these two groups ($p = 0.0364$).

Revisiting hypothesis $H_0$24, the following deductions can be made:

Hypothesis $H_0$24 cannot be rejected: The path between **strategic orientation** and market-driving ability will not differ between various levels of management.

Hypothesis $H_0$24a cannot be rejected: The path between strategic orientation and market-driving ability will not differ between top management (level 1) and middle management (level 2).

Hypothesis $H_0$24b cannot be rejected: The path between strategic orientation and market-driving ability will not differ between middle management (level 2) and junior management (level 3).

Hypothesis $H_0$24c is rejected: The path between strategic orientation and market-driving ability will not differ between top management (level 1) and junior management (level 3).

The relationship between entrepreneurial behaviour (BE) and market-driving ability is partly influenced by management level. Top and middle managers perceive the relationship to be significantly positive with path coefficients of 0.3425 and 0.3786 respectively. Junior managers perceive the relationship to be slightly less positive (0.1024). There is a significant difference between middle managers and junior managers ($p = 0.0073$) as well as between top and junior managers ($p = 0.0308$).

Revisiting hypothesis $H_0$25 the following deductions can be made:

Hypothesis $H_0$25 is rejected: The path between **entrepreneurial behaviour** and market-driving ability will not differ for various management levels.

Hypothesis $H_0$25a cannot be rejected: The path between entrepreneurial behaviour and market-driving ability will not differ between top management (level 1) and middle management (level 2).

Hypothesis $H_0$25b is rejected: The path between entrepreneurial behaviour and market-driving ability will not differ between middle management (level 2) and junior management (level 3).

Hypothesis $H_0$25c is rejected: The path between entrepreneurial behaviour and market-driving ability will not differ between top management (level 1) and junior management (level 3).

For the moderating effects model the effect size can be calculated. As with the overall model, the impact of exogenous latent variables on the endogenous latent variable moderated by the management level can be established.

Table 6.20 shows the effect size for top (level 1), middle (level 2) and junior (level 3) managers. Overall the effect size was small, with values ranging from 0.03 for middle management to 0.01 for junior management. The effect size for top management was 0.02.

TABLE 6.20: Effect size (f^2) for the direct effects model

Model	R^2	f^2
Overall model	0.6120	-
Model without level 1	0.6197	0.02
Model without level 2	0.6019	0.03
Model without level 3	0.6166	0.01

6.4.3 Moderating effects model: Industry focus (model 3)

The second moderating effects model considered the industry focus. Four different sectors were included in the study:

- Pharmaceutical manufacturers
- Medical device manufacturers
- Pharmaceutical distributors/wholesalers
- Open medical schemes

The frequencies were outlined in the descriptive analysis of this chapter. Pharmaceutical manufacturers consisted of n = 228 respondents, medical device manufacturers accounted for n = 63 respondents, pharmaceutical distributors/wholesalers consisted of n = 30 respondents and open medical schemes included n = 7 respondents.

As the category of medical schemes was too small to conduct meaningful statistical analysis, it was not included in further analysis. Therefore, the hypotheses for open medical schemes were not tested and were excluded from further discussions.

As industry focus can also be considered as a categorical variable, the moderating effect was tested by means of group comparisons. Analyses were conducted for each group and the outcomes were compared across groups (Henseler & Chin, 2010:83-84; Henseler & Fassott, 2010:719).

In a first step the measurement models needed to be recalculated for all groups separately in order to account for different loadings/weights that could result (Carte & Russel, 2003:493). In a second step the structural model was calculated to obtain path coefficients. The path coefficients are presented in Table 6.21. Significance was tested with the bootstrapping technique, considering n = 500 resamples. A two-tailed test was applied.

TABLE 6.21: Path coefficients for different industries

Path	Path coefficients		
	Pharmaceutical manufacturer	Medical device manufacturer	Pharm. distributor/ wholesaler
CE → MD ability	-0.0775***	0.1275 (ns)	0.2694***
CA → MD ability	0.1518*	0.3294**	0.3460***
SO → MD ability	0.4989*	0.1947***	-0.0165 (ns)
BE → MD ability	0.2932*	0.2902**	0.4394*

For hypothesis testing the same procedure was followed as with the analysis of management level as a moderator. PLS-MGA was used to determine the probability that two samples were different (Henseler *et al.*, 2009:309). The alpha level was set at 5%.

The following tables present the pair wise comparisons.

TABLE 6.22: Path coefficients and PLS-MGA values for pharmaceutical manufacturers and medical device manufacturers

Path	Path coefficient		PLS-MGA p value
	Pharmaceutical manufacturer	Medical device manufacturer	
CE → MD ability	-0.0775***	0.1275 (ns)	0.0000
CA → MD ability	0.1518*	0.3294**	0.1682
SO → MD ability	0.4989*	0.1947***	0.0013
BE → MD ability	0.2932*	0.2902**	0.4912
α = 0.05			

TABLE 6.23: Path coefficients and PLS-MGA values for medical device manufacturers and pharmaceutical distributors/wholesalers

Path	Path coefficient		PLS-MGA p value
	Medical device manufacturer	Pharmaceutical distributor/wholesaler	
CE → MD ability	0.1275 (ns)	0.2694***	0.2329
CA → MD ability	0.3294**	0.3460***	0.4477
SO → MD ability	0.1947***	-0.0165 (ns)	0.0001
BE → MD ability	0.2902**	0.4394*	0.2092
α = 0.05			

TABLE 6.24: Path coefficients and PLS-MGA values for pharmaceutical manufacturers and pharmaceutical distributors/wholesalers

Path	Path coefficient		PLS-MGA p value
	Pharmaceutical manufacturer	Pharmaceutical distributor/wholesaler	
CE → MD ability	-0.0775***	0.2694***	0.0007
CA → MD ability	0.1518*	0.3460***	0.1369
SO → MD ability	0.4989*	-0.0165 (ns)	0.0000
BE → MD ability	0.2932*	0.4394*	0.1229
α = 0.05			

Note: * indicates significance at 0.01 level; ** indicates significance at 0.05 level, *** indicates significance at 0.10 level; (ns) indicates non significance

The path for corporate entrepreneurial management (CE) was perceived very differently across industries. Pharmaceutical manufacturers saw no relationship (-0.0775) between corporate entrepreneurial management and market-driving ability, whereas pharmaceutical distributors/wholesalers perceived the relationship to be significantly positive (0.2694). Medical device manufacturers also saw a positive relationship, but it was not significant (0.1275). The results of the pair-wise comparisons demonstrated significant differences between pharmaceutical manufacturers and medical device manufacturers (p<0.001) and pharmaceutical manufacturers and pharmaceutical distributors/wholesalers (p<0.001), which led to the following deductions.

Hypothesis $H_0$26 is rejected: The path between **corporate entrepreneurial management** and market-driving ability will not differ for various industries.

> **Hypothesis $H_0$26a is rejected**: The path between corporate entrepreneurial management and market-driving ability will not differ between pharmaceutical manufacturers and medical device manufacturers.

> **Hypothesis $H_0$26b cannot be rejected**: The path between corporate entrepreneurial management and market-driving ability will not differ between medical device manufacturers and pharmaceutical distributors/wholesalers.

> **Hypothesis $H_0$26c is rejected**: The path between corporate entrepreneurial management and market-driving ability will not differ between pharmaceutical manufacturers and pharmaceutical distributors/wholesalers.

All industry sectors consider entrepreneurial capital (CA) to have a significantly positive influence on market-driving ability. Pharmaceutical manufacturers perceive the path to be less positive (0.1518) than medical device manufacturers (0.3294) and pharmaceutical distributors/wholesalers (0.3460). As the perception of the relationship is similar for all three sectors, no significant differences between sectors could be established.

Revisiting hypothesis $H_0$27 the following deductions can be made:

Hypothesis $H_0$27 cannot be rejected: The path between **entrepreneurial capital** and market-driving ability will not differ for various industries.

> **Hypothesis $H_0$27a cannot be rejected**: The path between entrepreneurial capital and market-driving ability will not differ between pharmaceutical manufacturers and medical device manufacturers.

> **Hypothesis $H_0$27b cannot be rejected**: The path between entrepreneurial capital and market-driving ability will not differ between medical device manufacturers and pharmaceutical distributors/wholesalers.

Hypothesis $H_0$27c cannot be rejected: The path between entrepreneurial capital and market-driving ability will not differ between pharmaceutical manufacturers and pharmaceutical distributors/wholesalers.

The relationship between strategic orientation (SO) and market-driving ability was neither positive nor significant for pharmaceutical distributors/wholesalers (-0.0165). Pharmaceutical manufacturers (0.4989) and, to a lesser extent, medical device manufacturers (0.1947) indicated a significant positive relationship. As the influence of strategic orientation on market-driving ability is quite different across industry sectors ($p \leq 0.01$), significant differences could be encountered.

Revisiting hypothesis $H_0$28 the following deductions can be made:

Hypothesis $H_0$28 is rejected: The path between strategic orientation and market-driving ability will not differ for various industries.

Hypothesis $H_0$28a is rejected: The path between strategic orientation and market-driving ability will not differ between pharmaceutical manufacturers and medical device manufacturers.

Hypothesis $H_0$28b is rejected: The path between strategic orientation and market-driving ability will not differ between medical device manufacturers and pharmaceutical distributors/wholesalers.

Hypothesis $H_0$28c is rejected: The path between strategic orientation and market-driving ability will not differ between pharmaceutical manufacturers and pharmaceutical distributors/wholesalers.

Overall entrepreneurial behaviour (BE) was considered to have a significantly positive influence on market-driving ability. Pharmaceutical manufacturers (0.2932) and medical device manufacturers (0.2902) had a very similar perception about the relationship. Distributors/wholesalers indicated that the relationship between entrepreneurial behaviour and market-driving ability was strong (0.4394).

Considering the unanimous positive perception across industry sectors, no significant differences could be found.

Revisiting hypothesis $H_0$29 the following deductions can be made:

Hypothesis $H_0$29 cannot be rejected: The path between entrepreneurial behaviour and market-driving ability will not differ for various industries.

> **Hypothesis $H_0$29a cannot be rejected:** The path between entrepreneurial behaviour and market-driving ability will not differ between pharmaceutical manufacturers and medical device manufacturers.
>
> **Hypothesis $H_0$29b cannot be rejected**: The path between entrepreneurial behaviour and market-driving ability will not differ between medical device manufacturers and pharmaceutical distributors/wholesalers.
>
> **Hypothesis $H_0$29c cannot be rejected**: The path between entrepreneurial behaviour and market-driving ability will not differ between pharmaceutical manufacturers and pharmaceutical distributors/wholesalers.

Table 6.25 shows the effect size for the three different industry sectors. The biggest impact on the model is made by pharmaceutical manufacturers, which shows a medium effect (0.18). The effect size for pharmaceutical distributors/wholesalers (0.06) and medical device manufacturers (0.03) can be considered as small.

TABLE 6.25: Effect size (f^2) for direct effects model

Model	R^2	f^2
Overall model	0.6120	-
without Pharm. manufacturers	0.6837	0.18
without Medical device manuf.	0.6253	0.03
without Pharm. distrib./wholes.	0.5871	0.06

6.5 CONCLUSION

This chapter addressed the descriptive and inferential statistics. First, it analysed biographical information of respondents.

Second, the measurement models for all latent variables: market driving, corporate entrepreneurial management, entrepreneurial capital, strategic orientation, entrepreneurial behaviour, firm performance and relative competitive strength were presented.

Third, the structural model for market-driving ability was estimated. It was explained that the exogenous latent variables represented by corporate entrepreneurial management, entrepreneurial capital, strategic orientation and entrepreneurial behaviour showed substantial explanatory power ($R^2 = 0.612$). Further, path coefficients were used to test the hypotheses for the direct effects model. Positive and significant paths were found for all exogenous latent variables except corporate entrepreneurial management, which was significant but did not show a positive relationship.

Fourth, moderating effects models for management level and industry focus were tested. The results for the management level indicate differing perceptions of the influence of corporate entrepreneurial management and entrepreneurial behaviour across the three levels. All management levels perceived entrepreneurial capital and strategic orientation to have a positive impact on market-driving ability. The results across different industries showed that the impact of corporate entrepreneurial management and strategic orientation on market-driving ability is perceived differently across industries. The impact of entrepreneurial capital and entrepreneurial behaviour is considered similar across industries.

In the next chapter the main research purpose and findings will be summarised. Conclusions and recommendation will be presented. Finally, limitations of the study and its contribution to the field of research will be discussed.