CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter consists of four parts. Pursuing the introduction, overview of the methodology used in this thesis will be discussed which covers the explanation of research design, research instrument used to collect the data and techniques used in sampling. The second part is on the operationalisation of constructs used in the study. The third part covers the validity and reliability assessment of the constructs. Finally, the last part covers the results of reliability and validity.

PART 1: RESEARCH METHODOLOGY

3.2 Methodology Overview

This section presents an overview of the methods apply in the thesis as to investigate the hypotheses proposed in Chapter Four. The data collection method is using self-administered questionnaires based on the fundamental constructs proposed in the theoretical model. These constructs are social concern, economic concern, corporate citizenship culture, marketing capabilities and organisational performance. These

constructs were operationalised by multi-item measures using 7-point Likert scales, and the items used to quantify them were adopted from previously tested scales.

The instrument used to collect the data of this thesis was divided into **four sections**, including questions measuring the intended constructs and company profile section. A pre-test was carried-out as to ensure that the wording of this questionnaire was clear and understandable. Likewise a pre-test is necessary to discover any problems in the instrument, and to determine the face validity of the measures.

To analyse the data, two statistical techniques were adopted. The Statistical Package for the Social Sciences (SPSS) version 16 was used to analyse the preliminary data and provide descriptive analyses about thesis sample such as means, standard deviations, and frequencies. Another technique was Structural Equation Modeling (SEM using AMOS 16.0) using Confirmatory Factor Analysis (CFA) to test the measurement model. Anderson and Gerbing (1988) recommend SEM using the two-stage approach. The first stage embraces the assessment of the measurement model, while the second stage comprises assessment of the structural model. The aim of the first stage is to develop the underlying measures. By using CFA, the measurement model stage in this thesis was conducted in two steps. The first step involves the assessment of the unidimensionality, followed by the assessment of reliability and validity of the underlying constructs as the second step. Cronbach's alpha and CFA were assessed in investigating reliability as to measure the internal consistency. Validity criterion, construct (including convergent and discriminant) and external validity were also assessed. The moment of scale had been developed in stage one, the hypotheses were tested in stage two (the structural model).

3.3 Research Design

Research design is a plan of what data to gather, from whom, how and when to collect the data, and how to analyze the data obtained so that hypotheses can be tested properly (Sekaran, 2003). This study employs a quantitative method and data is obtained from primary source. According to Sekaran (2003:219) primary data refer *"to information obtained by the researcher on the variables of interest for the specific purpose of the study."*

3.4 Unit of Analysis

Unit of analysis describes the characteristics or level of analysis where information about the study is gathered (De Vaus, 2002). It is very important to identify the unit of analysis because the determination of variables for the conceptual framework, appropriate data collection methods, and sample size are all dependent on the unit of analysis (Zikmund, 2000).

The unit of analysis in this study is public listed company that practices CSR. The population of interest is manufacturing and service organisations. Goods are being defined as products (tangible items) and services (intangible items). Therefore, by selecting the manufacturing and service organisations, the study try to covers broad range of organisations that include manufacturing and services companies. The target population is chosen from the upper level of the organisation marketing hierarchy with

managing director as the key informant. The reason for selecting this unit of analysis is because managing director is the key personnel that involve directly with the organisations strategic decision making and have a wide knowledge of the organisations objectives and goals (Eltantawy et al., 2009; Woodall et al., 2009).

3.5 Research Instrument

A structured set of questionnaire was used to gather the relevant data for the study. From the literature review, established measures from related fields were incorporated in the questionnaire in order to evaluate the constructs of this study: social concern, economic concern, corporate citizenship culture, marketing capabilities and organisational performance.

3.6 Questionnaire

Questionnaire is *"a reformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives",* Sekaran (2000:233). An extensive literature review on the subject matters such as social concern, economic concern, corporate citizenship culture, enviropreneurship, organisational learning, and organisational performance was studied in order to formulate the propositions, hypotheses and conceptual framework. Based on the framework, a preliminary questionnaire was developed.

The questionnaire consisted of 10 pages with 2 pages allocated the cover page and explanation why the survey was conducted together with meaning of key words of terms being used in the questionnaire. The questionnaire was divided into 4 sections with each individual heading. The first three sections covered the items comprising the constructs proposed in the theoretical model. Subheading was provided under each heading with clear and precise instruction to be followed. Finally, in the final section the organisation company profile was presented. The followings are presented in the questionnaire:

Section 1

The first section is segregated into three parts. Part A consists of eleven questions asking respondents to evaluate how the public and regulatory forces influence their corporate marketing strategies. Part B comprises of six questions. These questions reflect respondents marketing strategy development and in Part C asking respondents to appraise their corporate citizenship culture components that being practiced in the organisation.

Section 2

The second section includes twenty seven questions asking respondents to evaluate the organisations' marketing capabilities. These questions reveal two dimensions of marketing capabilities that are organisational learning and enviropreneurship.

Section 3

The third section of the questionnaire contained seven questions requesting respondents about the organisation overall performance in the last three-year period.

Section 4

In this last section of the questionnaire respondents were ask to fill up the organisation profile such as company core business, market segment, year of establishment, number of employees, company's sales turnover, year practicing CSR, employee and customer turnover rates, ownership status and respondents position in the company.

3.7 Scaling of Measurement

The first three sections of the questionnaire mirrored the underlying constructs. All questions in sections one and two were developed using seven-point Likert-type scales. For the purpose of data interpretation, the descriptive phrases for the scale were (7) "strongly agree", (6) "agree", (5) "slightly agree", (4) "neutral", (3) "slightly disagree", (2) "disagree", (1) "strongly disagree". The Likert-scales were chosen due to the fact that they take less time and are easy to answer (McCelland, 1994; Churchill, 1995; Frazer and Lawley, 2000). More specifically, the seven-point Likert scale is a scale used widely

in marketing research and De Vaus (2002) identify seven Likert-scale is more capable as compared to 5-point Likert scales that mostly likely to allow greater discrimination.

Questions in section three were also developed using seven-point Likert type scale. The descriptive phrases for the scale were (7) "increased more than 20%", (6) "increased of 11-20%", (5) "increase of 1-10%", (4) "no change", (3) "decrease of 1-10%", (2) "decrease of 11-20%", (1) "decrease more than 20%" Lastly, questions in the section four, respondent was asked to choose the best answer described the organisation. The scales used were a mix of open ended and multiple choices.

3.8 Pre-testing

Pre-test is defined as *"a trial run with a group of respondents used to screen out problems in the instructions or design of a questionnaire"* (Zikmund, 2003:229). Reynolds and Diamantopoulos (1998) delineate that **t**here is wide agreement among marketing scholars that pre-testing is an integral part of the questionnaire development process. Malhotra (1999) classifies pre-testing is the testing of the questionnaire on a small sample of respondents for the purpose of identifying and eliminating potential problems. The questionnaire was pre-tested in order to ensure clarity, validity, readability and is understood by the respondents. As Hunt et al. (1982:270) pointed out, the researcher needs to ask: *"will the instrument provide data of sufficient quality and quantity to satisfy the objectives of the research?"*

In relation to this study, the questionnaire was distributed to two lecturers from Faculty of Education and Faculty of Business and Accountancy of University of Malaya for comments on layout, wording and content. At the same time, three managing directors were selected to answer the questionnaire for feedback concerning understanding, phrasing and design. Finally, as to check on the grammar and language the questionnaire was given to an English lecturer from University of Tenaga Nasional Malaysia.

From the feedback received, the respondents showed positive attitude to the questions, design and structure of the questionnaire. Nevertheless, there were some suggestions for the language and wording used to suit the business culture and environment in Malaysia. For the purpose of pilot-test, 27 questionnaires were distributed to managers of various organisations and the following feedbacks and the actions taken to improve the quality of the questionnaire:

1) Some questions were repetitive, redundant and lengthy. Therefore, the structure of some questions was improved and long winded questions were shortened.

2) Some questions the choice of words was vague, fragmented or unclear for the proper understanding of the practitioners. Consequently, changes were made by incorporating many of the suggested words.

Most of the suggestions were taken into account and corollary changes used to refine the questionnaire before it became the final version to be used in the actual field work.

3.9 Sampling Procedures

The sample frame is from the Federation of Malaysian Manufacturers Directory and Bursa Malaysia. Stratified random sampling was used where the population is first divided into manufacturing and service organisations. The biggest challenges for selecting the right sample was to determine whether the company involves CSR in the strategic decision-making and being innovative is one of the company goals. These characteristics of the companies were determined through the company website, the company mission and objective and also called up the company personally asking whether they practice CSR in the organisation. Thus, some of the questions that were asked during the personal conversation in order to identify the organisations' CSR activities included:

1. How the organisation strive to continuously improve the operational efficiency
2. How the organisation eliminate waste and improve the environmental performance
3. How the organisation reduce emissions of greenhouse gases (GHGs)
4. How the organisation create job opportunity in the society
5. How the organisation increase employee health and wellbeing
6. How the organisation reduce workplace accidents
7. Does the organisation give comprehensive training and development to the employees
8. Does the organisation provide opportunities for career progression

9. Does the organisation offer scholarship to the society
10. Does the organisation give donation to society

The final survey with the 84 items was administered in the field. Once the instrument is finalized and confirmed for its appropriateness after conducting the pre-test and pilot-test, the final survey and collect research data began. The data collection for this study was primarily through the structured questionnaire which was sent through the mail for the first run. The questionnaires were first posted in the second week of December 2008. The mail package consists of an outgoing envelope, cover letter, questionnaire and a return envelope. Respondents were given about 14 days to respond to questionnaire. A reminder and phone calls were sent to the respondents as to encourage participants. By the end of January 2009, all questionnaires were posted. The second and third mailings were sent to those who had not yet responded. In addition, due to any wrong address, a follow-up through phone calls or e-mail were conducted.

Outgoing Envelope

A 10x15 cm sized official University Malaya envelope was used. The University Malaya envelope was used as to reassure respondents the significance of the study and to establish trust between the respondents and the researcher. Last but not least, most importantly the envelope allows a professional presentation and enables to attract attention and interest in the questionnaire.

Questionnaire

The questionnaire was in a booklet format with University Malaya logo printed on the top of the cover and followed by the title of the survey, researcher name, of the thesis supervisor and contact details of the Faculty of Business and Accountancy.

The booklet was 10 pages doubled sided with information mentioned earlier. The second page is regarding the purpose of the survey being conducted and terms being used in the questionnaire for respondent's better understanding.

Topics of the questionnaire were divided into sections and parts. These ways would lead respondents smoothly from one topic to another and to stimulate them to continue reading and responding to the questionnaire until the end.

3.10 Response Rate

The first phase of the data collection took about two months to complete, which started at the end of December 2008 and ended in February 2009. In the first phase of the data collection, out of the 1379 questionnaires distributed, only ten point eight percent (10.8%) responded by the end of March 2009. All the 150 questionnaires were usable.

Due to extremely low response rate, the second stage of data collection was carried out where questionnaires with a reminder letter were mailed again to those organisations

who had not responded to the survey. Another 122 responses were received giving a total of 272 respondents. Nevertheless, eleven questionnaires were rejected due to incomplete responses by the respondents.

Overall, only 261 respondents from 1379 of the total population (a response rate of 18.9%) were usable and total of eleven questionnaires were rejected. This response rate is considered satisfactory as this scenario is not different from other surveys in Malaysia, which tend to obtain a standard response of between 15-25 percent (Sarachek and Aziz, 1983; Othman, Abdul-Ghani and Arshad, 2001). By end of May 2009, the data collection process was completed with 261 questionnaires coded and used for data analysis.

3.11 Data Coding and Entering

Following the collecting of data, the process of editing of the data was undertaken as to ensure the omission, completeness, and consistency of the data. Zikmund (2003) concludes that editing is considered as a part of the data processing and analysis stage. Malhotra (1996) illustrate coding as a process used to assign numbers to each answer and the process of transferring data from questionnaire to SPSS. Furthermore, according to De Vaus (1995) those procedures can be undertaken either before the questionnaire is answered or after. The coding procedure in this thesis was performed by establishing a data file in SPSS where all question items were pre-coded with numerical values. The process of data editing were done only after data were entered into the data file as to

identify any errors in data entry. Any out-of-range values in the data were corrected by referring to the original questionnaire.

3.12 Negatively Worded Questions

All the negatively worded questions need to be reversed to help prevent response bias before performing the statistical analyses on the data as shown in Table 3.1. Therefore, the range of the seven-point Likert scale for the negatively worded items was transformed from 1(Strongly Disagree) – 7 (Strongly Agree) to 1 (Strongly Agree) – 7 (Strongly Disagree).

Table 3.1: Negatively Worded Questions

PUBLIC CONCERN (SECTION 1)	
No	**Questions**
4	The public is worried about the economy than environmentally protection
ECONOMIC CONCERN	
2	In our strategy development, environmental issues are treating as a result of compliance or social obligation rather than a proactive strategy
6	In our strategy development, environmental issues are treating as an individual's tactic to enhance economic performance
COMMITMENT to LEARNING (SECTION 2)	
5	We view environmental learning as not our culture priority to employees' learning
SHARED-VISION	
6	In our organisation, when it comes to environmental issues we do not have a well-defined vision for the entire organisation
OPEN-MINDEDNESS	
2	When dealing with environmental issues our managers do not want their "view of the world" to be questioned
6	When dealing with environmental issues original ideas are highly valued in this organisation

PART 2: CONSTRUCT MEASUREMENTS

3.13 Operationalisation of Constructs

This section of the chapter explains the selection of scale items that are used to measure the constructs in this thesis. These constructs are social concern namely public concern and regulatory forces; economic concern namely environment as commitment and environment as opportunity, corporate citizenship culture with four dimensions – economic citizenship, legal citizenship, ethical citizenship and discretionary citizenship and marketing capabilities comprising organisational learning and enviropreneurship as the dimensions. In order to choose the correct items that measure these scales, the following judgments were taken into consideration:

1) The purpose of this thesis is to measure CSR antecedents. Thus, it is crucial to include items that represent the antecedents of CSR. By addressing antecedents of CSR, this study develops a better theoretical understanding of the processes through which CSR are being practiced in the decision-making of organisations. For this reason, the items chosen for this thesis have been selected from the most recent literatures that represent those antecedents.

2) The other purpose of this thesis is to include items that measure the content of each construct in this research, and concomitantly establish the extent to which they represent definitions and dimensions. Churchill (1979:68) asserts "the

researcher probably would want to include items with slightly different shades of meaning because the original list will be refined to produce the final measure".

3) All the constructs are adopted from established scales with valid and reliable measures of corresponding constructs. However, following the feedback gained from the pre-testing, minor modifications were made to the items to suit the language, culture and business environment of the respondents. These minor modifications, however, did not alter the content of the constructs. Still validity and reliability were examined to ensure they were acceptable. In sum, a total of 84 scale items are used to measure the constructs in the model. The Table 3.2 depicts a summary of the numbers and source of the items used to test each construct

Table 3.2: Scale of Items Used

	Numbers of Items	Sources
Social concern		
Public Concern	5 items	
Regulatory Forces	6 items	Banerjee, Iyer & Kashyap
		(2003)
Economic concern		
Environment as Opportunity	3 items	
Environment as Commitment	3 items	Baker and Sinkula (2005)
Corporate Citizenship Culture		
Economic Citizenship	7 items	
Legal Citizenship	7 items	Maignan et al (1999)
Ethical Citizenship	7 items	
Discretionary	8 items	
Marketing Capabilities		
Organisational Learning		
Commitment to Learning	6 items	
Shared-vision	6 items	Sinkula, Baker & Noordeweir
Open-Mindedness	6 items	(1997)
Enviropreneurship		
Innovativeness	4 items	Naman & Slevin (1993)
Risk-Taking	3 items	Lumpkin & Dess (2001)
Proactive ness	3 items	
Organisational Performance	7 items	Narver & Slater (1990)
		Baker & Sinkula (1999)

Table 3.4 to 3.8 illustrates the original and items used for testing the questionnaire that frame each construct. Nevertheless, all the items have been validated by conducting pre-test procedures.

3.14 Measurement Scales

3.14.1 Social Concern

Social concern in this study refers to organisations' environmental issues where organisations need to integrate them into the organisations strategic plans. Eventually, environmental issues can influence business strategy. Thus keep pace with the public concern and responses to regulation as part of business environmental strategy indicate the organisations responsiveness to environmental concern. The concept of social concern (Banerjee 2002) which consists of public concern and regulatory forces are considered as important antecedents to environmentalism (Banerjee et. al., 2003). In effort to examine this concept, the scale by Banerjee et al. (2003) was adopted and extended for the purpose of this study. Furthermore, the scales apply is to examine the forces behind the implementation of environmental strategic decision planning. The point on the Likert are ranging from strongly disagree (1) to strongly agree (7). Table 3.3 exhibits the measures for social concern.

Table 3.3 Measures for Social Concern

Original Scale Items	Items used for Testing	Sources
Public Concern		
Our customers feel that environmental protection is a critically important issue facing the world today	Our customers feel that environmental protection is important issue facing the world today	Banerjee, Iyer & Kashyap (2003)
The North American public is very concern about environmental destruction	Malaysian public is very concern about environmental destruction	
Our customers are increasingly demanding environmentally friendly products and services	Our customers demand environmentally friendly products and services	
The public is more worried about the economy than environmentally protection	The public is worried about the economy than environmentally protection *	
Our customer expect our firms to be environmentally friendly	Our customer expect us to be more environmentally friendly	

*** Reverse-coded item**

Table 3.3., continued

Original Scale Items	Items used for Testing	Sources
Regulatory Forces	**Environmental regulation and legislation** For question 1-4: The government environmental regulation and legislation:	
Regulation by government agencies has greatly influenced our firm 's environmental strategy	influenced our organisation's environmental strategy	
Environmental legislation can affect the continued growth of our firm	can affect the continued growth of our organisation	
Stricter environmental regulation is a major reason why our firm is concerned about its impacts on the natural environment	are the reason why our organisation is concerned about the natural environment	Banerjee, Iyer & Kashyap (2003
Tougher environmental legislation is required so that only firms that are environmentally responsible will survival and grow	are required so that only organisations that are environmentally responsible will survive and grow	
Our firm's environmental efforts can help shape future environmental legislation in our industry	Our organisation's environmental efforts influence the future environmental legislation	
Our industry is faced with strict environmental regulation	Our industry is faced with strict environmental regulation	

3.14.2 Economic Concern

Economic concern reflects organisations orientation and commitment to balance both organisational and societal concerns through the process of marketing strategies. This process represents organisations' social, environmental and economic objectives simultaneously. As such, the study employs the scale proposed by Baker and Sinkula (2005). The items used in environment as opportunity were designed to "achieve a competitive advantage". Menon and Menon (1997:53-54) *"saw environmental concern as an opportunity"* and *"environment as commitment"* that focus on environment marketing strategies which take the form *"of investment (financial and non financial) that are very substantial and visible."* and at the same times are *"commitments that are irreversible"* (Baker and Sinkula, 2005:467).

These scales demonstrate that besides environmental concerns are part of organisation commitment, it was also a bundle of benefits that organisations would gain by incorporate environmental strategy into their strategic decision making. The point on the Likert are ranging from strongly disagree (1) to strongly agree (7). Table 3.4 shows the measures for economic concern.

Table 3.4 Measures for Economic Concern

Original Scale Items	Items used for Testing	Sources
Environmental issues enter into marketing strategy development:	In our strategy development, environmental issues are treating as:	
As an opportunity to create a strategic advantage	an opportunity to create a strategic advantage	
As a result of compliance or social obligation rather than a proactive strategy	a result of compliance or social obligation rather than a proactive strategy*	
In the form of investments (financial and non-financial) that are very substantial and visible	form of investments (financial and non-financial) that are very important	Baker & Sinkula (2005)
Because we see environmental imperatives as market opportunities	market opportunities	
In the form of commitments that are irreversible	form of commitments that are irreversible	
Usually as an individual's tactic aimed at enhancing economic performance within an existing product line	an individual's tactic to enhance economic performance*	

*** Reverse-coded items**

3.14.3 Corporate Citizenship Culture

Corporate citizenship culture involves the efforts business organisations embark on to meet their responsibilities in economic and social agents. Organisations become aware of their social responsibilities through pressure imposed on them by their stakeholders. Managers hold primary responsibility for the integration of corporate citizenship culture into organisational decision making. Besides, it is enviable for management to balance the interest of various stakeholders in order to achieve corporate performance. The corporate citizenship culture constructs are included in order to confirm that the dimensions would create a sustainable future, economically, socially and environmentally which requires interaction/collaboration between people, companies and governments. The measures by Maignan et al. (1999) are adopted for this study. The point on the Likert are ranging from strongly disagree (1) to strongly agree (7). Table 3.5 shows the measures for corporate citizenship culture which comprise of economic citizenship, legal citizenship, ethical citizenship, and discretionary citizenship.

Table 3.5 Measures for Corporate Citizenship Culture

Original Scales Items	Items used for Testing	Sources
Economic Citizenship	**Economic Citizenship** For Question 1-6 Our Organisation	
Our business has a procedure in place to respond to every customer complaint	have a procedure in place to respond to every customer complaint	Maignan et al., (1999)
We continually improve the quality of our products	continually improve the quality of our products	
We use customer satisfaction as an indicator of our business performance	use customer satisfaction as an indicator of our organisational performance	
We has been successful at maximizing our products	has been successful at maximizing our products and services	
We strives to lower our operating costs	strive to lower the operating costs	
We closely monitor employees' productivity	closely monitor employees' productivity	
Top management establishes long-term strategies for our business	Top management establishes long-term strategies for our business	

Table 3.5., continued

Legal Citizenship	**Legal Citizenship** For Question 1-4 Our organisation:	
Our contractual obligations are always honored	always honored our contractual obligations	
Our company seeks to comply with all laws regulating hiring and employee benefits	comply with all laws regulating hiring and employee benefits	Maignan et al., (1999)
We have programs that encourage the diversity of our workforce (in term of age, gender or race)	has programs that encourage the involvement of our workforce (in term of age, gender or race)	
Internal policies prevent discrimination in employees' compensation and promotion	is opposed to internal policies of discrimination in employees' compensation and promotion	
Managers are informed about relevant environmental laws	Managers are informed about relevant environmental laws	
All our products meet legal standards	All our products and services meet legal standards	
The managers of this organisation try to comply with the law	Our managers make an effort to comply with the law	

Table 3.5., continued

Ethical Citizenship Our business has a comprehensive code of conduct We are recognized as a trustworthy company Members of our organisation follow professional standards A confidential procedure is in place for employees to report any misconduct at work (such as stealing or sexual harassment) Our salespersons and employees are required to provide full and accurate information to all customers	**Ethical Citizenship** For Question 1-5 Our organisation: has a comprehensive code of conduct are recognized as a trustworthy company follow professional standards has in place a confidential procedure for employees to report any misconduct at work (such as stealing or sexual harassment) requires the salespersons and employees to provide full and accurate information to all customers	Maignan et al., (1999)
Top managers monitor the potential negative impacts of the organisation activities on the community Fairness toward coworkers and business partners is an integral part of our employee evaluation process	Top managers monitor potential organisation negative activities that affect community Fairness toward coworkers and business partners is an integral part of our employee evaluation process	

Table 3.5., continued

Discretionary Citizenship	**Discretionary Citizenship** Our organisation:	
The salaries offered by our organisation are higher than industry averages	offer salaries higher than the industry average	Maignan et al., (1999)
Our organisation support employees who require additional education	support employees who require additional education	
Our organisation encourage employees to join civic organisations that support our community	encourages employees to join civic organisations that support our community	
Our organisation gives adequate contribution to charities	contribute adequately to charities	
A program is in place to reduce the amount of energy and materials wasted in our organisation	has program for employees on how to reduce the amount of energy and materials wasted	
We encourage partnership with local business and schools	encourages partnership with local businesses and schools	
Our organisation supports local sports and cultural activities	support local sports and cultural activities	
Flexible organisation policies enable employees to better coordinate work and personal life	has flexible policies enable employees to better coordinate work and personal life	

3.14.4 Organisational Learning

In the absence of learning, companies and individuals seem to simply repeat old and same practices in which result in either fortuitous or short-lived. Thus, learning is important to guarantee organisation long-term survival. Nevertheless, to achieve this, organisation need to align with its environment to remain innovative and competitive. Hence, to align with the environment, organisation must have the potential to learn and adapt to the changes in the environment which lead to organisation capacity to learn over time. Organisational learning measures in this study are discussed in term of three interrelated concepts. These concepts are commitment to learning (organisation view on environmental learning), shared-vision (organisation practices on environmental issues) and open-mindedness (organisation actions on environmental issues). In order to examine this concept, the scale by Sinkula, Baker and Noordeweir (1997) was adopted and extended for the purpose of this study. The point on the Likert are ranging from strongly disagree (1) to strongly agree (7). Table 3.7 shows the items used.

Table 3.6 Measures for Organisational Learning

Original Scales Items	Items used for Testing	Sources
Commitment to Learning	**Commitment to Learning** We view environmental learning as:	
Managers basically agree that business unit's ability to learn is the key to organisation competitive advantage	our ability to achieve competitive advantage	
The basic values of this business unit include learning as key to improvement	the basic values to the organisation's improvement	
The sense around here is that employee learning is an investment, not an expense	an investment, not an expense	Sinkula, Baker and Noordeweir (1997)
Learning in my organisation is seen as a key commodity necessary to guarantee organisational survival	a necessary to guarantee our survival	
Our culture is one that does not make employee learning a top priority	not our culture priority to employees' learning*	
The collective wisdom in this enterprise is that once we quit learning, we endanger our future	a continuous process to protect the future of our organisation	

*** Reverse-coded item**

Table 3.6., continued

Shared-vision	**Shared-vision** In our organisation, when it comes to environmental issues:	
There is a well-expressed concept of who we are and where we are going as a business unit	there is a well-expressed concept of who we are and where we are going as a business unit	
There is a total agreement on our business unit vision across all levels, functions and divisions	there is a total agreement on our business unit vision across all levels, functions and divisions	Sinkula, Baker and Noordeweir (1997)
All employees are committed to the goals of this business unit	all employees are committed to the goals of the organisation	
Employees view themselves as partners in charting the direction of the business unit	employees view themselves as partners in planning organisation's direction	
Top leadership believes in sharing its vision for the environmentally business unit with the lower level	employees share the same vision	
We do not have a well-defined vision for the entire business unit	we do not have a well-defined vision for the entire organisation *	

*** Reverse-coded item**

Table 3.6., continued

Open-mindedness	**Open-mindedness** When dealing with environmental issues:	
We are not afraid to reflect critically on the shared assumptions we have about the way we do business	We are not afraid to reflect critically on the shared assumptions we have about the way we do business	
Managers in business unit do not want their "view of the world" to be questioned	Our managers do not want their "view of the world" to be questioned*	Sinkula, Baker and Noordeweir (1997)
Our business unit places a high value on open-mindedness	We place a high value on being open-mindedness	
Managers encourage employees to "think outside of the box	Our managers encourage employees to "think outside of the box"	
An emphasis on constant innovation is not a part of organisational corporate culture	An emphasis on constant innovation is not a part of organisational corporate culture*	
Original ideas are highly valued in this organisation	Original ideas are highly valued in this organisation	

*** Reverse-coded items**

3.14.5 Enviropreneurship

Factors in the external environment and interaction among members of organisational could influence corporate entrepreneurial ideas and activities. These entrepreneurial ideas and activities could allow organisation to gain substantial economic and non-economic benefits if employees could turn them into profitable products and services. Environment and entrepreneur (enviropreneurship) are integrated as one of the dimensions of marketing capabilities so as to illustrate that organisation internal resource as a means of promoting and facilitating corporate enviropreneurship. In this study the elements of enviropreneurship are innovativeness, risk taking and proactiveness. Thus, the scales used portray the organisational traits to the features of entrepreneurial and organisational profile in adapting to changes in the environment. The scales from Naman and Slevin (1993) and Lumpkin and Dess (2003) are adapted to measures the entrepreneurial traits. They are measured by using a Likert scales that ranging from strongly disagree (1) to strongly agree (7) and are presented in the following tables.

Original Scales Items
In general, top managers of my business unit favor…

A strong emphasis on the marketing or tried and true products or services	1 2 3 4 5 6 7	A strong emphasis on R&D, technological leadership and innovation

Items used for Testing
In general, top managers favor a strong emphasis on…

1.	R & D, technological leadership and innovations

Original Scales Items
How many new lines of products or services has your business unit marketed in the past 5 years?

No new lines of products or services	1 2 3 4 5 6 7	Very many new lines of products or services
Changes in product or service lines have been mostly a minor in nature	1 2 3 4 5 6 7	Changes in product or service line have usually been quite dramatic

Items used for Testing
In the past 5 years, our organisation:

2.	has produced many new lines of environmentally products and services
3.	changes in environmentally products or services have been impressive

Original Scales Items
In general, the top managers of my business unit have…

A strong proclivity for low risk projects (with normal and certain rates of return)	1 2 3 4 5 6 7	A strong proclivity for high risk projects (with chances of very high return)
A strong tendency to "follow the leader" in introducing new products or ideas	1 2 3 4 5 6 7	A strong tendency to be ahead of other competitors in introducing novel ideas or products

Items used for Testing
In general, top managers have a strong tendency…

4.	for high risk and high return of environmentally products or services
5.	to be ahead of other competitors in introducing innovative ideas or products

Original Scales Items
In general, the top managers of my business unit believe that…

Owing to the nature of the environment, it is best to explore gradually via cautious, incremental behavior	1 2 3 4 5 6 7	Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives

Items used for Testing
In general, top managers believe that…

6.	To achieve the organisational environmental objectives, daring and wide-ranging acts are required

Original Scales Items
When confronted with decision making situations involving uncertainty, my business unit…

Typically adopts a cautious, "wait and see" posture in order to minimize the probability of making costly decisions	1 2 3 4 5 6 7	Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities

Items used for Testing
When confronted with decision making situations involving uncertainty, our organisation

7.	typically adopts a bold, aggressive posture to maximize exploiting potential opportunities

Original Scales Items
In dealing with competitors, my business unit…

Typically responds to actions which competitors initiate	1 2 3 4 5 6 7	Typically initiates actions to which competitors then respond
Is very seldom the first business to introduce new products/services, administrative techniques, operating techniques, etc	1 2 3 4 5 6 7	Is very often the first business to introduce new products/services, administrative techniques operating technologies, etc
Typically seeks to avoid competitive clashes, preferring a "live-and-let-live posture	1 2 3 4 5 6 7	Typically adopts a very competitive "undo-the-competitors" posture

Items used for Testing
In dealing with competitors, our organisation typically…

8.	adopts a very competitive, "undo-the-competitors" posture
9.	are the first to introduce any new environmental products or services
10.	are the first to introduce any new administrative techniques, operating technologies, etc.

3.14.6 Organisational Performance

Several empirical studies on organisational learning, market orientation and innovation have been drawn as to measure organisational performance. The categories of the measures used in the scales are to measure organisational performance and organisational effectiveness. Respondents were asked to state their organisations' performance in the last three years. A Likert Scale ranging from (1) Decrease of more

than 20% to (7) Increase more than 20% were used. Table 3.7 shows the measure of organisational performance. Scales by Narver and Slater (1990) and Baker and Sinkula (1999) were used to assess the organisational performance.

Table 3.7: Measures for Organisational Performance

Growth in sales
Growth in market share
Growth in New Products/ Services Development
Brand loyalty
Corporate reputation
Overall employee commitment
Overall performance measured by firm goals and objectives

PART 3: VALIDITY AND RELIABILITY ASSESSMENTS

3.15 Introduction

Once unidimensionality has been established, the process of reliability and validity would take place. Bollen (1989) classifies reliability and validity as a separate concept but then they are closely related. As Holmes-Smith et al., (2006) state that a measure may be consistent (reliable) but not accurate (valid), and alternatively, a measure may be accurate but not consistent. Additionally, Sekaran (2000) concurs that an instrument is valid if it measures what it supposed to measure and reliable if it is consistent and stable. Therefore, all of the constructs were tested for reliability and validity in order to determine whether they measured what they are aimed to measure. Thus, coefficient alpha, Composite reliability (CR), and Average Variance Extracted (AVE) are computed to assess reliability, while content, construct, criterion and external validity are examined for validity. Altogether, the major concern behind reliability and validity is to reduce the measurement errors. Both reliability and validity assessments are discussed below.

3.16 Validity

Zikmund (2003:331) defines validity *as "the ability of a scale to measure what intended to be measured"*. This is supported by, Neuman (2003) who points out that the better the fit between the conceptual and operational definitions, the greater the measurement

validity. Three types of validity, including, content, construct (convergent and discriminant validity) and criterion have been examined in this study.

3.16.1. Content Validity

Malhotra (1996) characterizes content validity as a subjective but systematic assessment of the extent content of a scale measures a construct. Furthermore, according to Zikmund (2003) when the measure shows adequate coverage of the concept, then the measure has face validity. In order to obtain content validity, experts or professionals are invited to express their judgment on the relevancy and adequacy of the constructs (Zikmund, 2003). In this regard, taking the recommendation from Churchill (1979), the scale development process discussed earlier has been applied to ensure content validity for this study. Nevertheless, content validity is not sufficient to provide a more rigorous empirical test (Zikmund, 2003). Therefore, construct and criterion validity are used to measure validity (Malhotra, 1999).

3.16.2. Construct Validity

Construct validity is directly concerned with what the instrument is actually measuring (Zikmund, 2000). In other words, according to Sekaran (2000) construct validity refers to how well the results are achieved from employing the measure fitting the theories around which the test is designed. Bagozzi et al., (1991:422) stress that " *without*

assessing construct validity one cannot estimate and correct for the confounding influences of random error and method variance, and the results of the theory being tested may be ambiguous."

In relation to this study, construct validity is examined by analyzing both convergent validity and discriminant validity. Sekaran (2000) defines convergent validity as to examine whether the measures of the same construct are correlated highly, and discriminant validity as to determine that the measures of a construct have not correlated too highly with other constructs. A number of methods have been suggested for assessing convergent and discriminant validity: factor analysis, correlation, and even more advanced procedures including CFA existing in SEM. For the purpose of this thesis, convergent and discriminant validity have been assessed by performing CFA.

3.16.2.1. Methods of Assessing Construct Validity

i. Factor Analysis

Factor analysis can be categorised into exploratory and confirmatory factor analysis. In most research, confirmatory factor analysis is the most preferred method in confirming the measure. Nevertheless, with any newly developed scale, exploratory factor analysis is deemed more appropriate (Hurley et. al., 1997). Exploratory factor analysis is used to examine the underlying structure of a measure, while confirmatory factor analysis is to investigate whether a specified hypothesized measurement structure provides an

adequate explanation of the covariance between the observed variables (Kelloway, 1995).

Exploratory factor analysis (hereinafter EFA) is used for data exploration in order to generate hypotheses. It is a technique used to determine the structure of factors to be examined. Similarly, it is a technique used when the relationship between latent and observed variables is unknown. Through EFA, these factors can only be named after factor analysis is performed. In other words, EFA can be performed without knowing how many factors really exist or which variables belong to which constructs (Hair et al, 2006).

Confirmatory factor analysis (CFA) involves analyzing the relationship between latent (unmeasured or theoretical construct) and observed (measured or indicators) variables (Tabachnick and Fidel, 1996). Researcher must specify both the number of factors that exist within a set of variables and which factor each variables load highly before the results can be computed (Hair et al, 2006). As such, CFA does not assign variables to factor.

a) Exploratory Factor Analysis

EFA is used to establish dimensionality and convergent validity of the relationship items and constructs. In order to validate the application of factor analysis in this study, the measure of sampling adequacy, a statistical test to quantify the degree inter-correlations among the variables was used (Hair et al, 1998). Thus, the Bartlett's Test of Sphericity

(Bartlett's Test) and Kaiser-Meyer-Oklin (KMO) were used. The Bartlett's Test should be significant ($p<0.05$) for factor analysis to be considered appropriate and the KMO more than 0.60 to be considered appropriate for factor analysis (Pallant, 2001).

For this study, factor analysis under the extraction method of principal component analysis with the rotation method of varimax with Kaiser Normalization was used to analyze the scales. Varimax rotation was used because it minimised the correlation across factors and maximized within the factors. This helped to yield 'clear' factors (Nunnally, 1978). Nunnally (1978) posits that items with loadings higher than 0.50 on one factor are retained for further analysis. However, this study retained items with a coefficient of 0.4 and above as it indicates a reasonable and sufficient loading (Lee and Crompton, 1992; Gorsuch, 1983).

b) Confirmatory Factor Analysis: Structural Equation Modeling

In this study, CFA is used to analyze convergent and discriminant validity by assessing the measurement model developed for testing each of the main variables. This can be done in two ways: testing each construct separately where each latent variable is conducted independently (Garver and Mentzer, 1999) or testing all constructs together at one time (Cheng, 2001). Furthermore, to assess convergent validity, the proposed model has to present a holistic fit. In general there are two strategies to evaluate overall model fit: 1) selecting fit indices which represent different families of fit indices and 2) specifying a stringent criteria and selecting fit indices that best represent this criteria (Garver and Mentzer, 1999).

Like any statistical method, a number of assumptions need to be met before conducting SEM. Anderson and Gerbing (1984) believe that SEM could be used for sample size as small as 50. Hair et al., (1995) state 100 is generally the minimum sample size as to ensure the appropriate use of maximum likelihood estimate (MLE). However, a sample size of 400 and over is also considered as undesirable (Carmines and McIver, 1981; Tanaka, 1987; Hair et al;, 1995), because the method become too sensitive and goodness-of-fit measures will indicate a poor fit. Since, there is no agreement among the scholars about sample size; Hair et al (1995) considered a number 200 to be ideal. The sample size of this study is 261, which is considered appropriate for using SEM.

c) Evaluating the Fit of the Model

Model fit means that the hypothesized model fits the data well. There are many indices provided by SEM, although there is no agreement among scholars as to which fit indices should be reported. For example, Kline (1998) recommends at least four such as GFI, NFI, or CFI, NNFI and SRMR. However, Hair et al. (2006) and Bentler (1990), propose model has to illustrate a satisfactory fit in term of absolute fit, incremental fit and model parsimony in order to reflect diverse criteria and provide the best overall picture of the model fit. Thus, this study adopts those measures most commonly used in marketing research to evaluate models in which the three categories are reflected. Tables 3.8 summarized the three categories being used in this study and are described in more detail below.

Table 3.8 Summary of Goodness-0f-Fit Indices

Name of Indices	Level of Acceptance	Comments
Absolute fit Indices		
Chi-Square (χ^2)	P>0.05	This measure is sensitive to large sample size
Goodness-of-Fit (GFI)	0.90 or greater	Value close to 0 indicates a poor fit, while close to 1 indicates a perfect fit
RMR (root mean square residual)	Less than 0.05	Value of 0 indicates a perfect fit while smaller than 0.05 indicates good fit.
Root Mean Square of Approximation (RMSEA)	Between 0.050 and 0.080	Value up to 1.0 and less than 0.05 is considered acceptable
Incremental fit Indices		
Tucker-Lewis Index (TLI)	0.90 or greater	Value close to 0 indicates a poor fit, while value close to 1 indicates a perfect fit
Comparative Fit Indices (CFI)		
Parsimonious fit Indices		
Normed Chi-Square (χ^2 /df)	$1.0 \leq \chi^2/df \leq 5$	Lower limit is 1.0, upper limit is 3.0 or as high as 5

Absolute fit indices

Chi-square statistics (χ^2) is considered the most fundamental measure of overall fit (Bollen, 1989). Even though it is being considered the most important one to evaluate fit of the model, it has been criticized for being too sensitive to sample size (Fornell and Larcker, 1981; Marsh et al., 1988; Jöreskog and Sörbom, 1996), especially in cases

where sample size is over 200 (Bagozzi and Yi, 1988; Hair et al., 1995). Therefore, according to Bagozzi (1981); Han (1991); Boven and Johnson (2006), marketing researchers normally do not exclusively use the value of chi-square to reject or accept their models, but use it in conjunction with other indices to evaluate overall fit.

As proposed by Jöreskog and Sörbom (1981), this study adopts Goodness-of-Fit Index (GFI) as the second measure of absolute fit index. The GFI measure indices the relative amount of variance and covariance together explained by the model (Bryne, 1989). This measure is not adjusted to degree of freedom (Hair et al., 1995), ranging from 0 (indicating a poor fit) to 1 (indicating a perfect fit), where the recommended level of acceptance is 0.90 (Hair et al., 1995). The third measure of absolute fit index used is RMR (root mean square residual). The smaller the RMR is the better the model. It is used to compare the fit of two different models with the same data. Value of zero indicates a perfect fit. The closer the RMR to 0 for a model being tested, the better the model fit. RMR with value smaller than 0.05 indicates a good fit. The last measure used under absolute fit indices is Root Mean Square Error of Approximation (RMSEA). This measure assists in correcting the tendency of chi-square to reject specified models. Hu and Bentler (1999) have suggested RMSEA <= .06 as the cutoff for a good model fit. RMSEA less than .05 indicates good fit, =0.0 indicates exact fit, from .08 to .10 indicates mediocre fit, greater than .10 indicates poor fit. The RMSEA values are classified into four categories: close fit (.00–.05), fair fit (.05–.08), mediocre fit (.08–.10), and poor fit (over .10). The question of what is a "good" RMSEA value is debatable but typically values are below 0.10 for most acceptable models (Hair et al., 2006). In short, RMSEA is most acceptable as sample become larger, more than 500

respondents (Hair et al., 2006). Thus, in this study RMSEA is used as an indicator of overall fit (in conjunction with other measures), not as a basis for rejecting or accepting the model since the sample size is only 261.

Incremental fit Indices

Incremental fit indices is differ from absolute fit indices in that they assess how well a specified model fit relative to some alternative baseline model. A baseline model is a null model, one that assumes all observed variables are uncorrelated. Meaning the results of relationship from the hypothesized model is compared with the independent models. The score for the incremental model range from 0 to 1. Perfect fit is a score closer to 1whereas 0 refers to there being no difference from the hypothesized and independent model. The Comparative Fit Indices (CFI) and Tucker Lewis Index (TLI) are the indices of incremental fit used in this study.

CFI compares the covariance matrix predicted by the model to the observed covariance matrix. CFI ranges from 0 (poor fit) to 1 (perfect fit) having a commonly recommended level of .90 or greater (Hair et. al., 1995). Meanwhile, TLI combines a measure of parsimonious into a comparative index between the proposed or hypothesized and null models, resulting in values ranging from 0 (not fit at all) to 1 (perfect fit). Similar to CFI, the commonly recommended level is .90 or greater (Hair et al., 1995). It has been adopted in this thesis due to its ability to provide a nonbiased indication of model fit at all sample sizes (Finch and West, 1997).

Parsimony fit indices

These indices refer to the application of parameters or the coefficient of hypothesized model. The fewer the estimated parameters used in the model, the more parsimonious the model (Hair et al., 2006; Bentler 1995). The normed chi-square (χ^2 /df) is the most popular parsimonious fit index used to evaluate the appropriateness of the model (Hair et al., 1995) but it is frequently criticized due to its high sensitivity to sample size and the fact that the significance level can be misleading (Hair et al., 2006). Wheaton (1987) advocated CMIN/DF not be used. Different researchers have recommended using ratio as low as 2 or as high as 5 to indicate a reasonable fit (Marsh and Hocevar, 1985). Kenny (2009) quote that there is no consistent standards for what is considered an acceptable model. Consequently, this study has used this measure as an indicator of overall fit (in conjunction with other measures), not as a basis for rejecting or accepting the model.

ii) Convergent and Discriminant Validity

Convergent validity is the degree in which different methods which are used to measure the same construct produce similar results (Anderson and Gerbing, 1991). Garver and Mentzer (1999) posit that the convergent validity is tested by determining whether the items in a scale converge or load together on a single construct in the measurement model. If there is no convergent, either the theory used in the study needs to be analyzed or the purification of measures needs to be implemented by eliminating the items.

Discriminant validity refers to the extent in which a certain construct is different from other constructs (Chen, Aryee and Lee, 2003). This means that items from one scale should not load or converge too closely with items from a different scale and that different latent variables which correlate too high may indeed be measuring the same construct rather than different construct (Garver and Mentzer, 1999). Thus, relatively low correlations or no correlations between variables indicated the presence of discriminant validity.

Therefore, structural equation modeling with analysis of moment structure (AMOS) version 16.0 is used to examine convergent validity of social concern, economic concern, corporate citizenship culture and marketing capabilities. CFA was not carried out for organisational performance because they involved a single item measure.

This is because a single-item measure's reliability and validity cannot be tested using CFA like multiple-item measures since the variable can be measured directly with this single items (Hair et al., 2006). Thus, for these constructs, it is only adequate to check its content validity where researcher's judgment and insight must be applied (Garver and Mentzer, 1999).

3.16.3 Criterion Validity

Criterion validity was performed as the final test of validity on the constructs of the study. It describes the strength and direction of the linear relationship between variables.

It anticipates any relationship between the measure and the outcomes. A high test scores or correlated result displays that the measure meet the criteria set. The rest were also important to further elaborate on the findings of the hypotheses testing later. In sum, it examines the extent of a scale performs as expected in relation to other selected variables (criterion variable) as the significance criteria (Malhotra, 2004:283).

There are two forms of criterion validity: concurrent and predictive validity. These two methods differ from one another on the basis of the time dimension. For predictive validity, data on scales and criterion variables are gathered at different times, while for concurrent validity, the data on scales and criterion variables are gathered simultaneously. Thus, for this study concurrent validity was relevant and correlational analysis was selected to analyse the criterion validity. Correlation analysis was carried out to determine the degree of association between constructs as well as the multicollinearity of the independent variables of this study. It does not only indicate the degree of association of the variables but the direction of the association as well.

The results of the correlation coefficients that fall between ±1 and ±0.81 are generally considered to be "very high", which will create multicollinearity in the data (Burns and Bush, 2000). However, those correlation coefficients of ±0.5 and above also reflect strong correlations between two variables (Tabachnick and Fidell, 2001). To simplify the interpretation of the correlation coefficients, Cohen and Cohen (1983) suggest that the correlation coefficients values; r = ±0.10 to ±0.29 as small correlation; r = ±0.30 to ±0.49 as medium correlation and r = ±0.50 to ±1.0 as large correlation.

3.17 Reliability

Reliability of a measurement refers to its consistency (Hair et al., 2006). There two types of reliability namely external and internal consistency. External reliability refers to *"the degree of consistency of a measure over time"* (Bryman and Cramer, 2001:62-63). External reliability can be examined through a test-retest by administrating a test on two occasions on the same group of subjects. It is anticipated that respondents who score high on the first test should also score high when taking the same test at another time. On the contrary, a low-retest correlation may not indicate that the reliability of the test is low; instead it may signify that the underlying theoretical concept itself has changed (Bryman and Cramer, 2001).

Alternative forms method is to check the external reliability. This method refers to two different forms which are connected and administrated to the same respondent at different times. The correlation coefficient is tested and the higher the results, the greater the reliability. Nevertheless, using this method is very costly and time consuming (Malhotra, 2004).

Internal reliability, on the other hand, is specifically used in multi-item scales. It refers to whether the items that make up the scale are measuring a single concept or whether those items are internally consistent (Bryman and Cramer, 2001). Estimates of reliability based on the average correlation among items within test, concern internal consistencies. If the correlation gives a high result, the internal consistency is also high. The most commonly used measure is Cronbach's Coefficient Alpha which is derived from the

assumption that if all the items are drawn from the domain of a single construct, responses to the items composing the measurement model should be highly correlated (Hatcher, 1994). Additionally, to check the internal reliability, the composite reliability and variance extracted measures for each construct will also be examined. In the context of CFA, it is possible to compute a composite reliability index for each latent variable. Both of these methods were applied to test the reliability of the scales in this study.

a) Internal Consistency Reliability Tests – Cronbach's Coefficient Alpha

Cronbach's Coefficient Alpha estimates the degree to which the items in the scale are representative of the domain of the construct being measured. It is a measure of the internal consistency of a set of items, and is considered 'absolutely the first measure' one should use to assess the reliability of a measurement scale (Nunnally, 1978; Churchill, 1979). Indeed, Cronbach's coefficient is important in measuring multi-point scale items (i.e., 7-point Likert scale used in this thesis) (Sekaran, 2000). Consequently, this method of internal consistency has been adopted to assess the reliability of the measures in this thesis.

b) Reliability Test – Using Structural Equation Modeling

In SEM, the value associated with each latent variable-to-item equation measures the reliability of that individual item (Garver and Mentzer, 1999). The stronger the correlation of the systematic component, the higher the reliability associated with the indicator to its latent variables. Therefore, in this study, the results of composite

reliability, which is often used in conjunction with SEM models, are also presented in order to prove that convergent validity exist for the construct of study. It is computed from the squared sum of factor loading (λ_i) for each construct and the sum of the error variance term for a construct (δ_i) whereby the measurement error is one minus the squared of the indicator's standardized parameter, as;

$$\text{Composite Reliability} = \frac{\left(\sum_{i=1}^{n} \lambda_i \right)^2}{\left(\sum_{i=1}^{n} \lambda_i \right)^2 + \left(\sum_{i=1}^{n} 1 - \lambda_i \right)}$$

A complementary measure of composite reliability is the variance extract measure (Hair et al., 2006). It measures the total amount of variance in the indicators accounted for by the latent variable, and the higher values occur when the indicators are truly representatives of the latent construct. The formula is comparable to composite reliability, except that the numerator is equal to the standardized parameter estimates (symbol chi-square) between the latent variables and its indicators squared, and then summed. The denominator equals the numerator plus the added measurement error for each item. The measurement error is one minus the square of the indicator's standardized parameter estimate.

Variance Extracted = $$\frac{\left(\sum_{i=1}^{n} \lambda_i\right)^2}{n}$$

By using the same logic, a variance extracted which is less than 0.5 indicates that, on average, more error remains in the items than the variance explained by the latent factor structure in the measurement model (Hair et al., 2006).

PART 4 RELIABILITY AND VALIDITY RESULTS

3.18 Validating the Elements of CSR Orientation

One of the purposes of this study is to develop and validate social concern, economic concern and corporate citizenship culture as the elements of CSR orientation. Specifically, this section tries to answer the first proposition that social concern, economic concern and corporate citizenship culture are elements to CSR orientation. The do this; the analysis was conducted following three steps. In the first stage, all the 46 items from the three constructs were generated and included in the first-order measurement model of CSR antecedents under one-factor model. The initial model fitness was assessed and subjected to respecification. In the second stage, first-order six-factor model order confirmatory factor analysis was performed based on the respecified model. Finally, the first-order six-factor models were loaded onto the second-order factor.

Dimensionality of the CSR elements

The study predicted that the three construct of the elements can be measured by means of the 46 items that make up the scale. Therefore, the study started the analysis of CSR antecedents with a one factor model with 46 indicators. In addition, an alternative model of multi-dimensionality was used. The second model was formulated on the basis of an exploratory factor analysis (using VARIMAX normalized rotation) of the 46 items. The

analysis led to six factors that accounted for 58.3 percent of the total variance. Figure 3.1 shows the first-order one-factor model; Figure 3.2 shows the first-order six-factor model, Figure 3.3 shows the second-order factor model and Table 3.9 shows the results of factor analysis of the 46 items. Finally, Model on page 209 was used for further analyses.

Data pruning and first-order confirmatory analysis

The initial model fit indices were x^2=3669.3, x^2/df=3.710, df=989, GFI=0.515, RMSEA=0.102, TLI=0.549 and CFI=0.612. These indicated that the original model needed to be respecified to fit better with the sample data. Thus, the original model (first-order one factor model) was formulated into first-order six factor model based on exploratory factor analysis. The model fit of the six factor model were x^2=1654.6, x^2/df=2.166, df=764, GFI=0.771, RMSEA=0.067, TLI=0.848 and CFI=0.859. Therefore, the following modifications were made to improve the model:

- The six factor model showed that item 1,7,18, 20, 24, 33, 36, 41and 45 had poor square multiple correlations (0.34 for item 1, 0.40 for item 7, 0.41 for item 18, 0.38 for item 20, 0.43 for item 24, 0.31 for item 33, 0.29 for item 36, 0.43 for item 41 and 0.42 for item45)

- By examining the Modification indices showed that item 5 and 6 had large error covariance (38.647). To avoid cross loading items 5 and 6 were deleted.

Eliminating the items did not affect other items significantly, but the overall goodness-of-fit indices improved.

Following the above steps, eleven items were eliminated in total. The modified first-order confirmatory factor analysis model fit indices are: x^2=758.43, x^2/df=1.945, df=390, GFI=0.844, RMSEA=0.060, TLI= 0.907 and CFI=0.917. The respecified model fits the sample data better.

All items loaded significantly on their designated first-order constructs, which in turn all loaded onto the designated second order factors with no evidence of cross-loading. Across the measurement model, factor and item loadings all exceeded 0.66 with all t-values greater than 9.35, providing evidence of convergent validity among the measures. Furthermore, the average variance extracted (AVE) of each construct values range from 50-61 percent, indicating discriminant validity. Indeed, all measures also exhibit strong reliability with composite reliabilities ranging from 0.80 to 0.92. (Refer Table 3.10)

The above statistics show that all the 30 items converge into a single CSR construct. The 30 items are partitioned into six component factors: ethical citizenship, economic citizenship, discretionary citizenship, regulatory forces, public concern and environment as commitment. Each of the 30 items is loaded onto only one of these six factors, without any cross loading and exhibit good measurement properties.

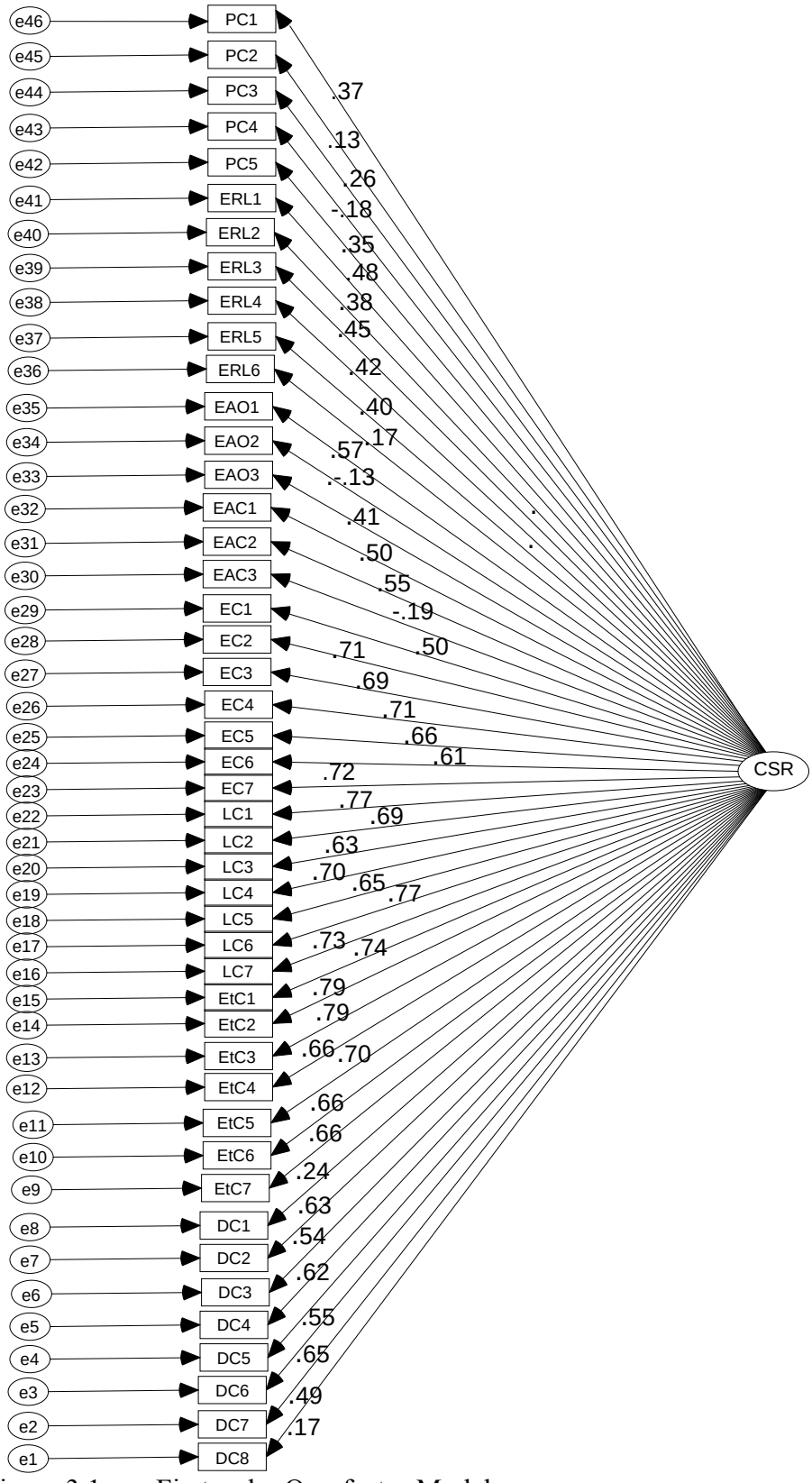

Figure 3.1 First order One-factor Model

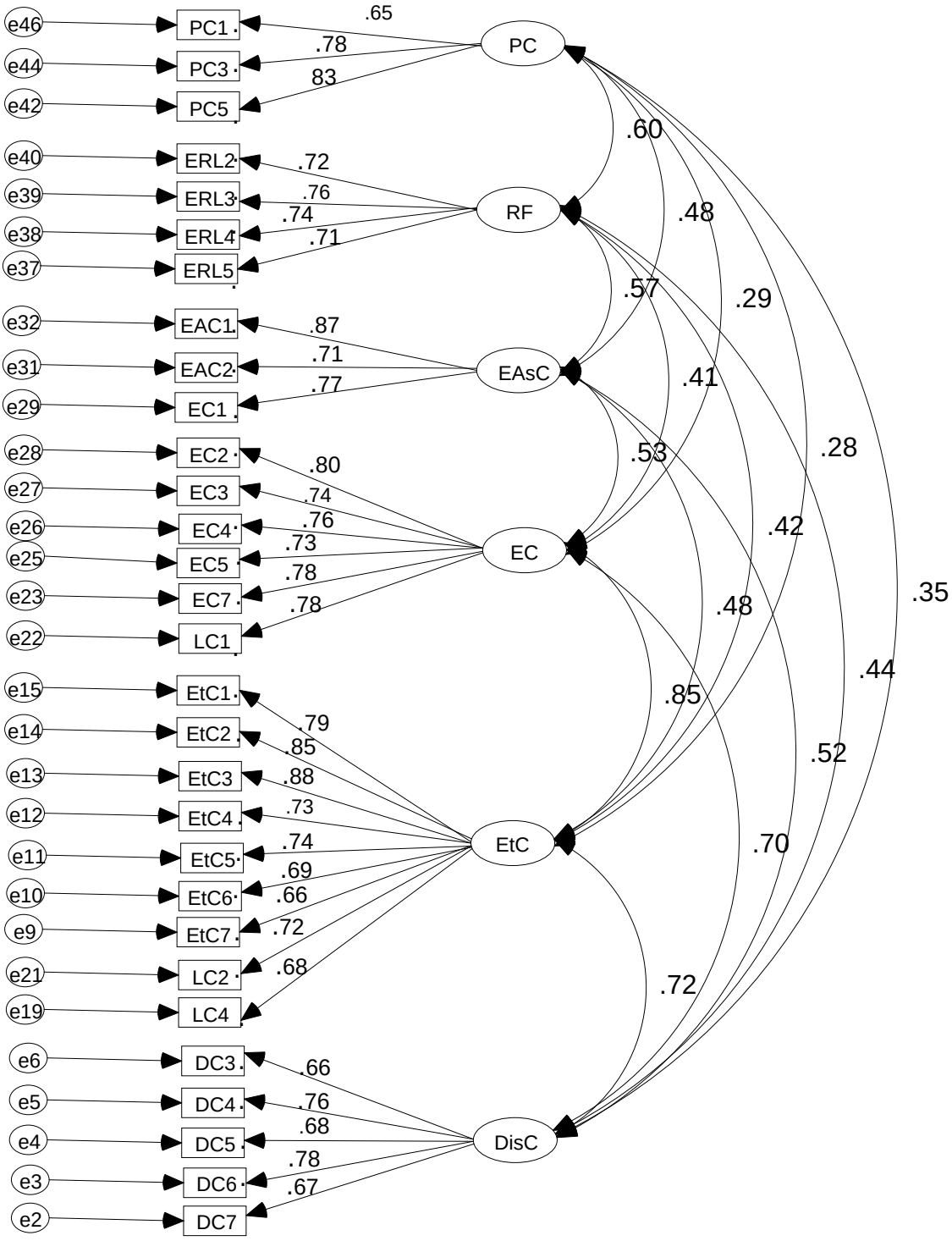

Figure 3.2 First order Six-factor model

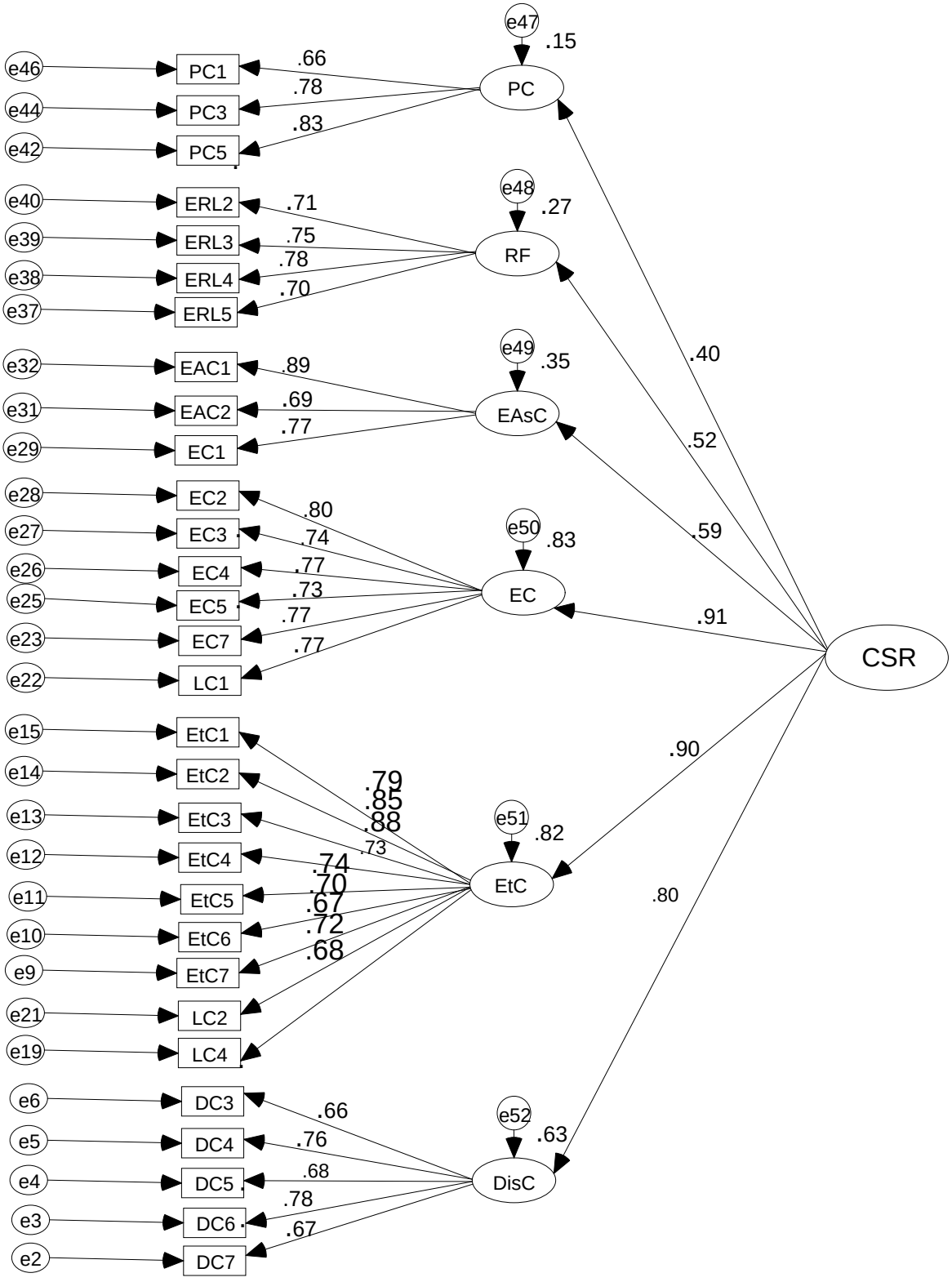

Figure 3.3 Second Order Factor

Table 3.9 Exploratory Factor Analyses and Reliability Analysis of the CSR Orientation Constructs

CSR antecedents: α = 0.921; KMO 0.925; Bartlett's Sig. = 0.00						
Ethical Citizenship α = 0.925	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**
Our organisation has in place a confidential procedure for employees to report any misconduct at work (such as stealing or sexual harassment)	**.776**					
Our organisation follows professional standards	**.728**					
Our organisation complies with all laws regulating hiring and employee benefits	**.709**					
Our organisation is recognized as a trustworthy company	**.675**					
Our organisation has a comprehensive code of conduct	**.653**					
Top managers monitor the organisation's potential negative activities that affect community	**.637**					
Our organisation supports employees who require additional education	**.605**					
Our organisation is opposed to internal policies of discrimination in employees' compensation and promotion	**.728**					
Fairness toward coworkers and business partners is an integral part of our employee evaluation process	**.709**					
Our organisation requires the salespersons and employees to provide full and accurate information to all customers	**.675**					
Our managers make an effort to comply with the law	**.653**					
Our organisation has programs that encourage a varied involvement of all the workforce (in term of age, gender or race)	**.445**					
Economic Citizenship α = 0.907	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**
Our organisation continually improve the quality of our products		**.741**				
Our organisation strives to lower the operating costs		**.721**				
Our organisation has been successful at maximizing our products and services		**.721**				

Table 3.9., continued

Top management establishes long-term strategies for our business		**.657**				
Our organisation closely monitor employees' productivity		**.619**				
Our organisation use customer satisfaction as an indicator of our organisational performance		**.586**				
Our organisation always honor our contractual obligations		**.575**				
All our products and services meet legal standards		**.525**				
Our managers are informed about relevant environmental laws		**.479**				
Discretionary Citizenship α = 0.835	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**
Our organisation supports local sports and cultural activities			**.704**			
Our organisation encourages employees to join civic organisations that support our community			**.669**			
Our organisation contributes adequately to charities			**.649**			
Our organisation has a program for employees on how to reduce the amount of energy and materials wasted			**.639**			
Our organisation encourages partnership with local businesses and schools			**.621**			
Our organisation has flexible policies that enable employees to better coordinate work and personal life			**.527**			
Regulatory Forces α = 0.823	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**
The government environmental regulation and legislation can affect continued growth of our organisation				**.767**		
The government environmental regulation and legislation are required so that only organisations that are environmentally responsible will survive and grow				**.700**		
The government environmental regulation and legislation are the reasons why our organisation is concerned about the natural environment				**.645**		

Table 3.9., continued

The government environmental regulation and legislation influenced our organisation's environmental strategy				**.642**		
Our industry is faced with strict environmental regulation				**.582**		
Our organisation's environmental efforts influence the future environmental legislation				**.578**		
Public Concern α = 0.797	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**
Our customers demand environmentally friendly products and services					**.797**	
Our customers feel that environmental protection is an important issue facing the world today					**.751**	
Our customers expect us to be environmentally friendly					**.739**	
The Malaysian public is very concerned about environmental destruction					**.729**	
Environment as Commitment α = 0.815	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**
In our marketing strategy development, environmental issues are treated as forms of investments (financial and non-financial) that are very important						**.835**
Our organisation has a procedure in place to respond to every customer's complaint						**.741**
In our marketing strategy development, environmental issues are treated as forms of commitments that are irreversible						**.530**
In our marketing strategy development, environmental issues are treated as market opportunities						**.405**

Table 3.10: Descriptive statistics, average variance, composite reliabilities,[a] and construct intercorrelations

		Mean (S.D)	AVE	PC	ERL	EAsC	DC	EC	EtC
PC	Public Concern	16.65 (2.18)	.57	**.80**					
ERL	Regulatory Forces	21.51 (2.69)	.53	.492**	**.82**				
EAsC	Environment as Commitment	13.82 (1.45)	.61	.275**	.191**	**.82**			
DC	Discretionary Citizenship	27.74 (3.39)	.50	.297**	.375**	.252**	**.83**		
EC	Economic Citizenship	34.96 (4.48)	.57	.263**	.353**	.407**	.597**	**.89**	
EtC	Ethical Citizenship	51.86 (6.32)	.50	.270**	.374**	.423**	.632**	.775**	**.92**

[a] **Composite reliabilities are shown on the diagonal**

** Correlation is significant at the 0.01 level

3.19 Exploratory Factor Analysis for Marketing Capabilities

The study continues with the EFA for marketing capabilities. Table 3.11 shows the EFA analysis and reliability of the marketing capabilities construct

Table 3.11: Exploratory Factor Analysis and Reliability Analysis of Marketing Capabilities Constructs

Organisational Learning α = 0.925; KMO 0.923; Bartlett's Sig. = 0.00			
Commitment to Learning α = 0.911	**F1**	**F2**	**F3**
We view environmental learning as a continuous process to protect the future of our organisation	**0.791**		
We view environmental learning as the basic values to the organisation's improvement	**0.777**		
We view environmental learning as our ability to achieve a competitive advantage	**0.758**		
We view environmental learning as a necessity to guarantee our survival	**0.757**		
We view environmental learning as an investment, not an expense	**0.754**		
When dealing with environmental issues Our managers encourage employees to "think out of the box"	**0.674**		
When dealing with environmental issues, we place a high value on being open-mindedness	**0.625**		
When dealing with environmental issues, original ideas are highly valued in this organisation	**0.621**		
When dealing with environmental issues, we are not afraid to reflect critically on the shared assumptions we have about the way we do business	**0.604**		
Shared Vision α =0.880	**F1**	**F2**	**F3**
In our organisation, when it comes to environmental issues there is a total agreement on our business unit vision across all levels, functions and divisions		**0.795**	
In our organisation, when it comes to environmental issues employees view themselves as partners in planning the organisation's direction		**0.784**	
In our organisation, when it comes to environmental issues all employees are committed to the goals of the organisation		**0.771**	

Table 3.11., continued

In our organisation, when it comes to environmental issues employees share the same vision		**0.744**	
In our organisation, when it comes to environmental issues there is a well-expressed concept of who we are and where we are going as a business unit		**0.634**	
Open-Mindedness α = 0.849	**F1**	**F2**	**F3**
In our organisation, when it comes to environmental issues we do not have a well-defined vision for the entire organisation			**0.833**
We view environmental learning as our culture's least priority to employees' learning			**0.833**
When dealing with environmental issues, our managers do not want their "view of the world" to be questioned			**0.829**
When dealing with environmental issues, an emphasis on constant innovation is not a part of organisational corporate culture			**0.786**

Table 3.11., continued

Enviropreneurship α = 0.925; KMO 0.816; Bartlett's Sig. = 0.00		
Innovativeness α = 0.834	**F1**	**F2**
In dealing with competitors, our organisation typically are the first to introduce any new administrative techniques, operating technologies, etc.	**.755**	
In the past 5 years, our organisation changes in environmentally products or services have been impressive	**.740**	
In general, top managers favor a strong emphasis on R & D, technological leadership and innovations	**.715**	
In the past 5 years, our organisation has produced many new lines of environmentally products and services	**.698**	
In general, top managers have a strong tendency to be ahead of other competitors in introducing innovative ideas or products/services	**.683**	
In dealing with competitors, our organisation typically are the first to introduce any new environmental products or services	**.567**	
Risk taking α =0.690		
In dealing with competitors, our organisation typically adopts a very competitive, "undo-the-competitors" posture		**.727**
In general, top managers have a strong tendency for high risk and high return of environmentally products or services		**.685**
In general, top managers believe that to achieve the organisational environmental objectives, daring and wide-ranging acts are required		**.668**
When confronted with decision making situations involving uncertainty, our organisation typically adopts a bold, aggressive posture to maximize exploiting potential opportunities		**.629**

For organisational learning, three factors were built up from the output with eigen values greater than one. Two factors were dropped (OM 6 and OM 3) in order to have a good model fit. Each factor has more than three items and contributed 64.19% to total variance explained. The factor loadings of the items in the three factors were between 0.833 and 0.604. The three factors were labeled as commitment to learning, shared-vision and open-mindedness.

Finally, as for enviropreneurship, two factors were derived from the output with eigen value greater than one. The two factors consist more than three items each and contributed 51.87% to item variance. The values of factor loadings were ranged between 0.755 and 0.567 and they were labeled as innovativeness, and risk taking.

a. Results of Convergent Validity

Table 3.12 captures all the results of CFA on the constructs in this study. Figures 3.4 to 3.10 illustrate the measurement models for the marketing capabilities constructs in the study. OM6 and OM3 from commitment to learning (final $\alpha = 0.900$), INNO2, and PRO4 from innovativeness (final $\alpha = 0.799$), and RT1 from risk taking (final $\alpha = 0.799$) were deleted to get the data to fit with the model. All items loaded significantly on their designated CFA measurement model with no evidence of any cross-loading. Furthermore, majority of the CFI and TLI yield results of more than 0.96, indicating a very good fit model. Similarly, majority of the GFI also yield results above 0.96. Finally, the RMR also yield results below 0.05 which all the statistics indicating a good fit model. This suggests that convergent validity in this study is established.

Table 3.12
Results of Confirmatory Factor Analysis

Variable	Chi-Square (χ^2); P value	χ^2/df	CFI	GFI	TLI	RMR	RMSEA
Organisational Learning							
	33.57; 0.00	2.398	**0.980**	**0.965**	**0.970**	**0.025**	0.073
Shared Vision	9.92; 0.075	1.998	**0.992**	**0.984**	**0.984**	**0.015**	0.062
Open-mindedness	4.987; 0.083	2.494	**0.993**	**0.990**	**0.979**	**0.054**	0.076
Enviropreneurship							
Innovative-Ness	4.267; 0.118	2.134	**0.993**	**0.992**	**0.979**	**0.024**	0.066
Risk Taking	1.839 0.175	1.839	**0.994**	**0.995**	**0.981**	**0.040**	0.057

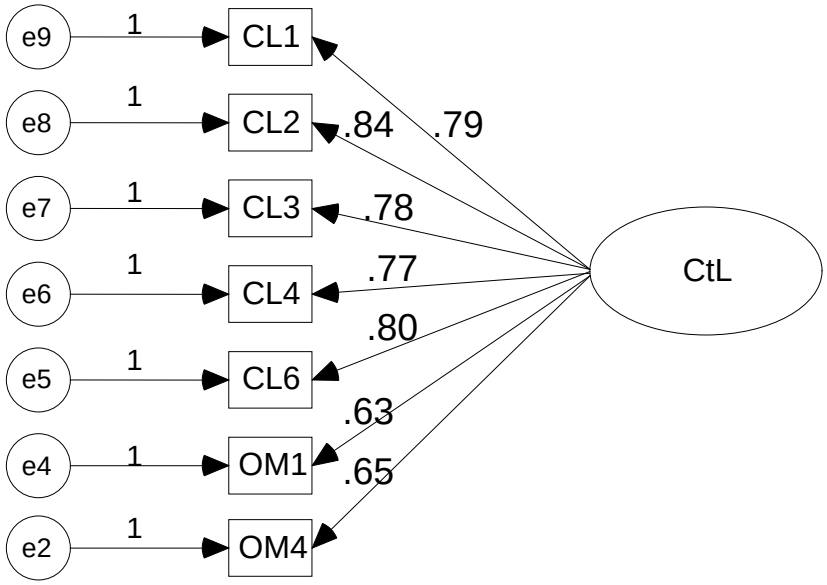

Figure 3.4: CFA Measurement Model for Commitment to Learning

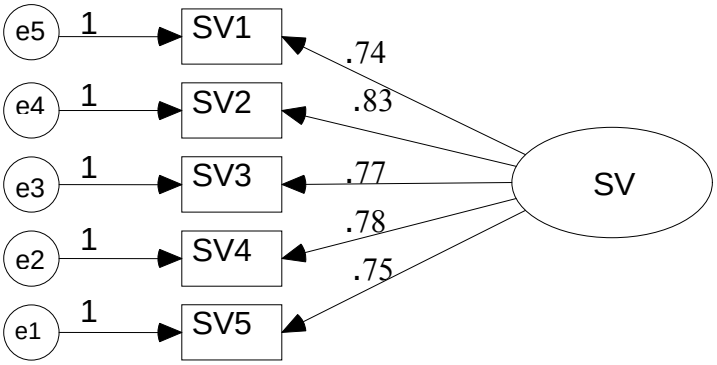

Figure 3.5: CFA Measurement Model for Shared-Vision

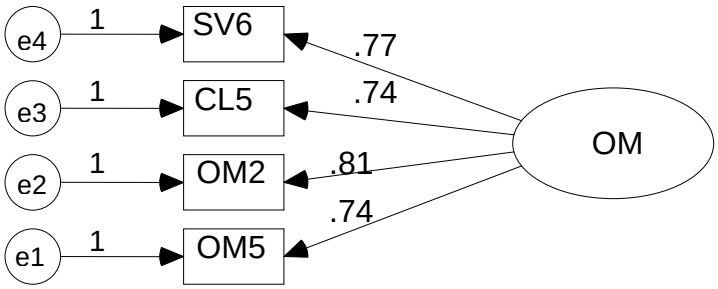

Figure 3.6: CFA Measurement Model for Open-Mindedness

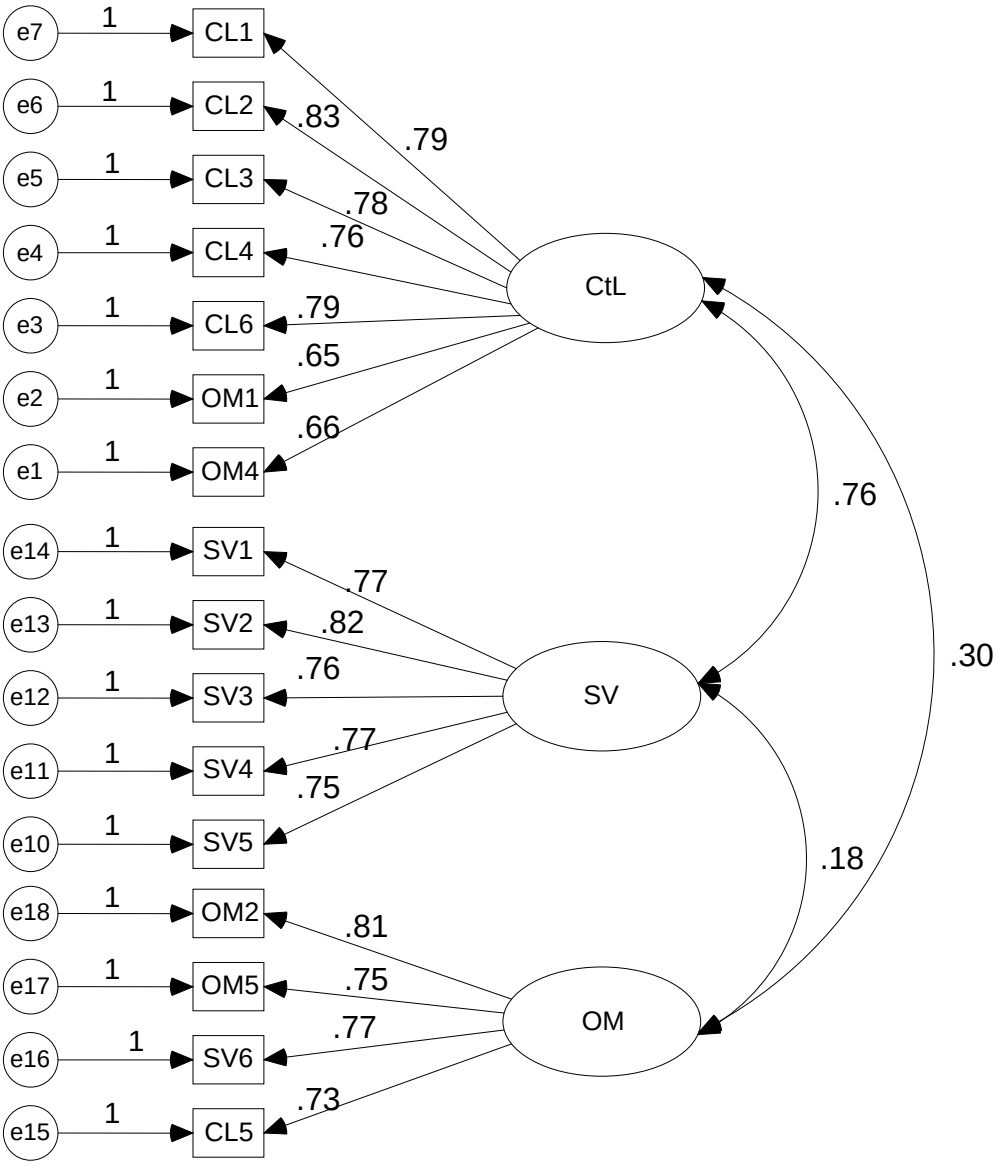

Figure 3.7: CFA Measurement model for Organisational Learning

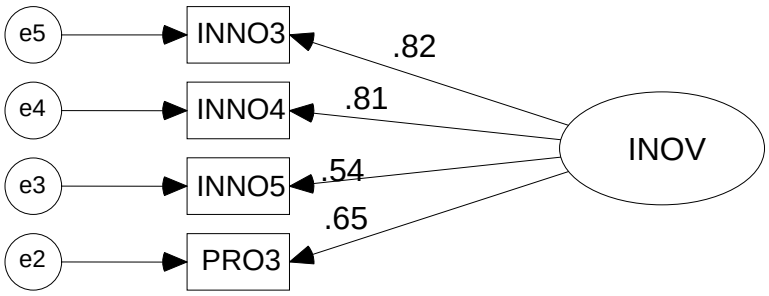

Figure 3.8: CFA Measurement model for Innovativeness

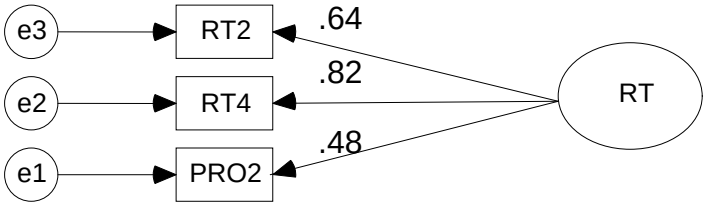

Figure 3.9 CFA Measurement model for Risk-Taking

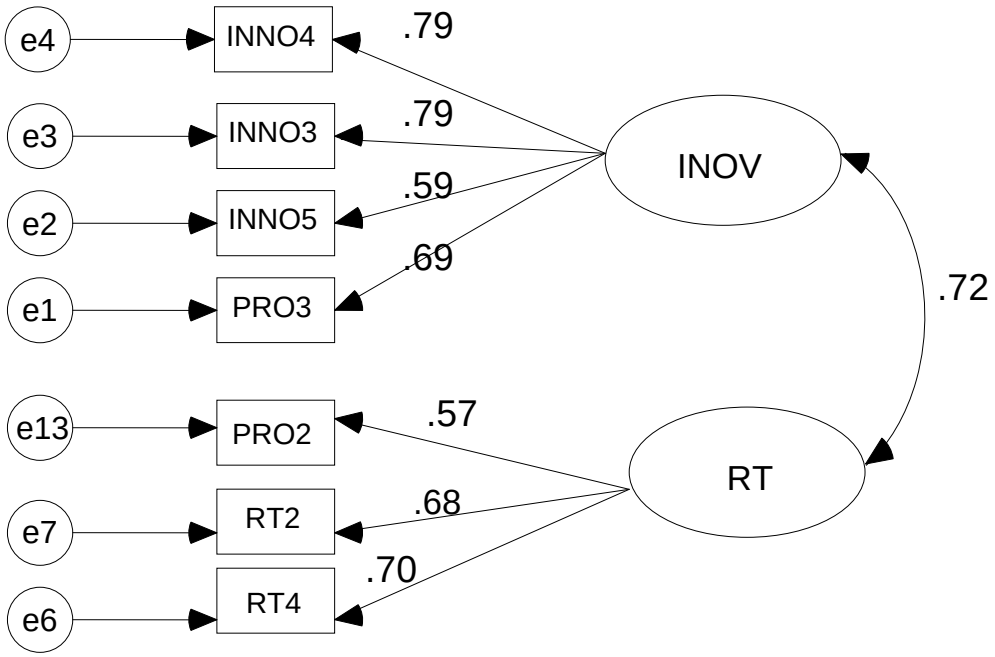

Figure 3.10 CFA Measurement model for Enviropreneurship

Apart from assessing the overall fit of the measurement model, the critical ratio (t-test) for the factor loading is often used to assess convergent validity. This is because when the factor loadings show the statistically significant, then convergent validity exists (Dunn et al., 1994). The magnitude and direction of the estimated parameters between latent variables and their indicators are also examined for convergent validity (Steenkamp and Van Trijp, 1991).

Table 3.13 exhibits the results of the magnitude, direction and statistical significance of the estimated parameters between latent variables and their indicators.

Table 3.13
The Magnitude, Direction and Statistical Significance of the Estimated Parameters between Latent Variables and their Indicators

Latent	Indicator	Standardized Reg. Weight	Standard Error (S.E)	Critical Ratio (C.R)	P
Public Concern	→ PC 1	0.652			
	→ PC 3	0.782	0.116	9.856	***
	→ PC 5	0.832	0.110	10.034	***
Regulatory Forces	→ ERL 3	0.757			
	→ ERL 4	0.745	0.091	11.180	***
	→ ERL 5	0.714	0.091	10.740	***
	→ ERL 2	0.723	0.097	10.876	***
Environ. As Commitment	→ EAC2	0.711			
	→ EAC 1	0.866	0.104	11.857	***
	→ EC1	0.775	0.130	11.178	***
Ethical Citizenship	→ EtC4	0.732			
	→ EtC 2	0.846	0.098	13.809	***
	→ EtC 3	0.879	0.091	14.380	***
	→ EtC 1	0.856	0.092	12.945	***
	→ EtC 5	0.741	0.100	11.973	***
	→ EtC 6	0.694	0.086	11.180	***
	→ EtC7	0.664	0.084	10.664	***

Table 3.13., continued

→ LC 2	0.717	0.081	11.569	***
→ LC 4	0.678	0.087	10.898	***
Economic Citizenship → LC1	0.777			
→ EC 7	0.777	0.070	13.272	***
→ EC 5	0.734	0.072	12.388	***
→ EC 4	0.765	0.074	13.010	***
→ EC 3	0.738	0.078	12.467	***
→ EC 2	0.795	0.074	13.642	***
Discretionary Citizenship →DC 5	0.678			
→ DC 4	0.757	0.113	10.505	***
→ DC 3	0.660	0.101	9.346	***
→ DC 6	0.776	0.109	10.714	***
→ DC 7	0.671	0.108	9.482	***
Commitment to Learning →OM4	0.664			
→OM1	0.653	0.107	9.588	***
→CL1	0.789	0.106	11.128	***
→CL2	0.834	0.106	11.632	***
→CL3	0.776	0.099	10.946	***
→ CL4	0.658	0.106	10.829	***
→CL6	0.588	0.105	11.111	***
Shared-vision → SV5	0.751			
→ SV4	0.765	0.083	12.321	***
→ SV3	0.759	0.087	12.241	***
→ SV2	0.818	0.088	13.040	***
→ SV1	0.767	0.094	12.084	***
Open Mindedness → CL5	0.731			
→ SV6	0.769	0.106	11.572	***
→ OM5	0.850	0.109	10.868	***
→ OM2	0.815	0.098	11.712	***
Innovativeness → PRO3	0.653			
→ INNO3	0.818	0.123	9.941	***
→ INNO4	0.812	0.116	9.973	***
→ INNO5	0.536	0.094	7.502	***
Risk Taking → RT 4	0.817			
→ RT 2	0.636	0.112	7.822	***
→ PRO2	0.476	0.148	7.260	***

Table 3.13 shows that the magnitude for all variables and their indicators were above the reasonable benchmark of 0.40 (Hatcher, 1994). The direction for all the estimated parameters were also in the same direction as what previous researchers wanted it to be, in which all the indicators showed a positive direction. The critical ratio (t-test) for all

the estimated parameters exceeded the benchmark of ± 1.96, which were also found to be statistically significant, and the standard error (S.E.) were not excessively large or small (Bryne,2001). As such, the convergent validity exists for the study variables of the measurement models.

b. Results of Discriminant Validity

Discriminant validity refers to the extent in which a certain constructs is different from other constructs. Therefore, these constructs need to be tested for discriminant validity to verify that the scales developed measured different constructs are indeed measuring different construct (Garver and Mentzer, 1999).

To perform discriminant validity is to compare the average variance extracted (AVE) for any two constructs or more with the squared of the correlation estimate. Therefore; the average variance extracted has to be bigger than the variance of the correlation (Hair et al., 2006). This is because the latent construct should explain its item measures better than it explains other constructs. Table 3.14 and Table 3.15 exhibit the results constructs for discriminant validity.

Table 3.14: Correlation between Construct of Organisational Learning and AVE (AVE are shown on the diagonal)

	CtL	SV	OM
CtL	**0.57**		
SV	0.56	**0.59**	
OM	0.09	0.03	**0.58**

Based on the Table 3.14, it exhibits the all the variance extracted were more than 0.50 as suggested by Hair et al (2006). Thus, discriminant validity was achieved among the construct of organisational learning.

c. Results of Criterion Validity

Table 3.15 (on page 233) depicts the relationship between the major construct of the study. On the whole, the results of the correlation exhibit the existence of significant relationship among the constructs and they are congruent with the hypotheses of the study.

d. Results of Internal Consistency Reliability Tests – Cronbach's Coefficient Alpha

The results of internal consistency reliability test for the variables examining the eleven factors are produced from the exploratory factor analysis. The reliability test for the entire construct recorded excellent with coefficient alpha of above 0.60 as recommended

by Nunnally (1967). Table 3.15 also depicts the results of Cronbach's Coefficient Alpha for the constructs.

e) Results of Reliability Test – Using Structural Equation Modeling

The rule of thumb for the reliability estimates is that 0.7 or higher. This suggests a good reliability (Hair et al., 2006). However, Hatcher (1994) assets that the reliability estimates of 0.6 and above are considered reasonable for exploratory study. Table 3.15 presents the results of the composite reliability for the constructs.

The results exhibit that the composite reliability value for all the factors were above 0.6 as suggested by Hatcher (1994). This is to prove for the existence of reliability. One of the variance extracts (RT= 0.44) estimates values are below 0.5. However, Hatcher (1994) posits that this situation did not cause concern since previous studies show that it is quite frequent to find estimates below 0.50 even when the composite reliability is acceptable.

3.20 Profile of Respondents

3.20.1 Profile of Overall Organisations

The background information of the respondents is shown in Table 3.16. From 261 respondents, most of the respondents (40%) are from the manufacturing/processing of

consumer goods. Almost 37 percent of these organisations have been in business for the last 11-20 years. Nearly 38 percent of the organisations employed more than 150 employees. Apparently, about 45 percent of these organisations have been practicing CSR for the last 16-20 years. Moreover, these organisations reported of having sales turnover for more than RM25 million (25%) and forty-two percent are owned by Bumiputra. Meanwhile, most of the respondents (38%) are from the management level.

Table 3.16: Profile of the Organisations (N=261)

Organisation's Profile	Number	Percentage
1. Type of Industry		
• Manufacturing/Processing of Industrial Goods	75	29%
• Manufacturing/Processing of Consumer Goods	105	40%
• Services	73	27%
• Agriculture	8	3%
Organisation's Profile		
2. Years in operations		
• 20 years above	90	35%
• 11-20 years	97	37%
• 10 years and below	74	28%
3. Years practicing CSR		
• 16-20 years	118	45%
• 11-15 years	72	28%
• 6-10 years	31	12%
• 1-5 years	40	15%
4. Total full time employees		
• Less than 50 employees	92	36%
• Between 51-150 employees	69	26%
• More than 150 employees	100	38%
5. Company sales turnover		
• Less than RM250,000.00	13	5%
• Between RM 251,000.00 – 1 million	21	8%
• Between RM 1million – RM 5 million	60	23%
• Between RM 5 million – RM 10 million	23	9%
• Between RM 10 million – RM 15 million	56	21%
• Between RM 15 million – RM 25 million	23	9%
• More than RM 25 million	65	25%
6. Ownership of Organisations		
• Bumiputra	108	42%
• Chinese	53	20%
• Indian	9	3%
• Government-owned	46	18%
• Foreign-owned	24	9%
7. Positions		
• Top Management	40	15%
• Senior Management	65	25%
• Management Level	98	38%

3.21 Chapter Summary

This chapter was divided into four parts. The first part discusses the research methodology of this study. The discussion is about the issues of research design, research instrument, the techniques involved in sampling and data collection. In the second part, the measurement scales used for the construct were outlined. Part three discusses the validity and reliability assessment to ensure the validity and reliability of the scale used in the research. It gives details of the tests used to examine the validity and reliability of each construct in which the methods of assessment, including the EFA and CFA, were explained extensively. Finally, the last part discussed all the results for the reliability and validity.

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Table 3.15: Descriptive statistics, average variance extract, composite reliabilities[a] , and construct intercorrelations

	Cronbach's Alpha	AVE	CtL	SV	OM	INNO	RT	PC	RF	EAsC	EtC	EC	DicS
CtL	0.90	0.57	**0.90**										
SV	0.88	0.59	0.702**	**0.88**									
OM	0.85	0.58	0.276**	0.157*	**0.85**								
INNO	0.80	0.51	0.601**	0.578**	0.084	**0.80**							
RT	0.66	0.44	0.467**	0.429**	0.131*	0.545**	**0.69**						
PC	0.80	0.57	0.303**	0.390**	-0.045	0.330**	0.224**	**0.80**					
RF	0.82	0.53	0.510**	0.524**	-0.011	0.432**	0.450**	0.492**	**0.82**				
EAsC	0.82	0.61	0.540**	0.500**	0.107	0.473**	0.426**	0.440**	0.500**	**0.82**			
EtC	0.92	0.50	0.723**	0.582**	0.399**	0.437**	0.338**	0.270**	0.374**	0.462**	**0.92**		
EC	0.89	0.57	0.615**	0.574**	0.434**	0.424**	0.407**	0.263**	0.353**	0.489**	0.775**	**0.89**	
DicS	0.84	0.50	0.605**	0.602**	0.292**	0.469**	0.426**	0.297**	0.375**	0.451**	0.632**	0.597**	**0.83**

[a] **Composite reliabilities are shown on the diagonal**

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

*. Correlation is significant at the 0.05 level (2-tailed).