A RISK-BASED ENTRY DECISION MODEL FOR SOUTH AFRICAN CONSTRUCTION COMPANIES VENTURING INTO AFRICAN MARKETS

by

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ABSTRACT

This research examines the influence of international risks, and the level of resources of South African construction companies on entry decisions made to access cross-border African construction markets. The study further investigates how the resources of South African construction companies and their decisions to enter into African construction markets, interact to mitigate the perceived impact of risks encountered in these markets.

The study adopted a convergence of the mixed methods research approach where quantitative and qualitative data were collected concurrently from multiple sources. These data include a questionnaire survey distributed to construction companies registered on Grades 8 and 9 of the Construction Industry Development Board (cidb) Register of Contractors; interviews conducted with construction companies having international markets experience, as well as an assessment of annual and financial reports. Data obtained through the survey were analyzed using both descriptive and inferential statistics. The model developed was validated using a partial least squares structural equation modelling technique. Thematic content analysis was adopted in analysing the data obtained from the assessments of company documents and interviews.

The study reveals that the level of revenue, the assets, and the number of employees of South African construction companies with cross-border experience, influence the perceived impact of political, social, procurement, design and construction related-risks in foreign markets. It also emerged that the decisions on entry modes were significantly influenced by the perceived impact of all classes of risk. The study established that significant positive interactions exist between assets and joint venture companies; joint venture projects and branch offices and companies; and that international experience are significantly related to strategic alliance as an entry mode. The positive interactions between resources and entry decisions made mitigate the perceived impact of risk in African construction markets.

The study makes a significant contribution to the body of knowledge on international construction, by establishing an all-inclusive risk profile of the African construction market. Also, it establishes that the resources of multinational construction companies influences their perception of risks, and that the perceived impact of risks influences cross-border entry decisions made to access foreign markets to mitigate the risks encountered. A risk-based entry decision model as a strategic tool, helps multinational construction companies to leverage their resources, as well as providing an adequate perception of risks when deciding on an appropriate strategic entry mode which will mitigate the risks encountered in cross-border markets.

Keywords: African construction market, entry modes, international risks, resources and capabilities

DECLARATION STATEMENT

I declare that information contained in this thesis is my own work and it is original. The conduct of this study received approval of the University ethics in research committee before data were collected and whose findings were reported in this thesis. I declare that this thesis has not been previously submitted either in whole or in part for the award of any degree except where due acknowledgement is made in the thesis. Each of the quotations made or previous works used had been cited and referenced.

Signed:

Odediran S.J.

(ODDSUN001)

DEDICATION

This thesis is dedicated to the Almighty God – the giver of life, wisdom and knowledge. To Him alone I owe all praises and adoration.

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Conference papers

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LIST OF ABBREVIATIONS

ACM	African Construction Market
ADB	Asian Development Bank
AfDB	African Development Bank
AIDS	Acquired immune deficiency syndrome
AMMR	Ambiguous mixed–methods research
ANOVA	Analysis of variance
AKMO MSA	Average Kaiser-Meyer-Olkin measures of sampling adequacy
BOO	Build-own-operate
BOOT	Build-own-operate-transfer
BOT	Build-operate-transfer
BOR	Build-operate-renewal
BRO	Branch office
BT	Build-transfer
CEO	Chief executive office
CFA	Confirmatory factor analysis
CFI	Comparative Fit Indices
cidb	Construction Industry Development Board (South Africa)
CB-SEM	Covariance-based structural equation modelling
DFBO	Design-finance-build-operate
DFI	Development Finance Institution
EIA	Environmental impact assessment
EiC	Ethics in Research
EMSI	Entry mode significance index
ENR	Engineering News Record
EVD	Ebola virus disease
GATS	General Agreement on Trades in Services
GoF	Goodness of Fit
HIV	Human immunodeficiency virus
IC	International construction
ICM	International construction market
ICT	Information and communication technology

IDP	Infrastructure Development Plan
IMF	International Monetary Fund
JV	Joint venture
JVC	Joint venture company
JVP	Joint venture project
JSE	Johannesburg Stock Exchange
KMO MSA	Kaiser-Meyer-Olkin measures of sampling adequacy
LA	Local agent
MNF	Multinational firm
MLR	Multiple linear regression
MNCC	Multinational construction company
MS	Mean score
NCIP	North Corridor Infrastructure Plan
NIP	National Infrastructure Plan
NSCIP	The North-South Corridor Infrastructure Plan
NVivo	Qualitative data analysis computer software package
OLS	Ordinary least squares
PIDA	Programme for Infrastructure Development in Africa
PLS-SEM	Partial least squares structural equation modelling
PPP	Public-Private Partnership
RMB	Rand Merchant Bank
RMSEA	Root Mean Squares Error Approximation
RSI	Relative significance index
RO	Research objective
RQ	Research question
SACC	South African construction company
SADC	Southern African Development Community
SD	Standard deviation
SIP	Sectoral Investment Plan
SPSS	Statistical package for social sciences
SRA	Strategic alliance
SV	Sole venture
SWF	Sovereign Wealth Fund
TFI	Tucker-Lewis Fit Indices

WB	World Bank
WBG	World Bank Group
WMIA	World Market Intelligence Analysis
WTO	World Trade Organization
ZAR	South African rand

CHAPTER ONE − GENERAL INTRODUCTION

1.1 INTRODUCTION

This research examines the influence of international risks, and the level of resources of South African construction companies (SACCs) on entry decisions made on whether to enter into cross-border African construction markets. The study further investigates how the resources of South African construction companies and their decisions to enter into the African construction market (ACM), interact to mitigate the perceived impact of risks encountered in these markets. This chapter gives an overview of the study, presents the background to the research and explains the research rationale which amalgamated into the research questions together with the aim and objectives of the study. The chapter further provides insight into the justification for the study, the research scope and constraints, an overview of the research methodology, and outlines the structure of the thesis.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

Construction is a broad-based sector in any economy. It is responsible for a range of activities that include material production, design, finance, planning, construction, operation, maintenance and possibly demolition (Ofori, 1991; Runeson & de Valence, 2009; Reina & Tulacz, 2010). Construction comprises the various forms of physical construction of infrastructural facilities, and is related mainly to structures and engineering works. There are different categories of construction, like: buildings, roads and highways, telecommunications, electricity supply, water, wastewater, gas networks, and manufacturing, industrial and petroleum plants (Ofori, 1991; Teljeur & Stern, 2002; Jewell, Flanagan & Anac, 2010; Reina & Tulacz, 2010). They are usually to a large scale in terms of construction processes and methods (Seymour, 1987; Strassman & Wells, 1988). There are many industry players such as investment companies, financial institutions, professional firms, contracting organizations, material manufacturers and suppliers, labour sub-contracting firms, local authorities and public agencies, authorities and parastatals that are situated within the industry (Ofori, 1991; Gounden, 2000).

Construction is an ever changing and project-intensive sector with environments where procurement conditions are complex, and level of competition is high (Koota, 2003; Kurien, 2004; Mutti & Flanagan, 2008; Windapo & Cattell, 2011). Projects in the industry are purposely designed and constructed, and the construction management is highly localized (Gann, 1996; McCann, 1996; Dubois & Gadde, 2002; Malcic, 2011). These features indicate how challenging project delivery in the construction industry could be within a particular market. The impact of globalization has over decades

led to construction markets becoming a global market (Chen, 2008; Ngowi, Pienaar, Talukhaba & Mbachu, 2005), which creates interaction among people, organizations and the governments of different nations. Globalization emerged from the increase in connectivity in global politics, economics and socio-cultural activities (Zhang, 2011). It also induces industrialization, international trade and investments, and advancement in information technology (Ngowi et al., 2005; Serra, Pointon & Abdou, 2012); furthermore, globalization ensures the transfer of skills, capacity and capabilities mostly from developed to under-developed/developing economics (Ofori, 2000; Ngowi et al., 2005) and recently vice versa.

The process of globalization eased access across national and political boundaries for multinational firms, increased economic reliance; and exposed national and societal differences relating to cultures and business issues (Ngowi et al., 2005). With the ease of the mobility of labour, plant and materials, and the exposure of firms to global knowledge of project management techniques and methods of doing business, globalization has also transformed the construction industry from a traditionally regional sector to a global market (Nordstrom, 1991; Kerur & Marshall, 2012). This trend had also created more opportunities for multinational construction companies (MNCCs) to increase their business networks and grow their revenue (Han, Park, Kim, Kim & Kang, 2007; Zhang, 2011). Hence, companies venturing into international markets cannot be isolated from the trend of globalization (Zhang, 2011).

Internationalization of a company can be described in two ways: a company that is based or has its head office in a home country and operates in another country; or a company resides in its home country but is awarded or works on a project belonging to a client from other country (Pheng & Leong, 2000; Mawhinney, 2001; Jaring, 2009). The ICM is making a significant contribution to the global economy. In recent times, these markets accounted for 13.4% of world output which was estimated to increase to about 14.6% by 2020 (Kerur & Marshall, 2012). The ICM was valued at US$ 7.5 trillion in 2014 and was projected to grow to a value of US$ 15 trillion in 2015 (Kenter, 2014). The annual increase in the output of the ICM has provided MNCCs more business opportunities and other enormous advantages in global construction markets (Hastak & Shaked, 2000; Walewski, Gibson & Vines, 2006; Al-Sabah, Menassa & Hanna, 2012; Park, Lee, Jeong & Han, 2014) and most especially has increased their revenue and profits (Han, Diekmann, Lee and Ock, 2004). Most of the MNCCs are also entering global markets due to high level competition which creates lacks of business opportunities in the home markets. However, opportunities in global construction markets are fraught

with possible risks which mostly influence entry processes and project implementation (Gunhan & Arditi, 2005; Grosso, Jankowska & Gonzales, 2008; Xiaopeng & Pheng, 2013).

In this light, risk has become a critical issue for overseas businesses and also affects the decisions of the companies to expand into the ICM (Park et al., 2014). Compared to a typical regional market, to expand into the ICM are inherently carry more risk (Gunhan & Arditi, 2005; Loo, Abdul-Raham & Wang, 2013). Due to uniqueness of the risks, overseas projects tend to have a higher possibility of failure (Zhi, 1995; Han & Diekmann, 2001b; Han, Diekmann, Lee & Ock, 2004; Ling & Low, 2007; Han et al, 2007; Abdul-Rahman, Loo & Wang, 2012). The level of uncertainty in the markets have overtime posed, significant threats to entry decisions and operations. A considerable number of research projects have been conducted on the ICM, the majority of which examined the market opportunities, and the risks and their impact (Baloi & Price, 2003; Gunhan & Arditi, 2005; Ling & Hoi, 2006; Ozcan, 2008; Li, 2009; Zhang, 2011; Al-Sabah et al., 2012; Xiaopeng & Pheng, 2013; Deng, Pheng & Zhao, 2014; Park et al., 2014). Some of these projects assessed the risks and how they could be managed in overseas markets (Zhi, 1995; Hastak & Shaked, 2000; Walewski *et al.*, 2006; Dikmen, Birgonul & Eybpoosh; 2011; Berk, 2012), while others evaluated entry modes and strategies used to access overseas markets (Ling, IBBS & Cuervo, 2005; Ahmad & Kitchen, 2008; Chen, 2008; Han, Kim, Jang & Choi, 2010; Chen & Messner, 2011; Mustaffa, Adnan & Zakaria, 2012; Mat Isa, Mohd Samah, Mohd Nasir & Abd Rahman, 2012; Li, Jin, Li, Liu & Skitmore, 2013). A significant number of these studies were conducted in developed economies like the USA, Europe and China, and it was found that there are risks that have a significant impact on the ease of entry and the performance of construction businesses in overseas markets.

However, these issues are under-researched in the context of the ACM and there is a dearth of literature on the significant risks in these markets and whether such risks have a measurable impact on ease of entry and entry decisions made into ACM. Available studies have failed to holistically evaluate the total risks in the ACM and entry modes used by MNCCs to access the markets (Wadiwalla, 2003; Affum, 2010; Ahiaga-Dagbui, Fugar & Adinyira, 2011; Du Toit, 2013; Waziri, 2014). Moreover, limited studies on the ICM also failed to examine the significance of the resources in the overseas operations of the MNCCs, and whether the level of these resources influence how risks are perceived in overseas markets. The studies of the ICM also failed to examine whether the perceived impact of risk influences decisions made to enter into foreign markets, and to establish whether the resources of an MNCC are considered when entry decisions are made, so as to mitigate the perceived impact of risks when going into the ICM.

Examining the situation in the ACM is significant because it contributes a substantial share to global construction markets due to huge deficit in infrastructural needs within the continent (AfDB, 2011; Deloitte & Touche, 2013). The growth need of infrastructure across countries in Africa is set at about US$ 93 billion per year (AfDB, 2011). Moreover, approximately US$ 222.8 billion has been invested from 2007 to 2013 spanning across 322 African infrastructure projects (Deloitte & Touche, 2013). However, a major share of global construction market is under the control of MNCCs from the USA, China, Japan, Russia, and Canada (Messner, 2006; Kenter, 2014), and the same cohort dominate a substantial share of the ACM (Reina & Tulacz, 2010; Deloitte & Touche, 2013), while African-based MNCCs have had a low participation in the ACM over the years (Reina & Tulacz, 2010; Deloitte & Touche, 2013). The reasons for the highly oligopolistic nature of the ACM are not known.

In the last decade, economic, socio-cultural and political challenges such as financial crises, economic recessions, terrorism, wars, and recent insurgencies, have become common events around the world. These uncertainties in multinational settings affect the business climate, harm project implementation and expose international companies to risks not common in their local environment (Han & Diekmann, 2001; Zhang, 2011; Xiaopeng & Pheng, 2013). Those specific to ACM in recent times are the outbreak of the Ebola virus diseases (EVDs) in West Africa, Boko Haram insurgencies dominating Cameroon, Chad, Niger and Nigeria in the sub-Saharan region and xenophobic attacks in South Africa. These trends might have constrained the entry decisions made by international companies into the ACM, and according to Abdul-Rahman et al. (2012), risks in overseas markets might influence entry decisions made and ease of entry. Hence, the MNCCs must be versatile regarding the impact of risks on entry decisions, ease of entry and business operations in cross-border markets (Walewski, Gibson & Vines, 2006; Han et al., 2010; Park et al., 2014). There is thus a need for an entry decision model that is based on an adequate perception of risks; such a model should mitigate the perceived impact of the risks inherent in entering foreign markets (Dikmen, Birgonul & Han, 2006).

Research by international businesses established that risk perceptions among multinational firms (MNFs) in cross-border markets differs and the level of resources within these firms influences risk perception (Brouthers, 1995; Forlani, Parthasarathy & Keaveney, 2008; Sadaghiani, Dehghan & Zand, 2011). Moreover, earlier studies also found that the perception of risk influences entry decisions (Brouthers, 1995; Forlani et al., 2008). The level of the resources in an MNF also influences its propensity to internationalize (Gemunden, 1991; Agarwal & Ramaswami, 1992; Bonaccorzi, 1992; Forlani et al., 2008; Sadaghiani et al., 2011). Also, Brouthers (1995); Forlani et al. (2008) and Sadaghiani, et al. (2011) further established that the resources of an MNF and the level of control and

ownership in the choice of entry modes, interact to mitigate the perceived impact of risk in international markets.

In light of this, there is a need to establish whether the level of the resources in an MNCC and its entry decisions, interact to mitigate the perceived impact of risk encountered in the ICM, and whether this interaction makes entry into this market easier. Against this backdrop, this study therefore examines the influence of the resources of an MNCC in South Africa and the perception of the company regarding international risk, on entry decisions made into the ACM with a view to develop a risk-based entry decision model into global construction market.

1.3 PROBLEM STATEMENT

The ACM is oligopolistic since a number of large firms from developed countries dominate the global market. The presence of Africa-based construction companies is low and the reason for the oligopolistic nature of ACM is currently unclear. Besides the competition from large firms, the ICM is fraught with risks which have significant impact on entry decisions and business operations. There is a dearth of research of the ACM that focus on cross-border construction, on markets risk and on strategic market entry decisions. A number of significant studies of the ICM also do not address the issue of which resources of an MNCC affect the perception of risks to the company, and whether the perceived impact of risk influences decisions made to participate in cross-border construction markets; this connection between resources and the perceived impact of risk has been empirically established in other sectors of international business. Hence, this study develops a risk-based entry decision model that mitigates the perceived impact of risk in the ACM.

1.4 RESEARCH QUESTION

The concerns highlighted from the research problem and its background are the basis for the central research question of this study:

> *What resources of South African construction companies assist in helping them to adequately perceive the impact of risk encountered in the African construction market and what contributions were made by the perceived impact of risk on the decision to enter this market?*

To address the central research question, answers were sought to the following specific sub-questions:

RQ1: What are the risks to which an SACC is exposed when entering the ACM?

RQ2: To what extent does an SACC perceive the impact of risk encountered when entering the ACM?

RQ3: What resources of an SACC influence its perception of risk in entering the ACM?

RQ4: Where there were optional modes to enter the ACM, which modes did SACCs choose?

RQ5: To what extent does the perceived impact of risk encountered, influence decision to enter the ACM by an SACC?

RQ6: To what extent are the resources of an SACC related to entry decisions made, in order to mitigate the perceived impact of risk encountered in the ACM?

RQ7: To what extent does the perceived impact of risk that is based on level of resources of an SACC, predict the decisions to enter the ACM?

1.5 AIM AND OBJECTIVES

The aim of this research was to examine the resources of an SACC and whether these influence its perception of risk encountered in the ACM; and whether the perceived impact of risk encountered influence decisions made to enter into the ACM. This was with a view to increase the presence of an SACC in the ACM and to undertake more construction projects in the market.

Within the overall aim, seven research objectives were identified:

RO1: Identify the specific risks likely to be encountered by an SACC operating in the ACM.

RO2: Investigate how an SACC perceives the impact of risk encountered, on ease of entry into the ACM.

RO3: Establish a relationship between the resources of a typical SACC and the risks encountered, and the significance of this relationship on the ease of entering the ACM.

RO4: Identify the specific entry decisions made by an SACC when entering the ACM.

RO5: Establish relationship between the perceived impact of the significant risks encountered by an SACC and entry decisions made into the ACM.

RO6: Investigate whether the resources of an SACC and entry decisions made, relate to mitigate the perceived impact of the significant risks and therefore enhance ease of entry into the ACM.

RO7: Develop a risk-based entry decision model into the ACM using the partial least squares structural equation modelling (PLS-SEM) method.

1.6 JUSTIFICATION FOR THE STUDY

The contribution of the ACM to global construction market is significant due to the huge demands for basic infrastructure in most of the African states (AfDB, 2011; Abadie, 2014). Presently, MNCC based outside the continent are exploring opportunities in the ACM, where there is a low presence of Africa-based contractors (Ofori, 2003; Messner, 2006; Grosso et al., 2008; Reina & Tulacz, 2010; Kenter, 2014). Although, international markets are not without inherent dangers, the presence of MNCCs from outside Africa is a financial drain on African economies (Forlani et al., 2008).

The revenues of MNCCs from African markets annually, is huge and was estimated at estimated at US$ 383.78 billion in 2009, representing a substantial part of their total annual international revenue (Reina & Tulacz, 2010). Although the ICM has become oligopolistic due to the high level of risk in the international business environment (Sadaghiani et al., 2011; Zhang, 2011), failure of an adequate perception of impact of risk in a market, can lead to the wrong choice of entry modes (Han, 2001). In earlier studies of the ICM (Ahmad, 1990; Zhi, 1995; Hastak & Shaked, 2000; Shen, Wu & Ng, 2001, Walewski & Gibson, 2003, Chen, 2005, 2008; Ozcan, 2008; Li, 2009; Zhang, 2011; Chen & Messner, 2011; Xiaopeng & Pheng, 2013) several attempts have been made to model risk impact, in order to make strategic decisions to enter into the ICM, but the predictive power of the models developed to mitigate the perceived impact of risk, is limited in terms of scope and usefulness to the prevailing situations in the ICM (Hastak & Shaked, 2000; Walewski & Gibson, 2003; Xiaopeng & Pheng, 2013). Nevertheless, similar studies of the ICM have put forward convincing proposals on how the uncertainty and risk in overseas markets can be managed (Han, 2001; Chan & Tse, 2003; Ozcan, 2008; Li, 2009; Chen & Messner, 2011).

Chan and Tse (2003) and Li (2009) underscored that MNCCs are able to mitigate the perceived impact of risk in the ICM by considering collaborative entry modes, like partnerships or forming strategic alliances in overseas markets. Ozcan (2008) proposed a model that establishes relationships between risks and their consequences, and between risks and resources of the organisations responding to the impact of risk. Chen and Messner (2011) further agitated for a process model where a market entry decision will be based on sufficient knowledge of the relationships between entry modes and market constraints. Han's (2001) model was based on how risk perceptions influence entry decisions, but fails to establish whether resources of an MNCC are instrumental to their perception of risks in overseas markets. Hence, a need to develop an all-inclusive risk-based entry decision model into the ICM, where

adequate perception of risks is based on the level of resources within an MNCC and the perceived impact of risk determines decisions on the choice of cross-border entry modes into other countries.

1.7 SCOPE OF THE STUDY

This research explores the principal issues related to entry decisions that are based on the resources of an MNCC and an adequate perception of risks of entering the ACM. To provide answers to the theoretical concepts, a mixed–method research design was adopted in data collection and analysis. The population analyzed for this study comprised the large construction companies based in South Africa. The focus for quantitative data was on SACCs registered on Grades 8 and 9 of the cidb Register of Contractors, and those companies with significant international experience listed on the Johannesburg Stock Exchange; of the construction companies only these companies were considered as case studies and only their representatives were interviewed. SACCs on Grades 8 and 9 were selected because these are the highest grades for construction companies in South Africa. This is considered suitable because most studies of the ICM have used either the list of the top 250 international contractors that is published annually by Engineering News Record (ENR) or data of contractors from the country where a study is to be carried out as study population. The registration data of contractors with the cidb in South Africa were considered for this study. The experience of the selected MNCCs in South Africa were explored to establish a risk profile having a significant impact on the ease of entry into the ACM, and to review the entry decisions made to mitigate the perceived impact of these risks in the market.

1.8 OVERVIEW OF RESEARCH METHODOLOGY

This study resides within the international construction management paradigm. To achieve the specific research objectives outlined in Section 1.5, the study was founded on pragmatism and a convergence of the mixed–methods research approach was employed, involving the collection, analysis and interpretation of both quantitative and qualitative data (Creswell, 2005). The data collection process in this study employed the convergence mixed methods, where both quantitative and qualitative data were collected concurrently (Creswell & Plano Clark, 2011).

To develop the research instrument for this study, a review of extant literature was conducted on the ICM (Chapter 2). Specific issues discussed in the chapter were risks associated with, and modes of entry into the ICM, as well as the resources of MNCCs that are significant for international markets operations. A further review was conducted to support the research propositions in order to develop the research hypotheses and conceptual model, as outlined in Chapter 3. To test the research hypotheses and validate the conceptual model, quantitative data were collected from questionnaires.

Once the research instrument had been developed, copies of the questionnaire were sent to construction companies selected from Grades 8 and 9 listing of the cidb, using an online system (SurveyMonkey). To obtain more specific information about risks and entry modes into the ACM, selected cases among SACCs surveyed were interviewed and their annual and financial reports were examined to identify the specific risks encountered in the ICM, and to identify the entry models used that mitigate the perceived impact of risk in the market.

Quantitative data collected were analyzed using both the descriptive and inferential statistics such as mean scores, factor analysis, multiple regression analysis and partial least squares structural equation modelling (PLS-SEM). Mean scores showed how the study population responded to the research questions, while factor analysis identified the underlying traits of risks and entry modes in order to select the right variables for the research constructs to test the hypotheses and validate the conceptual model. Multiple regression analysis established the type of relationships existing among the variables of research constructs while PLS-SEM determined decisions by SACCs to enter into the ACM.

In the qualitative strand, data collected were analyzed using content and thematic analysis which outlines the key themes that emanated from the data collected from both the interviews and annual/financial data examined. More details on methodology in data collection are presented in the research methodology section of this thesis (Chapter 4).

1.9 LIMITATION

The data for the study were collected from SACC who are registered on Grades 8 and 9 of the cidb Register of Contractors. The number of these companies operating in the ACM is limited. This may affect the generalization of the data collected as being representation of the experience of MNCCs in South Africa which are operating in the ACM. The reliability of the findings obtained from quantitative strand depends on how accurate the answers of the SACCs to the survey questions are, while findings from semi-structured interviews and examination of the annual and financial reports depend on how accurate the information provided by the interviewees was, and the accuracy with which the reports were compiled. The outcomes in the present study are based on the experience of SACCs in countries within the ACM where they had operated, or were operating.

1.10 DEFINITION OF KEYWORDS USED IN THIS THESIS

Resources: In this thesis, resources are financial, human and experiential possessions of an MNCC and the variables used to measure these in this thesis are revenue, assets, number of employees, and years of international experience.

Godfatherism: This refers to a practice in a political system whereby a lower-class member depends on a higher-class member for survival in government or political environment.

1.11 STRUCTURE OF THE THESIS

This thesis is structured into nine chapters.

In Chapter One the background to the research, problem statement and research questions, is presented. It also outlines the justification for, and the aim and objectives of the research, as well as the scope of the study; an overview of the research method and research limitations is presented in this chapter.

Chapter Two examines the ICM and its features. The examination includes the size and trends in the ICM, the distribution of spending in global regions, the construction services, the funding arrangements and the players in the ICM. Chapter 2 further examines the ACM, reviews the ICM with regard to risks and entry modes, and also assesses the resources of an MNCC that are significant for international markets operations.

Chapter Three presents a comprehensive review of theoretical perspectives that are significant to the internationalization of multinational firms and their ease of entry into overseas markets. Through a theoretical review, hypotheses that support the research propositions were outlined and a conceptual model was developed. These hypotheses were achieved by establishing relationships among the variables of research constructs which provide answers on how resources influence risk perceptions and how perception of risk influences decisions made by multinational construction companies to enter into the ACM.

In Chapter Four, a comprehensive outline of research methods adopted in data collection and analysis is presented. This covers the establishment of a research philosophy, a paradigm, and a strategy, employed in the study. Sampling and sample selection procedures are also explained. Furthermore, data collection and analysis procedures for the mixed–methods approach are outlined in this chapter.

Chapter Five presents the results obtained from the analysis of the quantitative data which forms a significant component of data collected for the study. The hypotheses outlined in Chapter 3 were tested in this chapter, to establish the relationships existing among the variables of the research constructs. The findings from this chapter were used to validate the conceptual model.

In Chapter Six, the results of data obtained through the qualitative approach are presented. This chapter discusses the findings emanating from both the semi-structured interviews, and annual and financial reports of the selected cases.

Chapter Seven presents the validation of conceptual model (Chapter 3) using PLS-SEM technique. Further, the predictive power is established and the fitness of the risk-based entry decision model is validated.

Chapter Eight discusses the findings obtained from both the results of the quantitative and qualitative data. This is done by relating the findings to existing literature and body of knowledge in international construction management.

Chapter Nine presents a summary of the findings of the thesis. The chapter draws appropriate conclusions, establishes significant contribution to the body of knowledge and presents the practical implications of the research findings. Recommendations are also made. Research limitations and areas for future researches in both international construction management and within an African context, are outlined.

CHAPTER TWO–LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents an overview of the international construction market (ICM). It examines the features of international construction (IC) and explores aspects of the ICM (size and trends, distribution of spending by global region, construction services being exported, funders and funding arrangement, and major players). The chapter also examines the situation in the African construction market (ACM) and reviews the risks, entry modes and resources that are significant for operations in the ICM.

2.2 INTERNATIONAL CONSTRUCTION AND ITS FEATURES

International construction are various forms of services and infrastructure projects that are executed by large firms in foreign markets either for public or private clients (Grater, 2011). The construction sector has become a global market because activities which take place in particular markets are no longer isolated and this trend is termed globalization or internationalization (Ngowi, et al., 2005). However, internationalization of the construction sector is indisputable because it constitutes a significant component of global economy (Chen, 2008; Affum, 2010; Gunhan & Arditi, 2005).

According to Gunhan and Arditi (2005), the concept of IC is not entirely new and Pheng and Leong (2000) also affirm that IC originates from numerous earlier military installations and public works projects undertaken by colonial governments even before the 20th century. The globalization trend is motivated by the complexity of projects and the level of resources required to execute projects (Gunhan & Arditi, 2005; Jaring, 2009). This allows only large, technologically-based contractors to enter and operate in IC (Raftery, Pasadilla, Chiang & Tang, 1998). Other significant features of IC are that the projects are often of a large scale, projects are increasing in size, the market can be unstable, and the market tends to be highly competitive (Chen, 2005). Moreover, opportunities within the ICM are high, and the risks are multidimensional (Walewski, Gibson & Vines, 2006; Xiaopeng & Pheng, 2013), also the cost of construction projects in international markets is not satisfactory (Han & Diekmann, 2001; Gunhan & Arditi, 2005; Han et al., 2007; Kim, Han & Kim, 2008; Creedy, Skitmore & Wong, 2010).

2.3 INTERNATIONAL CONSTRUCTION MARKET

This section provides a description of the ICM in terms of size and trends, spending on infrastructure by global region, construction services, funding system and players in this market.

2.3.1 Size and trends of spending in international construction markets

Construction as a worldwide industry accounts for a significant proportion of global economy. It accounts for 13.4% of world output which is estimated to increase to 14.6% by 2020 (Kerur & Marshall, 2012). Annual spending in global construction has varied over the years. Between the late 90s and 2000s, value of projects in the ICM ranged between US$ 3 trillion in 1998 to US $4.6 trillion in 2006 (Reina & Tulacz, 2010; Global Insight, 2007). Future growth was projected at 4.6% annually from 2006 until 2011 (Global Insight, 2007). There was a reversed growth rate in the estimation made by Abadie (2014) where spending on infrastructure projects from 49 countries examined, fell from US$ 3.4 trillion in 2008 to US $ 3.2 trillion in 2009.

WMIA (2013) also made projections on spending in the global construction market over a period of five years (2009–2014). Figure 2.1 presents how the values of global spending on construction grew over this period. According to WMIA (2013), the projected growth was steady between 2009 and 2010; and more or less linearly increasing between 2010 and 2014. Their projection of the value of the ICM was US$ 5.7 in 2014. This was contrary to the estimation by Kenter (2014), who valued the ICM at US$ 7.5 trillion in 2014 with projection of US$ 15 trillion in 2015. Over the same period, Abadie (2014) estimated global construction spending as US$ 4.2 trillion in 2013, against the US$ 5.3 trillion as predicted by WMIA (2013).

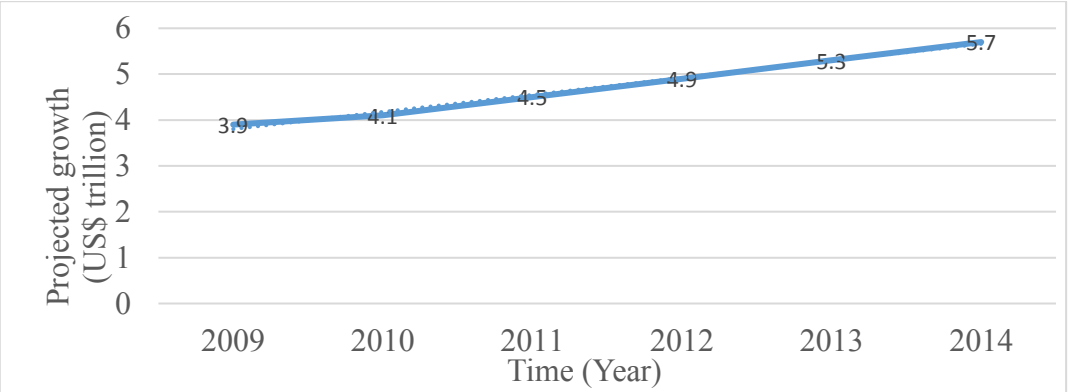

Figure 2.1: Global construction projected growth values (US$ trillion) 2009–2014
Source: World Market Intelligence Analysis (WMIA) (2013)

Abadie (2014) further claimed that the spending in global construction markets between 2014 and 2025 is expected to be close to US$ 78 trillion and the estimated growth rate will grow from 6% in 2014 to 7.5% in 2016. However, data obtained by Market Report Store (2015) from Global 50 (a grouping of the 50 largest and most influential markets in the world) reveal that the global construction industry is projected to grow from US$ 7.4 trillion in 2010 to US$ 8.5 trillion in 2020. The report showed that the global construction markets had regained momentum with an annual average increase

of 2.7% between 2011 and 2013, increasing to 3.1% in 2014, and a forecast of 3.85% in 2015 with an annual average increase of 3.9% from 2016–2020.

Compass International (2016) further supports the position of Market Report Store (2015), suggesting that the global construction industry in 2016 will exceed US$ 7.5 trillion and grow to more than US$ 17.5 trillion by the year 2025. In addition, the global construction market for the next 5–10 years will grow by 50% to 75% and will amount to US$ 10 to US$ 15 trillion per year. This indicates that the size of global construction market is likely to double in 15 years. To further support the earlier statistics on the annual increase in the size of spending on global construction, World Bank Group (2014) established that global spending on infrastructure projects grew by 45 percent to US$ 24.2 billion in 2014 the fiscal year, up from US$ 16.7 billion in the previous year. It is obvious from earlier statistics that the amount spent on global construction projects has been increasing over the past number of years. The growth rate is satisfactory when compared to high demand level for critical infrastructures (like roads, bridges, energy, and clean water), especially in emerging economies where more families need drinkable water, children need electricity to study at night and families require a functional transport network to convey their goods to markets (Kim, 2014; World Bank Group, 2014). Going by recent trends, these demands are likely to increase.

2.3.2 Distribution of infrastructure spending by global region

As highlighted in the previous section, the demands in the ICM are huge. Abadie (2014) established that most of the spending in global construction markets up until 2025 will emanate from the manufacturing sector (petroleum refining, chemical industries and heavy metal industries). This sector will account for 21.3% of global spending on infrastructure projects and the annual growth rate is expected to be 8%. Miller (2013) reviewed budgets and spending on infrastructure projects across global regions (Asia-Pacific, Europe, Middle-East, Africa and the America). The review showed that Asia-Pacific (India, Australia and Indonesia) governments have initiated a number of Public–Private Partnerships (PPP) for various projects (airports, electricity, roads and bridges, telecommunications, ports and waters supply). In India the federal government initiated the 12th Sectoral Investment Plan for a period of 5 years (2013–2017) and to achieve this plan, private companies pumped US$ 275 billion into Indian infrastructure projects while investments worth of US$ 250 billion were made in electric plants and power generation. The Australian government also spent US$ 37 billion on infrastructure projects in the half decade which started in 2007 and increased by 15% in 2013.

Within the same period and for future projections, the top European economies (UK, France, Germany and Russia) made giant strides towards infrastructure development (Miller, 2013). The UK government created the National Infrastructure Plan with a top-down agenda based on an average amount of US$ 44 billion annually. The UK government also identified 550 transport, power and waste projects worth US$ 471 billion up to 2015 and beyond. Public-private partnership (PPP) initiatives in France worth US$ 43 billion for pipelines projects which will run through to 2020 were identified. Railway projects in Germany were estimated at US$ 8.4 billion. In Russia, mainly for the Sochi Olympic, US$ 50 billion worth of investment was made for the construction of airports, railway terminals and a number of new roads.

Over the last decade infrastructure spending in the USA was the largest in global construction markets. The annual value was estimated at US$ 1.22 trillion (Messner, 2006; US Census Bureau, 2006). However, constraints in the US budget due to the economic meltdown in 2008 constituted threats to infrastructure spending over a period of five years which led to steady growth and/or decline (Miller, 2013). The situation resulted in the US government devising a new model to fund infrastructure projects, where the states and local governments account for 75% while federal government accounts for 25% (Miller, 2013). In more recent time, the US spending on construction in 2013 was US$ 898.4 billion which was 5% above the US$ 857 billion spent in 2012. Spending in early 2015 was US$ 132.9 billion, which was 2% above the US$ 130.3 billion for the same period in 2014 (US Census Bureau, 2015).

The situation in Africa markets appear to be promising, as infrastructure growth rate is estimated at 2% and the annual infrastructure funding gap stands at US$ 30 billion to US$ 90 billion (Miller, 2013). Statistics show that the US infrastructure spending represents a major share of global construction markets even with its present recovery stage from the global meltdown. Infrastructure spending in Asia-Pacific and European countries also represents a significant proportion of global construction spending. The significance of the Asia-Pacific and African regions in global construction markets was further affirmed through the investigation made by Abadie (2014) on infrastructure spending in 49 countries, in which it was established that nearly 60% of spending on global infrastructure by 2050, will emanate from these regions while in 2016 it was only 10%. Western Europe is further expected to account for only 12% of global spending until 2018 when it will reach the pre-financial crises recovery level; in 2016 this region represented 20% of global spending.

An annual publication of Engineering News Record partly supports earlier statistics (Miller, 2013; Abadie, 2014) on distribution of global construction spending across regions and Table 2.1 shows that major spending will come from Asia and Australia followed by Asia and Australia, Europe, the Middle East, United States, Latin America, the United States and South and Central Africa (Reina & Tulacz, 2016).

Table 2.1: Contracting revenue of international contractors in 2015

No.	Region	Revenue (US$ billion)	Percentage
1	Asia and Australia	120.63	24.07
2	Europe	93.82	18.70
3	Middle East	76.31	15.23
4	Latin America	52.78	10.54
5	United States	53.42	10.66
6	Southern/Central Africa	39.24	7.83
7	Canada	22.95	4.58
8	North Africa	25.21	5.04
9	Others	16.78	3.35
	Total	**501.14**	

Source: Reina & Tulacz (2016)

2.3.3 Construction services in international markets

In the General Agreement on Trade in Services (GATS), engineering services in global market are divided into two distinct categories, namely, architectural and engineering; and construction and related engineering services (World Trade Organization Council for Trade in Services, 1998a, 1998b). The focus of this study is the construction and related engineering services provided on the ICM by the MNCCs. Various reports established that IC covers key infrastructure sectors such as extraction, utilities, manufacturing, transportation (El-Higzi, 2002; Mustaffa et al., 2012; Miller, 2013; Abadie, 2014; Reina & Tulacz, 2014) and social amenities (El-Higzi, 2002; Mustaffa et al., 2012; Reina & Tulacz, 2014). Within the scope of infrastructure projects, the extraction sector covers oil and gas, while infrastructure services in the utilities sector are power generation, electricity generation, transmission and distribution; gas, water and telecommunications. The manufacturing sector includes petroleum refining, chemical industries and heavy metals. The transport sector comprises railways, roads, airports and ports, while social works cover hospitals and schools. Reina & Tulacz (2014) identified 10 major classes of services, or projects in global construction markets and these are shown in Table 2.2.

Table 2.2: Classification of construction services in international markets

No.	Services	Typical sub-services
1	General building	Commercial buildings, offices, stores, educational facilities, government buildings, hospitals, medical facilities, hostels, apartments and housing.
2	Manufacturing	Auto, electronic assembly and textile.
3	Industrial process	Pulp and paper mills, non-ferrous metal refineries, pharmaceutical plants, chemical plants, food and other processing plants.
4	Petroleum	Refineries, petrochemical plants, offshore facilities and pipelines.
5	Water supply	Dams, reservoirs, transmission pipelines, distribution mains, irrigation canals, desalination and drinking water treatment plants, and pumping stations.
6	Sewerage/solid waste	Sanitary and storm sewers, treatment plants, pumping plants, incinerators, and industrial waste facilities.
7	Transportation	Airport, bridges, roads, canals, locks, dredging, marine facilities, piers, railroads, and tunnels.
8	Hazardous	Chemical, nuclear waste treatment and asbestos or lead abatement.
9	Power	Thermal and hydroelectric, power plant, waste-to-energy plants, transmission lines, sub-station, and cogeneration plants.
10	Telecommunications	Transmission lines, cabling, towers/antennae and data centres.

Source: Reina & Tulacz (2015)

The demands for these services in global construction markets vary. According to McKinsey Global Institute (2013), the demands for infrastructure across various construction services in the global market by 2030 is put at US$ 57 trillion and the distribution of the demand for these services are as shown in Table 2.3.

Table 2.3: Global construction demands by 2030

No.	Services	Value (US$ trillion)
1	Road	16.6
2	Power	12.2
3	Water	11.7
4	Telecommunication	9.5
5	Rail	4.5
6	Airports	2.0
7	Ports	0.7
	Total	**57.3**

Source: McKinsey Global Institute (2013)

2.3.4 Funding system in international construction markets

Construction services for MNCCs in the international market is huge and represents a significant proportion of spending in global economy. However, many stakeholders are involved in delivery processes (Berk, 2012); these parties include financiers (banks and financial institutions) who provide funds for projects. The funding arrangements for most projects in the ICM is complex, and funds often come from international funders and financing institutions like the World Bank, International Monetary Fund (IMF), the Asian Development Bank (ADB), and the African Development Bank

(AfDB) (Ostler, 1998; ENR, 1998b, El-Higzi, 2002, AfDB, 2011; Deloitte & Touche, 2013). These funds are usually in form of multilateral aid programs, bilateral aid projects, tied-aid programs, privatization and foreign direct investment (El-Higzi, 2002). There are many MNCCs (mostly from China) in most of the emerging markets in Africa (like Nigeria, Angola and Kenya), where new roads, railways and port facilities are being constructed, and most of these MNCCs came to the continent with their own resources (financial, managerial and technical) (Miller, 2013). In a recent survey conducted on the ongoing 322 projects in the ACM, Deloitte and Touche (2013) established that 36% of the funds for these projects were contributed by development finance institutions.

2.3.5 Players in international construction markets

The ICM are multi-dimensional. The players range from clients to other service providers. The clients are mostly public institutions and private organizations that have the financial capability to initiate large construction projects (Radosavljevic & Bennett, 2012; Abadie, 2014). Statistics provided by Deloitte and Touche (2013) on the ongoing 322 projects in Africa, show that ownership varies with 56% owned by governments, 17% belonging to European and the US interests, and 4% being private–public partnership initiatives. The service providers in the ICM include professionals (like architects and planners, engineers), main contractors, small to medium–sized specialists contractors, auxiliary sub-sectors (materials manufacturers and suppliers) and investors and financiers (banks, insurance and real estate institutions) (Gounden, 2000; Windapo & Cattell, 2011). The players in the present study are the large-sized construction companies in South Africa that currently operate in the ICM.

Engineering News Record annually publishes a list of the top–rated 250 international contractors, but the MNCC from South Africa are excluded from this list. The revenues of the ENR top 250 international contractors between 2001 and 2014 were assessed (Table 2.4) and the revenues of the top 20 in 2013/2014 is as shown in Table 2.5 while the shares of the top 250 across global regions is presented in Table 2.6. Table 2.4 reveals that the revenues of the top rated 250 international contractors grew over the last one and half decades (2001–2015). The growth was significantly steady except between 2009 and 2010 where their revenues fell marginally from US$ 383.5 to US$ 383.3 billion, but rose significantly in 2011 to US$ 453.0 billion.

An evaluation of the revenues of the top 20 international contractors (Table 2.5) reveals that contractors from European region (Group ACS from Spain and Hochtief AG from Germany) dominated the major share of global construction markets. This represents 27.6% of the total revenue of the top 20 international contractors in 2013/2014. Table 2.6 also presents the share of construction markets across

global regions based on the revenues of the top 250 international contractors in 2013. The Table shows that European region had the largest share of the markets (50%), followed by contractors from China (14.5%) and America (13%). In terms of number of contractors operating in ICM, the largest participation came from China followed by Europe, Turkey and America. The statistics on revenues agree with the results in Table 2.5.

Table 2.4: International contractors revenues from 2001-2015

No.	Year	Revenues (US$ billion)
1	2001	106.5
2	2002	116.5
3	2003	139.8
4	2004	167.5
5	2005	189.4
6	2006	224.4
7	2007	310.3
8	2008	390.0
9	2009	383.8
10	2010	383.7
11	2011	453.0
12	2012	507.5
13	2013	544.0
14	2014	521.5
15	2015	500.1

Source: Reina & Tulacz (2011, 2012, 2013, 2014, 2015, 2016); Statista (2015).

Table 2.5: International revenues of the top 20 international contractors in 2015

No.	Contractor Name	Nationality	Revenues (US$ million)
1	Group ACS	Spain	32.07
2	Hochtief AG	Germany	24.52
3	China Communications Construction Group Ltd.	China	19.27
4	Vinci	France	17.96
5	Bechtel	U.S.A	16.88
6	Odebrecht Engenharia E Construcao SA	Brazil	14.94
7	Technip	France	13.44
8	Strabag SE	Austria	13.38
9	Bouygues SA	France	13.37
10	Skanska AB	Sweden	12.69
11	Power Construction Group of China	China	11.35
12	Saipem	Italy	10.20
13	Hyundai Engineering & Construction Co. Ltd.	Korea	10.03
14	China State Construction Engineering Corp. Ltd	China	8.73
15	Fluor Corp.	U.S.A	8.05
16	Ferrovial	Spain	7.58
17	Samsung C&T Corp.	Korea	7.02
18	JGC Corp.	Japan	6.18
19	Petrofac Ltd.	U.K.	6.15
20	China Railway Group Ltd.	China	6.04

Source: Reina & Tulacz (2016)

A close look at ongoing infrastructure projects within the ACM shows that 37% of 322 projects are being built by contractors from Europe and the US, while Chinese firms are constructing 12% of the projects (Deloitte & Touche, 2013). According to Reina & Tulacz (2010), the revenues of international contractors outside their home countries in 2009 was estimated at about US$ 383.78 billion and the biggest increases in international contracting revenues came from Africa. The global revenues of international contractors in Central and Southern Africa grew by 31.7% to US$ 27.71 billion in 2009 from US$ 21.04 billion in 2008. North Africa grew by 30.8% to US $27.52 billion in 2009 from US$ 21.04 billion in 2008 (Reina & Tulacz, 2010). The revenues from ACM represents 11.5% of total revenues from global markets in 2013. The fact that ACM has become oligopolistic is further supported by the statistics on markets shares and revenues generated by international contractors in these markets.

Table 2.6: Share of international construction markets across nationalities of the 250 top international contractors in 2015

No.	Contractor Nationality	Number of firms	Revenue (US$ Million)	Percentage
1	AMERICAN	39	47,319.2	9.7
2	CANADIAN	1	3,172.1	0.7
3	EUROPEAN	52	212,263.3	43.6
	British – 2 German – 4 French – 5 Italian – 16 Dutch – 3 Spanish – 11 Others – 12			
4	AUSTRALIAN	3	9,931.1	2.0
5	JAPANESE	14	25,167.7	5.2
6	CHINESE	65	93,674.9	19.3
7	KOREAN	12	40,580.4	8.3
8	TURKISH	39	22,591.7	4.6
9	BRAZILIAN	2	15,740.7	3.2
10	ALL OTHERS	23	15,882.6	3.3
	ALL FIRMS	**250**	**486,323.6**	**100.0**

Source: Reina & Tulacz (2015)

2.4 AFRICAN CONSTRUCTION MARKET

The demand for infrastructure (such as roads, water, electricity, and housing) in most African states is huge (Deloitte and Touche 2012). Access to good road and reliable electricity on the continent is 34% and 30% respectively whereas in some developing economies outside Africa, roads and electricity access is 50% and 70–90% respectively (PIDA, 2011). To bridge this gap, the cost of the Infrastructure Development Plan (IDP) for Africa between 2011 and 2040, is estimated at US$ 360 billion (PIDA, 2011).

Evidence abounds of the increased rate of the demand for infrastructure across Africa (Deloitte & Touche, 2012). Deloitte and Touche (2012) further established that there are a significant number of cities in Africa (including Accra, Cairo, Cape Town, Johannesburg, Nairobi and Lagos). The number of cities is expected to grow to more than 100 by 2040, and it is projected that 7 of these cities will have in excess 10 million residents (Deloitte & Touche, 2012). New cities are also emerging including Tatu City in Kenya, City of Light and King City in Takoradi both in Ghana (worth US$300 million), and Port Harcourt and modern Eko Atlantic City in Nigeria (Deloitte & Touche, 2012). The emergence of these new cities is due to the increase in African population. Supporting this, the AfDB (2011) reported that the African population had increased to 1 billion (one-seventh of world population), and the size of the middle class, expressed as a percentage of the total African population had grown over years, the middle class from the majority of cities dwellers. The middle-class population in 1980 was 111 million (26%), in 1990 it was 151.4 million (27%), in 2000 it was 196 million and in 2010 it was 313 million which equates to 34.4% of total population in Africa.

As part of the infrastructure needs on the continent, housing demand is huge, there is annual housing deficit of 150 000 units in Nairobi, and in Ghana there is a deficit of 1.6 million hosues, which is expected to grow to 3.6 million by 2040. To tie up infrastructure deficits in Africa, various regional integration plans have been established. Southern African Development Community (SADC) established a funding plan of US$ 100 billion for infrastructure. The North-South Corridor Infrastructure Plan (NSCIP) between Durban and Dar es Salam is massive, comprising of 157 mega projects including 59 road projects, 38 rail projects and 6 bridge projects (Deloitte & Touche, 2012). According to the World Bank, 249 infrastructure projects with a total investment value of US$ 106 billion were implemented in 42 countries in sub-Saharan Africa between 2000 and 2010 by private participants. These projects were mainly in the telecommunication sector and amounted to 81% of the regional investment, this was followed by transport (11%) (RMB Global Markets Research, 2012). In another survey on infrastructure growth in Africa, and conducted by Deloitte and Touche (2013), there were 322 ongoing projects worth US$222.8 billion across various markets in the continent (see Table 2.7).

2.5 RISKS IN INTERNATIONAL CONSTRUCTION MARKETS

This section describes the concept of risk and risk perception in the present study. It also identifies classes of risk in the ICM.

2.5.1 Risk definition

Risk has been described by different authors in different ways (Walewski et al., 2006; Mark, Cohen & Glen, 2004; Chia, 2006; Deng, Pheng & Zhao, 2014). Among the common words associated with risks are: hazards, perils, uncertainties, threats and vulnerabilities, dangers and failures. However in this study, risk is described as a probabilistic function that combines the likelihood of encountering a risk and its degree of impact on the ease of entry into the ACM.

Table 2.7: The 322 Infrastructure projects in African markets in 2013

Region	**Project Type**													**Total value US$ billion**
	Energy/ Power	Transport	Mining	Real Estate	Water	Healthcare	Telecommunication	Education	Agriculture	Construction	Shipping & Ports	Social Development	Oil & Gas	
Southern Africa	31%	18%	19%	17%	9%	2%	-	-	1%	1%	1%	-	1%	83.2
East Africa	37%	42%	2%	4%	8%	2%	3%	1%	-	-	1%	-	-	67.7
West Africa	24%	23%	20%	4%	5%	5%	-	-	-	-	1%	6%	12%	49.9
Central Africa	35%	18%	29%	12%	6%	-	-	-	-	-	-	-	-	15.3
North Africa	59%	14%	4%	14%	9%	-	-	-	-	-	-	-	-	6.7
Total														**222.8**

Source: Deloitte & Touche (2013)

2.5.2 Risk perception

Risk perception is the expression of an expert opinion on the probability that a particular risk will occur and the severity of risk. Perception of risks based on expert opinion has been evaluated in earlier studies (Backhaus & Meyer, 1984; Miller, 1992). Modelling risk perception into a single expression however, is a difficult process (The Royal Society, 1992). Earlier studies (Choffray & Johnson, 1977; Ritchie & Marshall, 1993; Akintoye & McLeod, 1997) established that significant number factors moderate the perception of risk and these include people's beliefs, attitudes, judgements and feelings; educational backgrounds, practical experience, intellectual characteristics of the person judging, the risk, as well as amount and quality of the available information. In this study, risk perception is an assessment of the extent of impact attributed to a particular risk if encountered.

2.5.3 Risks classification in international construction market

Earlier studies conducted in the ICM have classified risks in into country–related risks (Ashley & Bonner, 1987; Zhi, 1995; Ozorhon, et al., 2007; El-Sayegh, 2007; Zhang, 2011; Xiaopeng and Pheng

2013) and project–related risks (Zhi, 1995; Hastak & Shaked, 2000; Baloi & Price, 2003; Walewski et al., 2006; Eybpoosh, Dikmen & Birgonul, 2011; Dikmen et al., 2011; Rezakhani, 2012; Park et al., 2014; Deng et al., 2014). Country risks as identified in the literature, are political risks (Lee, Jeon, Kim & Kim, 2011; Xiaopeng & Pheng 2013; Du Toit, 2013; Deng et al., 2014), social risks (Zhang, 2011; Lee et al., 2011), and economic/financial risks (Ozorhon, et al., 2007; El-Sayegh, 2007; Ling & Hoi, 2006). Project risks are uncertainties associated with the conception and design of a project, and its actual execution in the foreign market. A review of extant literature on the ICM made, as well as earlier studies, grouped project risks into procurement–design–and construction–related risks (Zhi, 1995; Baloi & Price, 2003; Han et al., 2004; Walewski et al., 2006; Dikmen et al., 2007; Dikmen et al., 2011); these are further discussed in subsequent sections.

2.5.3.1 Political risks

Political risks are uncertainties in political processes that are initiated by different parties, and which may influence goals and operations of stakeholders in foreign markets (Du Toit 2013). Earlier studies established that political risks often emanate from political events, government interventions in businesses, and a change in government (Robock, 1971; Root, 1972; Aliber, 1975; Zhuang, Ritchie & Zhang, 1998). The multidimensional nature of political risks makes their management a significant consideration in multinational settings (Jakobsen, 2010; Quer, Claver & Rienda, 2011). In recent times, political risks have been redefined and are also linked to social factors like terrorism and insurgencies (Al Khattab, Anchor & Davies, 2007; Jakobsen, 2010). These show that political risks emanate from processes in political system, intervention by political players in foreign businesses, a change in political leadership, and societal factors/differences. Through a review of the literature conducted to identify risks in the ICM, fifteen political risks were identified and are presented in Table 2.8.

Table 2.8: Variables of research constructs and their sources - International risks

No.	Political risks	Sources
1	Instability/change in government	Hastak & Shaked, 2001; Walewski et al., 2006; Ling & Hoi, 2006; Javernick-Will & Levitt, 2009; Kerur & Marshall, 2012; Eybpoosh et al., 2011; Xiaopeng & Pheng, 2013
2	Bureaucracy/administrative delay	Aliber, 1975; Zhi, 1995; Zhuang et al., 1998; Javernick-Will and Levitt, 2009; Eybpoosh et al., 2011; Xiaopeng & Pheng, 2013; Park et al., 2014

3	Changes in the laws, regulations and policies of the host government	Aliber, 1975; Zhi, 1995; Zhuang et al., 1998; Bing, Akintoye, Edwards & Hardcastle, 2005; Ling & Hoi, 2006; Al Khattab et al., 2007; Han et al., 2007; Ozorhon et al., 2007; Javernick-Will & Levitt, 2009; Ling & Hoang, 2010; Eybpoosh et al., 2011; Kerur & Marshall, 2012; Xiaopeng & Pheng, 2013; Park et al., 2014
4	Unwritten/ambiguous laws, regulations and policies	Bing et al., 2005; Al Khattab et al., 2007; Han et al., 2007; Ozorhon et al., 2007; Javernick-Will & Levitt, 2009; Ling & Hoang, 2010; Eybpoosh et al., 201; Kerur & Marshall, 2012; Xiaopeng & Pheng, 2013
5	Restrictions on repatriation of funds	Aliber, 1975; Zhuang et al., 1998; Ozorhon et al., 2007; Park et al., 2014
6	Bribery and corruption	Zhi, 1995; Bing et al., 2005; Al Khattab et al., 2007; Han et al., 2007; Ling & Hoang, 2010; Javernick-Will & Levitt, 2009; Xiaopeng & Pheng, 2013; Park et al., 2014
7	Legislative bottlenecks/red tape	Zhi, 1995; Du Toit, 2013; Park et al., 2014
8	Adverse legal rulings and an inconsistent judicial/legal system	Zhi, 1995; Ozorhon et al., 2007
9	Host government local content policies and political will towards project	Xiaopeng & Pheng, 2013; Park et al., 2014
10	Political god-fatherism/dictatorship	Aliber, 1975; Zhuang et al., 1998
11	Tariff barriers/difficulty in doing business	Aliber, 1975; Ling & Hoi, 2006; Al Khattab et al., 2007; Han et al., 2007; Eybpoosh et al., 2011; Kerur & Marshall, 2012
12	Delays in public decision-making process	Aliber, 1975; Zhuang et al., 1998; Park et al., 2014
13	Cross-border delays in the movement of resources (human, materials, machineries/ equipment)	Aliber, 1975; Zhuang et al., 1998; Ozorhon et al., 2007; Eybpoosh et al., 2011
14	Delay/denial in issuance of license/permits to expatriates firms	Aliber, 1975; Zhuang et al., 1998; Bing et al., 2005; Al Khattab et al., 2007; Han et al., 2007; Ling & Hoang, 2010; Eybpoosh et al., 2011; Kerur & Marshall, 2012; Xiaopeng & Pheng, 2013
15	Institutional capacity in government agencies	Aliber, 1975; Zhuang et al., 1998; Hastak & Shaked, 2001; Park et al., 2014
	Social risks	
16	Threats of terrorism/insurgencies	Eybpoosh et al., 2011; Kuo, 2012a

17	Societal differences (languages, religion, cultures and customs)	Zhi, 1995; Zhao & Li, 2010; Zhang, 2011; Al-Sabah, 2012
18	Ethical requirements and practices	Zhang, 2011;
19	Social disorder/instability (strikes, riots, labour unrests, wars, outbreak of epidemics)	Zhi, 1995; Jakobsen, 2010; Al Khattab et al., 2007; Eybpoosh et al., 2011; Rezakhani, 2012; Kuo, 2012a; Shen, 2013; Walke, Topkar & Kabiraj, 2010
20	Crime rate/social insecurity	Jakobsen, 2010; Al Khattab et al., 2007; Du Toit, 2013
21	Restrictive labour laws/markets	Campbell, 2002; Zhang, 2011
22	Local protectionism/nationalization	Jakobsen, 2010; Fang, et al., 2004; Al Khattab et al., 2007; Bing et al., 2005; Al Khattab et al., 2007; Han et al., 2007; Ling & Hoang, 2010; Zhang, 2011; Rezakhani, 2012
23	Dispute management system/arbitration	Campbell, 2002; Zhang, 2011
24	Changes in social systems/norms	Miller, 1992; Zhang, 2011
25	Inadequate social infrastructure/facilities (power, communication, road, health care, educational etc.)	Zhi, 1995; Eybpoosh et al., 2011; Kuo, 2012a; Du Toit 2013
26	Discriminative acts/treatments/attitudes/ towards expatriates/foreign firms	Campbell, 2002; Bing et al., 2005; Al Khattab et al., 2007; Han et al., 2007; Ling & Hoang, 2010; Zhang, 2011
	Economic/financial risks	
27	Payment risk	Alon & Martin 1998; Park et al., 2014
28	Fluctuation in inflation rate/rising inflation	Zhi, 1995; Hastak & Shaked, 2001; Han & Diekmann, 2001; Baloi & Price, 2003; Ling & Hoi, 2006; Ozorhon et al., 2007; El-Sayegh, 2007; Han et al., 2007; Eybpoosh et al., 2011; Al-Sabah, 2012
29	Volatility in foreign exchange rates	Zhi, 1995; Hastak & Shaked, 2001; Kapila & Hendrickson, 2001; Han & Diekmann, 2001; Baloi & Price, 2003; Ling & Hoi, 2006; Walewski et al., 2006; Han et al., 2007; Ozorhon et al., 2007; Eybpoosh et al., 2011; Al-Sabah, 2012; Kerur & Marshall, 2012
30	Volatility in interest rate	Zhi, 1995; Han & Diekmann, 2001; Hastak & Shaked, 2001; Baloi & Price, 2003; Ling & Hoi, 2006; Han et al., 2007; Abdul-Raham, 2012
31	Inadequacy in project funding	Ling & Hoi, 2006
32	Multiple tax system/payment	Kapila & Hendrickson, 2001; Ling & Hoi, 2006; Kerur & Marshall, 2012
33	Volatility in tax rates	Zhi, 1995; Hastak & Shaked, 2001; Han & Diekmann, 2001; Kapila & Hendrickson, 2001; Baloi & Price,

		2003; Ling & Hoi, 2006; Han et al., 2007; Al-Sabah, 2012
34	Excessive price control	Kapila & Hendrickson, 2001; Abdul-Raham, 2012; Eybpoosh et al., 2011; Kerur & Marshall, 2012
35	Restrictions in the repatriation of profits and royalties	Ling & Hoi, 2006; Al-Sabah, 2012
36	Economic stagnation/growth rate	Han et al., 2004; Ozorhon et al., 2007; Eybpoosh et al., 2011; Kerur & Marshall, 2012
37	Difficulty in capital returns	Kapila & Hendrickson, 2001
38	Delays in payment/shortage in payment	Zhi, 1995; Dikmen, et al., 2007; Eybpoosh et al., 2011; Al-Sabah, 2012; Abdul-Raham, 2012; Park et al., 2014
39	Access to credit/finance	Ling & Hoi, 2006
40	Availability of economic information for market forecast	Ozorhon et al., 2007; Li 2009
	Procurement-related risks	
41	Biases in bidding process	Baloi & Price, 2003; Al-Sabah, 2012; Abdul-Raham et al., 2012
42	Procurement policies in the host country	Abdul-Raham et al., 2012; Park et al., 2014
43	Number of bidders	Baloi & Price, 2003; Abdul-Raham et al., 2012
44	Uncertainties in estimating processes	Walewski et al., 2006; Rezakhani, 2012
45	Contractual procedure	Eybpoosh et al., 2011; Park et al., 2014
46	Ambiguity in contractual conditions/ requirements	Eybpoosh et al., 2011; Abdul-Raham et al., 2012; Park et al., 2014
47	Contract type	Baloi & Price, 2003; Abdul-Raham et al., 2012
48	Contract size	Baloi & Price, 2003
49	Bidding requirements	Abdul-Raham et al., 2012
50	Land use acts and control	Abdul-Raham et al., 2012
51	Construction/building regulations and acts	Rezakhani, 2012
52	Requirements of local authorities/agencies	Abdul-Raham et al., 2012
53	Non-refundable bidding cost	
	Design-related risks	
54	Frequent changes to design and/or drawings	Zou, Zhang & Wong, 2007; Abdul-Raham et al., 2012
55	Design errors/incorrect drawings/design flaws	Abdul-Raham et al., 2012; Park et al., 2014
56	Incomplete design brief/information and/or ambiguity of design scope/detailing	Chapman, 2001; Baloi & Price, 2003

57	Diffused responsibilities among design consultants/team	Abdul-Raham et al., 2012
58	Sub-contracting of designs by prime consultants	Abdul-Raham et al., 2012
59	Skills and experience of the design company	Chapman, 2001
60	Delay in the timing and delivery of designs	Chapman, 2001
61	Design process of engineering components	Abdul-Raham et al., 2012
62	Conflicts related to design documents	Abdul-Raham et al., 2012
63	Bottlenecks in designs approval	Abdul-Raham et al., 2012
64	Site characteristics and physical conditions	Zou et al, 2007
	Construction-related risks	
65	Geological conditions (mining sites, resources etc.)	Baloi & Price, 2003; Han & Diekmann, 2001; Dikmen & Birgonul, 2006; Han et al., 2007; Eybpoosh et al., 2011
66	Site topographical conditions (rivers, mountain, buried services pipes etc.)	Baloi & Price, 2003; Abdul-Raham et al., 2012; Rezakhani, 2012
67	Climatic/weather conditions (rainfall, heat, wind, dust storms, earthquake etc.)	Hastak & Shaked, 2000; Baloi & Price, 2003; Dikmen and Birgonul, 2006; Han et al., 2007
68	Skills and competency of client-generated subcontractors	Baloi & Price, 2003; Zou et al., 2007; Diekmann et al., 2007; Eybpoosh et al., 2011; Park et al., 2014
69	Variation/rework/change in scope of work	Zou et al., 2007; Rezakhani, 2012; Abdul-Raham et al., 2012
70	Delay in progress payment and cash flow	Diekmann et al., 2007; Eybpoosh et al., 2011; Al-Sabah, 2012; Abdul-Raham, 2012; Park et al., 2014
71	Availability of qualified professionals in the local market	Zou et al., 2007;
72	Productivity/expertise of local labour/equipment operators	Abdul-Raham et al., 2012
73	Access to construction resources (material and skilled labour)	Ling & Hoi, 2006; Walewski et al., 2006; Diekmann et al., 2007; El-Sayegh, 2007; Zou et al., 2007; Eybpoosh et al., 2011; Abdul-Raham et al., 2012; Al-Sabah, 2012; Park et al., 2014
74	Theft of resources (materials/machine/equipment)	Baloi & Price, 2003
75	Construction methods/technologies requirements	Baloi & Price, 2003; Diekmann et al., 2007; Zou et al., 2007; Eybpoosh et al., 2011; Park et al., 2014
76	Site planning/construction logistics	Diekmann et al., 2007; Eybpoosh et al., 2011; Abdul-Raham et al., 2012; Rezakhani, 2012; Park et al., 2014

77	Delay in both procurement and supply of resources (materials/components/equipment/machines)	Zhi, 1995; Dikmen, et al., 2007; Eybpoosh et al., 2011; Al-Sabah, 2012; Abdul-Raham, 2012; Park et al., 2014
78	Delay due to erection/installation of supports/elements	Abdul-Raham et al., 2012
79	Act of God (heavy flood, landslide, earthquake, hurricanes, wind, epidemic diseases, archaeological discoveries)	Baloi & Price, 2003; Walke et al., 2010
80	Coordination and communication among the erection team and design component/element manufacturers	Zou et al, 2007; Rezakhani, 2012
81	Complexity of project	Baloi & Price, 2003; Diekmann et al., 2007; Eybpoosh et al., 2011; Rezakhani, 2012

2.5.3.2 Social risks

Social risks are societal issues that stakeholders in overseas markets are vulnerable to, and that can have significant consequences for business practices (Kytle & John, 2005). Social risks vary from one market to another; if not properly identified and adequately regulated, these risks may lead to losses and severe consequences for foreign firms (Zhang, 2011). Therefore, firms internationalizing must have a clear perspective of the impact of the socio-cultural dimensions of the host markets (Low & Shi, 2001). In most cases, social risks in foreign markets are related to provocative policies, human rights, labour and ethical issues, and pressure on organization to change its business principles (Zhang, 2011). In more recent times social risks have been become more redefined due to socio-cultural challenges such as terrorism, insurgencies and xenophobic events, which have impacted on the global system in which African sub-regions are included. Through a review of the literature conducted to identify risks in the ICM, eleven social risks were identified and are presented in Table 2.9.

2.5.3.3 Economic and financial risks

Most companies venture into overseas markets with intentions of achieving calculated the pre-determined financial rewards (Li, 2009), but inability of firms to manage the perceived impacts of economic/financial risks in foreign markets can lead to heavy losses (Kangari, 1995). Economic risks are mostly the uncertainties relating to the macroeconomic conditions in the country, which could influence the financial return of a company when operating in overseas environments (Han et al., 2004; Ozorhon et al., 2007). A review of the extant literature was carried out to identify risks in the ICM which yielded a list of fourteen economic and financial risks as shown in Table 2.9.

2.5.3.4 Procurement risks

Earlier studies (Baloi & Price, 2003; Dikmen et al., 2007; Abdul-Raham et al., 2012; Park et al., 2014) on the ICM reviewed have described risks related to different forms of procurement. These include risks associated with estimating and competition in the bidding process, client–initiated risks, managerial risks emanating from obligations of project owners or clients, or both, at the early stages of a project. From the review conducted on earlier studies of the ICM, procurement-related risks were identified and presented in Table 2.9. In this study, procurement risks are uncertainties associated with construction projects at the early stages (including conception, estimation, tendering and award) in global markets.

2.5.3.5 Design risks

Design risks in this study are unforeseen circumstances and uncertainties surrounding the design processes of all kinds of construction projects in global markets. Through a review of the literature on the ICM, design-related risks were identified, with details further presented on Table 2.9.

2.5.3.6 Construction risks

Construction is a stage in a project life cycle where actual execution of construction project tasks takes place. Uncertainties at this stage are described as construction risks. These often emanate from actions or inactions of contractors both on-and-off site, and external influences from clients, consultants and subcontractors. A list of seventeen construction-related risks was identified from the review of the literature and is presented in Table 2.9.

2.6 ENTRY MODES INTO THE INTERNATIONAL CONSTRUCTION MARKET

2.6.1 Entry mode definition

Entry mode is an international market system or an arrangement within a firm, through which a firm accesses markets abroad when opportunities exist and decisions have to be made to expand operations into international markets (Root, 1998; Anderson, 1997; Chen, 2005; Chen & Messner, 2011). In this study, entry mode is viewed as an organizational-based arrangement made by a construction company to enter and explore opportunities in international markets.

2.6.2 Types of entry mode

Earlier studies (Sillars & Kangari, 1997; Wang, 2000; Carrillo, 2001; Lim & Liu, 2001; Shen et al., 2001; Mohamed, 2003; Low & Jiang, 2003) established that different modes of entry exist for MNCCs

to access market abroad. Through investigations conducted by Chen (2005), and Chen and Messner (2011) on archived data of MNCCs that operated in the ICM, ten basic entry modes were identified which include—strategic alliance, branch office, local agent, representative office, licensing, joint venture company, joint venture project, sole venture company, sole venture project, build-operate-transfer project, and equity project. The adapted meaning of these modes of entry as used in this study are outlined in Appendix B. More descriptions of the modes of entry from previous studies are presented in subsequent sections. Moreover, a list of ten modes of entry were identified from the review of the literature and are presented on Table 2.9; these modes are further discussed in subsequent sections.

Table 2.9: Variables of the research construct and sources of measurement items - Entry modes

No.	Entry Modes	Sources
1	Branch office/subsidiary company	Low & Jiang, 2003; Forlani et al., 2008; Ling et al., 2005; Chen & Messner, 2009
2	Sole venture company/project	Ling et al., 2005; Chen, 2005; Ozorhon et al., 2007; Forlani et al., 2008; Chen & Messner, 2009
3	Strategic alliance	Sillars & Kangari, 1997; Chen, 2005; Ling et al., 2005; Forlani et al., 2008; Chen & Messner, 2009
4	Local agent	Low & Jiang, 2003; Chen, 2005; Chen & Messner, 2011
5	Joint venture company/project	Lim & Liu, 2001; Shen et al., 2001; Low & Jiang, 2003; Mohamed, 2003; Ling et al., 2005; Ozorhon et al., 2007; Forlani et al., 2008; Ballegooiljen, 2010; Gama, 2011; Abdul-Aziz et al., 2013; Delfino, 2014
6	Representative office	Low & Jiang, 2003; Chen, 2005; Chen & Messner, 2011
7	Build-operate transfer (BOT)/equity project	Wang, 2000; Chen, 2005; Chen & Messner, 2009
8	Licensing and franchising	Chen, 2005; Grant, 2008; Forlani et al., 2008; Pan & Tse, 2008; Chen & Messner, 2009; Ballegooiljen, 2010; Chen and Messner, 2011

2.6.3 Entry modes classification

Earlier studies in international business had classified entry modes as either dependent or independent, and as either temporary or permanent (Brouthers, 1995; Chen & Messner, 2011); hierarchical, quasi-hierarchical and quasi-market (Williamson, 1985); wholly-owned, acquisitive and franchised (Treadgold, 1988); integrated, cooperative and independent (Brouthers, 1995); and export, contractual and investment (Hill, Hwang & Kim, 1990; Root, 1994; Woodcock, Beamish & Makino, 1994). Other classifications include equity and non-equity (Pan & Tse, 2000) and full-ownership, joint venture and no-ownership (Forlani et al, 2008). The study of Chen and Messner (2011) on the ICM, classified entry modes into permanent and mobile. This study synthesized the existing modes to classify the basic entry modes identified, into: integrated subsidiary, wholly-owned subsidiary, cooperative, and independent.

2.6.3.1 Integrated and wholly—owned subsidiaries

Integrated and wholly—owned subsidiaries are independent forms of entry mode, whereby companies open a branch office or sole venture in a foreign market to explore opportunities. (Brouthers, 1995). The entry modes in this category include branch companies, subsidiary companies and sole venture.

i. Branch office and subsidiary company mode

These are entry modes where the company has full ownership and control of all resources and bears all costs to set up office for its foreign operations (Root, 1998). All assets generated belong to the firm and the level of resources commitment is considerable (Hill et al., 1990). Moreover, daily operations and the power to make strategic decisions are vested in the foreign subsidiary, but ultimate control remains with the corporate head office of the firm (Hill, et al., 1990).

ii. Sole venture company or project mode

A sole venture (SV) is an arrangement where the ownership and control of resources in a firm or on a project in overseas markets are duties of a single firm. Such a firm individually explores the opportunities and manages the risks in the market on its own, as against a joint venture (JV) where these are shared (Ozorhon et al., 2007). Sourcing of resources and the markets information, setting goals, making strategic decisions and acquisition of assets are sole responsibilities of the firm. The self-operation of such firm may limit its access to opportunities in global construction markets (Ozorhon et al., 2007) because international projects are complex in terms of procurement, design and execution.

2.6.3.2 Cooperative mode

Cooperative modes require joint arrangement like partnerships or strategic alliances between two or more firms in foreign markets. The entry modes in this class are a strategic alliance, local agent, joint venture company, joint venture project, a representative, BOT project, and an equity project. In these modes, resources, ownerships, and the impact of risk on overseas operations are shared among partners (Brouthers, 1995).

i. Strategic alliance mode

An alliance or strategic alliance is a form of association where two or more companies come together to form a new business. The intention of forming such an alliance may be long or short term; resources and the expertise of the partners are aligned to purse a common business

interest and share risks and opportunities that could emanate from such an association (Badger & Mulligan, 1995; Yoshino, 1995; Sillars & Kangari, 1997; Kang & Sakai, 2000; Ling et al., 2005). According to Lorange and Roos (1992) and Sillars and Kangari (1997), alliances could be in one of four major forms: (1) *ad-hoc pool*: alliances that require minimal resource input, (2) *consortium*: an alliance that has a long-term relationship with parent companies providing the resource inputs, but without a strong expectation of these resources being returned to the parent companies, (3) *short-term joint venture*: alliances with significant resource inputs, and an expectation of a return profit to the parent companies and (4) *full-blown joint venture*: alliances with significant resource inputs, where the output is reinvested in the joint venture. A strategic alliance is linked to other forms of cooperative classes of entry mode such as a joint venture company or project, a local agent; a representative, BOT projects, and equity project excluding independent entry modes (Kang & Sakai, 2000).

ii. Local agent mode

Local agent (LA) mode is a contractual arrangement between an entrant and a local partner who stands as an agent providing information about local markets and assistance to the entrant (Keegan, 1989; Havila, 1993a). An LA performs an intermediary role between the entrant and construction stakeholders in a foreign markets. The intermediary roles an LA is significant because of the complexities and uncertainties surrounding operation in foreign markets (Keegan, 1989; Havila, 1993a). This intermediary role bridges the gap between an entrant and clients in foreign markets (Aldemon, 1957; Stern & El-Ansary, 1992). Local agents also mediate between the parties, serving as a middle-man.

iii. Joint venture company or project mode

A joint venture (JV) is a strategic alliance/partnership between two or more firms (local and foreign) where risks, resources, ownership, control of operations, and opportunities in foreign markets, are shared (Hill et al., 1990; Root, 1998; Chang & Rosenzweig, 2001; Ozorhon et al., 2007; Abdul-Aziz, Nor Azmi, Law & Pengiran, 2013). The decision to adopt a JV is dependent on the demands and growing opportunities in overseas markets (Kogut & Singh, 1988). A JV allows partners to bring together their resources and expertise for the execution of large scale infrastructure projects (Walker & Johannes, 2003). A JV could be classified either as JV company or JV project (Ling et al., 2005) depending on the scope of such partnership. This mode is widely employed by governments because of the advantages it offers in the delivery

of infrastructure projects (Chan & Rosenzweig, 2001). Among these benefits are the elimination of barriers of access to foreign markets, an increase the international experience of a foreign firm and better access to foreign market opportunities (Gama, 2011). According to Ballegooiljen (2010), the possibilities of firms enjoying the potential benefits of a JV depends on the commitment, trust, openness, skills utilization, accessibility and friendliness of the partners. Bing, Tiong, Fan, Wai and Chew (1999) proposed a three stage lifecycle JV agreement which includes the start-up, the operation and the dismantling upon completion. The start-up is the initial formation stage of the JV (negotiation and signing of agreement); operation is the partnership agreement or implementation stage (construction work); while dismantling the clean-up and closure stage after final completion of any project.

iv. Representative office mode

The representative office (RO) is an office opened by an entrant firm in a market abroad. In order to achieve the purpose and objectives of setting up such representative office in a particular foreign market, the firm engages local managerial and human resources for the day–day activities of the office (Cheung & Messner, 2011). This mode is an unincorporated formal presence with intention to carry out non-commercial activities (market research, negotiation, and business soliciting) in the host country. An RO may not on its own carry out business or execute contracts on its own, but could create a good business platform for the entrant firm to leverage on.

v. Build-operate transfer (BOT)/equity project

A BOT project is a variant of a public–private partnership (PPP) initiative and is mostly an arrangement between private institutions and public clients, for the delivery of infrastructure development projects. Sometimes, private investors seek infrastructure projects that are in demand and propose such projects to public clients in foreign markets, for consideration. A BOT arrangement is a termed concession. In BOT, the concessionaire (private firm) secures the needed capital, designs and constructs the infrastructure project and operates it for a certain period of time (typically 10 to 30 years) for the concessionaire to pay off the debt accrued in the procurement of the infrastructure project and recoup a commensurate return on investment from the revenues generated from operation of such facilities (Chen, 2005). Some of the variants of procurement system related to BOT are: BOT has variants for procurement systems which include Build-Own-Operate (BOO), Build-Operate-Renewal (BOR), Build-Own-

Operate-Transfer (BOOT), Build-Transfer (BT), and Design-Build-Finance-Operate (DFBO). (Huang, 1995; Li, 1998; United Nation Industrial Development, 1996; World Bank, 1994). The principles behind BOT are not rigid but could be adjusted to suit different market situations (Tiong, 1990).

2.6.3.3 Independent

The third class is independent entry modes where fewer resources are committed by firms operating in foreign markets. The level of control in foreign markets is limited (Brouthers, 1995). The modes of entry include licensing and franchising.

i. Licensing and franchising

Licensing is an entry mode used when firms lack the resources to form self-ownership in foreign markets, and when strong restrictions aimed at new entrants exist (Ballegooiljen, 2010). Franchising is an advanced mode of licensing that is based on long term contracts between two or more parties (Grant, 2008; Canabal & White, 2008). These entry modes are contractual collaborative modes in foreign markets (Buckley & Casson, 1998). In these arrangements, technology and management systems are transferred to a host country and a non-equity relationship exists between the foreign firm and the firm in the host country (Shane, 1994). The strategic benefit of licensing is that the local partner can use the patents and concepts of the foreign firm in the host country (Ballegooiljen, 2010). The licensee carries out the operation and bears all costs, as well as all impacts of unforeseen occurrences in return for equal right to all assets and revenues generated. The commitment of a firm in these modes of entry is low, but since the local partner in the host country uses her patent, foreign firm might sometimes offer to train the personnel of the licensee and monitor compliance of the licensee to the conditions of licensing contracts (Hill et al., 1990). The licensee only pays the foreign firm a lump-sum payment or per unit royalty fee (Williamson, 1985).

2.7 RESOURCES OF INTERNATIONAL CONSTRUCTION COMPANIES

Construction projects locally or internationally (mostly infrastructure) are executed by contractors; and those operating in foreign markets are referred to as international contractors. IC export their resources to markets outside their home countries because these resources are a fundamental component needed to achieve their goals in foreign markets (Nelson & Winter, 1982; Eisenhardt & Martin, 2000; Sapienza, Autio, George & Zahra, 2006). The tot\l resources that firms are willing to deploy into

foreign markets, depend on their capability in this regard (Agarwal & Ramaswami, 1992; Forlani et al., 2008). Jaring (2009) argued that firms going into the international market must possess the necessary resources before engaging in global construction markets, because international projects are usually on a large scale. According to Raftery et al. (1998), only technologically qualified firms can count successes in overseas construction projects.

These resources can be tangible and intangible assets. Tangibles assets are physical assets (plant, and human and financial resources) while intangible assets are intellectual capital (management and technical skills, information, reputation and knowledge) (Hill et al., 1990; Pehrsson, 2006; Ballegooiljen, 2010). However, the level to which an MNCC optimise the resources they deploy in markets abroad, will determine whether or not they will succeed in foreign markets (Grant, 2008; Ballegooiljen, 2010). Through a review of the literature on international construction markets, four variables affecting the resources of multinational companies significantly in operations in foreign markets, were identified, and they are presented in Table 2.10.

Table 2.10: Variables of research construct and their sources – Resources

No.	Resources	Sources
1	Revenue	Zsidisin, 2003; Ling et al., 2005; Gunhan & Arditi, 2005; Forlani et al., 2008; Ling et al., 2008; Chen and Orr, 2009; Yusuf, 2013; Mat Isa et al., 2014; Li et al., 2014
2	Assets	Majocchi et al., 2005; Suarez-Ortega & Alamo-Vera, 2005; Gunhan & Arditi, 2005; Bayus & Agarwal, 2007; Ling, Willian & Wei, 2008; Filatotchev et al., 2009; Mat Isa et al., 2014
s3	Number of employees	Yli-Renko et al., 2002; Majocchi et al., 2005; Gunhan & Arditi, 2005; Suarez-Ortega & Alamo-Vera, 2005; Ling et al., 2005; Forlani et al., 2008; Filatotchev et al., 2009; Sadaghiani et al., 2011; Serra et al., 2012; Yusuf, 2013; Mat Isa et al., 2014
4	International experience	Gunhan & Arditi, 2005; Dikmen et al., 2007, Bayus & Agarwal, 2007; Forlani et al., 2008; Ling et al., 2008; Sadaghiani et al., 2011; Yusuf, 2013; Mat Isa et al., 2014

2.8 SUMMARY

A review of the literature on the ICM established that spending in global construction markets has been on the increase over the last one and half decades. The majority of the future growth will emanate from China, the Middle-East, and Nigeria in Africa. Construction services such as roads, power, water and telecommunications are in high demand in global construction markets. The finances for most of these projects are likely to come from the World Bank, the International Monetary Fund, the Asia Development Bank and the African Development Bank. The major players in global construction

markets are public institutions/governments because they have the potential to initiate megaprojects and their efforts are supported through public private—partnership initiatives. The majority of MNCCs operating in the global construction market are from Europe, the US, Asia and Australia.

The review also established that there are risks that might be encountered by MNCCs in the ICM, and that there exist strategic entry modes that can be adopted by these firms, to mitigate the perceived impact of these risks. In lieu of this, MNCCs must have adequate resources before venturing into markets abroad, because these will assist in making strategic entry decisions that mitigate the perceived impact of risk in foreign construction markets. However, it is not known in IC literature whether risk perception is influenced by the resources of an MNCC and whether the perceived impact of risk encountered, influences decisions made to enter cross-border markets.

CHAPTER THREE—THEORETICAL PERSPECTIVES, RESEARCH HYPOTHESES AND CONCEPTUAL MODEL

3.1 INTRODUCTION

This chapter presents the theoretical perspectives that support the research propositions and outlines the hypotheses in order to test whether the propositions are supported within the ICM. Moreover, a conceptual risk-based decision model for entering into the ACM was developed from the results of review on theories of internationalization, and the hypotheses.

3.2 THEORETICAL PERSPECTIVES ON INTERNATIONALIZATION OF CONSTRUCTION MARKETS

Theories exist that explain the internationalization process of firms. Internationalization is the process of collecting knowledge about foreign markets (Sadaghiani et al., 2011). Affum (2010) stated that certain philosophies about internationalization have most likely influenced firms venturing into the international space. However, Andersen (1997) argued that a single theoretical perspective is not adequate to provide a comprehensive explanation of the situation in foreign markets. Hence, this study employed multi-disciplinary theoretical perspectives in answering the research questions. The related theories selected for this study include internationalization theory, internalization theory, business strategy theory, eclectic theory, dynamic capability theory, Hymer-Kindleberger market imperfection theory, industrial network-based theory, and resource based-view theory.

3.2.1 Internationalization theory

The theory of internationalization is embedded in the orthodox theory of international trade, which explains many foundational theories (Gandolfo, 1998). It is a classical theory of comparative advantage and it places the emphasis on meeting the technological requirements of international business transactions because the technology requirements differ across markets. The fundamental theories on the internationalization of firms the consist of Heckscher-Ohlin theory which believes in the endowments of firms and neoclassical theory which places the emphasis on differences between the home and foreign markets, in terms of technology and the level of endowment (El-Higzi, 2002). Theoretical views establish that the theory of internationalization explains the significance of assessing the resources and experience of a firm, before making strategic entry decisions into foreign markets (Ekeledo & Sivakumar, 2004; Forlani et al., 2008; Mohanty & Nandi, 2010; Zasada & Gustafsson, 2011).

According to Zasada and Gustafsson (2011), firms learn through market experience and later commercialize this experience resulting in successful market operation. Some of the experience gained from entering cross-border markets come through interactions in form of strategic alliances with local partners; such interactions eliminate the potential loss of resources (Mohanty & Nandi, 2010). Other ways of obtaining experience may be through joint ventures and continuous operations. Moreover, Forlani et al. (2008) posited that entry decisions based on organizational relationships with local firms in foreign markets, are the most viable. Although the actual estimation of knowledge that is required to operate in a foreign market is difficult to measure, firms are expected to have sufficient resources and be confident of their expertise and their ability to retain control in this market, in order to achieve success in foreign markets (Davidson, 1982; Forlani et al., 2008). Positions taken in the earlier studies, support the view that in the theory of internationalization, decisions to enter into foreign markets should be based on the adequacy of the resources and the capabilities within firms which would mitigate the perceived impact of risk.

3.2.2 Internalization theory

Before a firm enter the international market, a certain level of internal strength, business ownership and control is required. This is because firms stand to gain more when in control of the domestic market (Buckley, 1982, 1988; Buckley & Casson, 1985). Buckley and Casson (1976) confirmed earlier that firms can enlarge their operations by deploying their resources and expertise into foreign markets and this will be viable when they have acquired a significant presence or shares of construction activities in the immediate markets, and form strategic alliance with foreign markets.

3.2.3 Business strategy theory

Business strategy theory is based on the ideology of pragmatism and realism, which requires firms to consider markets factors before making decisions to enter into such markets (Welford & Prescott, 1994). Such factors should include the size of the market opportunities, the availability of resources, and the attitude of management toward entering foreign markets (Root, 1987; Welford & Prescott, 1994). This aligns with resource-based theory, where resource commitments are considered before decisions are made to enter into specific foreign markets (Koch, 2001; Peng, 2001; Peinado & Barber, 2006). Based on the view of business strategy theory, other significant factors to be considered if strategic entry decisions are to mitigate the perceived impact of risk are: market attractiveness, distance, accessibility, international trade history, firm size, export orientation and commitments (Turnbull & Ellwood, 1986; Root, 1987).

3.2.4 Eclectic theory

The eclectic paradigm is a pattern of international production which is based on ownership-specific advantages of firms venturing into foreign markets (Whitelock, 2002). Goodnow (1985) established that the rationale of eclectic theory is to bring together many theories on entry mode, into a single framework. Expanding the eclectic model of Dunning (1979), similar studies (Dunning, 1988; Agarwal & Ramaswami, 1992; Dunning, 2000) established that factors likely to influence the decision to enter into foreign markets are the ownership advantage of the, locational advantages, and internationalization advantages over local firms. However, the eclectic paradigm theory posits that firms could make decision to enter foreign markets dependent only on the level of ownership and control and locational advantages (Ekeledo & Sivakumar, 1998) and other benefits associated with the decision to internationalize (Dunning, 1980, 1988, 1995; Ekeledo & Sivakumar, 1998).

3.2.5 Dynamic capabilities theory

Due to the growing relevance of resources and expertise to the successful operation of a firm in any market, dynamic capabilities theory deals with the inadequacies in traditional approaches such as resources-based theory with its lack of dynamism (Knecht, 2014). Recent studies (Priem & Butler, 2001a; Jarzabkowski, 2005; Zahra, Sapienza & Davidsson, 2006; Delbridge, Gratton & Johnson**,** 2006; Green, Larsen & Kao, 2008b) present the view that dynamic capabilities theory is intended to provide the link between the dynamic nature of business environment and the capabilities of a firm. Dynamic capabilities theory places more emphasis on the advantages of firms reconfiguring (building, incorporating, and re-arranging) their resources and expertise to respond or adapt to the ever changing and dynamic business environment in order to achieve innovative advantages within markets (Teece, Pisano & Sheun, 1997; Sapienza et al., 2006).

3.2.6 Hymer-Kindleberger market imperfection theory

The Hymer-Kindleberger theory generally known as H-K market imperfection theory states that no market is perfect and provides foreign firms with guidance on how to manage market imperfections when conducting business in unknown markets (Hymer, 1960). The requirements identified by similar studies (Hymer, 1970; Calvet, 1981) are that firms should have unique advantages in resources, competencies and expertise; advantages that competing firms in foreign markets might not have (Calvet, 1981).

3.2.7 Industrial network-based theory

Industrial network-based theory focuses on the need for firms to have reasonable interactions with other firms in the markets being envisaged. Such network provides firms with certain advantages such as having adequate knowledge about the foreign markets they operate in, as well as their partners in these markets, and allowing firms to make informed decisions (Johanson & Vahlne, 1977; Johanson & Mattson, 1988; Whitelock, 2002; Hosseini & Dadfar, 2012). Zasada and Gustafsson (2011) argued that network theory explains how resources within a business network, influence the decisions of foreign firms to internationalize. The achievement of purpose of a viable business network depends on trust and commitment of each partner in the network (Johanson & Vahlne, 2009). For foreign firms, Zasada and Gustafsson (2011) argued for the need to create, develop and maintain a network with firms in a host country and to maximize their potentials amidst market threats and uncertainties. Other strategic measure that should be considered are expertise required the adoption of innovative tools available in the field of information and communication technology (ICT) and the fostering of social relationships with partners in foreign markets (Best, 1990; Davidsson & Honig, 2003; Hoang & Antoncic, 2003).

3.2.8 Resource-based view theory

Construction is a resource-based industry. This includes resources for physical construction and the human resources needed to achieve the construction tasks. Resources-based theory emphasizes how the resources of a firm could be strategically managed to build a competitive edge in a competitive market (Peng, 2001). Barney (1991) argued that although the resources of a firm are heterogeneous and not mobile, firms need to explore internal resources and assets, in order to manage risks in foreign markets. According to resources-based theory it is believed that adequate resources and expertise are crucial for firms to succeed in overseas markets (Ekeledo & Sivakuma, 2004). Moreover, Forlani et al., (2008) also argued that according to resources-based view theory, firms might be pursuing wrong opportunities in foreign markets where the perceived impact of risk in those markets is not based on the amount of resources that a firm deploy. Peinado and Barber (2006) also established that the level of control available to firms, and the accumulated resources of the firm, influence choice of entry mode.

3.3 HYPOTHESES DEVELOPMENT

Previous sections have outlined the theories that support the concept of the internationalization of firms; this section presents the theoretical backgrounds that further support the research hypotheses.

3.3.1 Relationship between resources and perception of the significant risks encountered

Projects in foreign markets are complex and markets are fraught with uncertainties. It is imperative for companies venturing to possess the appropriate resources and expertise in order to overcome markets challenges and compete successfully (Raftery et al., 1998; Gunhan & Arditi, 2005; Jaring, 2009). Sadaghiani et al. (2011) established that the more resources a firm has at its disposal, the more competent they become in managing risks; this results in the achievement of success in markets abroad, because their resources and experience mitigate the perceived impact of risk. Dikmen et al. (2007) further confirmed that the level of experience of a firm regarding specific markets influence how risk is perceived in those markets. Similar studies in international business (Yli-Renko, Autio & Tontti, 2002; Majocchi, Bacchiocchi & Mayrhofer, 2005; Suarez-Ortega & Alamo-Vera, 2005; Filatotchev, Liu, Buck & Wright, 2009; Serra *et al*., 2012), equally established that propensity of a firm to export its products and services to foreign market is positively influenced by the size of the firm, and the level of technology and assets employed.

Investigation of theoretical backgrounds established that the level of resources within multinational firms influences how risks in international markets are perceived. It remains hypothetically unproven as to whether the resources of an MNCC influences its perception of risk in the ICM. It is imperative to demonstrate whether relationships exist between the resources of SACCs and their perception of the six classes of risks (Chapter Two) in the ACM. In order to answer Research Question 3 and address Research Objective 3, six research hypotheses were formulated to test the relationships between resources and risks perception. This is further presented in Figure 3.1:

Main Hypothesis (H_1): Resources have direct and significant relationships with the perception of the significant risks encountered.

Null Hypothesis (H_0): Resources have no direct and significant relationships with the perception of the significant risks encountered.

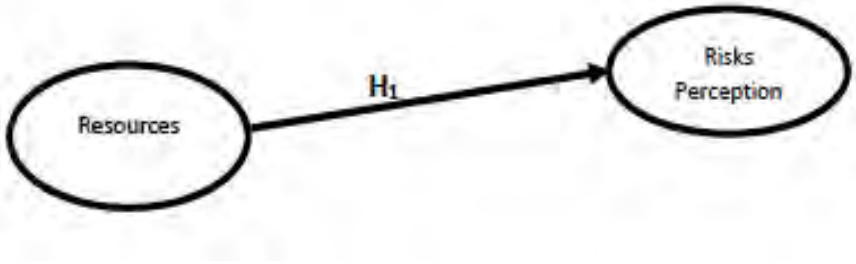

Figure 3.1: The relationships between resources and perception of the significant risks

3.3.2 Relationship between the perceived impact of risks and entry decision

Risks in international markets can be best managed when they are appropriately perceived. The perceived impact of risks among firms differs and if perceptions of risks vary, choice of entry modes will also vary (Brouthers, 1995). Firms will choose entry modes based on their perception of the impact of risks in overseas markets. Where risk impact is low, like a wholly-owned subsidiaries, firms are likely to choose high-control entry modes while cooperative entry modes, like joint ventures, are considered where the perceived impacts of risks are high (Brouthers, 1993; Taylor, Zou & Osland, 2000; Brouthers, 2002; Ahmed, et al., 2002).

According to some authors (Levy & Yoon, 1996; Han, 2001; Dacko, 2002; Brown, Dev & Zhou, 2003; Chen & Chang, 2011; Abdul-Rahman et al., 2012), the decision to enter a market abroad is a crucial and difficult decisions for any firm, because competition can be high and there are many uncertainties. Chen and Orr (2009) opined that unsound entry decisions would have adverse effect on the profitability of a firm in foreign markets. This is because the choice of entry modes mitigates the perceived impact of risks in the markets (Pan & Tse, 2000). It is evident that decisions to enter into foreign markets are influenced by the perceived impacts of risks (Taylor, et al., 2000) and the need to investigate influence of markets uncertainties on choice of entry modes is imperative (Li et al., 2013; Delfino, 2014). Limited research examined whether the perceived impact of risks influences decisions made by MNCCs to enter the ICM. In order to answer Research Question 5 and address Research Objective 5, six research hypotheses were formulated to test the relationship between the perceived impact of risk and entry decision made to enter ACM. This is shown in Figure 3.2.

Main Hypothesis (H_2): The perceived impact of risk has direct and significant relationships with the entry decision.

Null Hypothesis (H_0): The perceived impact of risk has no direct and significant relationships with the entry decisions.

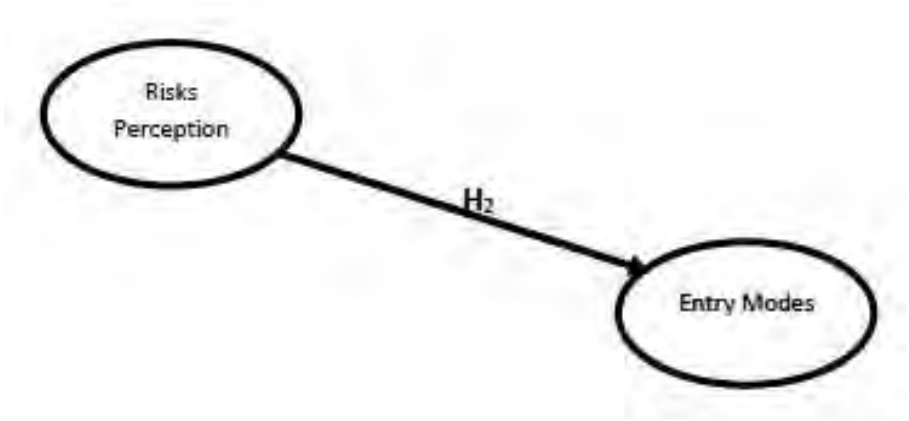

Figure 3.2: The relationships between the perception of significant risks and entry modes

3.3.3 Relationship between resources and entry decisions

The resources of a firm are its financial and managerial capacity for operating in foreign markets (Agarwal & Ramaswami, 1992), while an entry decision is based on the choice of entry modes in accessing a particular market. Earlier studies (Forlani et al., 2008; Yu & Lin, 2009; Jain, 2010; Zhu, Eden, Miller, Thomas & Fields, 2012; Abdul-Aziz & Wong, 2010; Li et al., 2013; Mat Isa & Preece, 2014) identified firm size, the level of technological base, pre-entry and previous experience and financial strength, as the resources and expertise of a firm that are significant before making decisions to enter foreign markets. The resources and expertise that a firm will deploy to markets abroad determines the decisions on the entry modes chosen to enter such markets (Tallman and Fladmoe-Lindquist, 2002; Peinado and Barber, 2006; Quer, Claver and Andreu, 2007; Sadaghiani *et al*. 2011).

Similar studies also established that the resources requirements and commitments for each of the entry modes, differ (Vernon, 1983; Anderson & Gatignon, 1986; Root, 1987; Pan & Tse, 2000; Chen & Messner, 2011). It is important for firms to know when and how to utilize their resources and capabilities effectively with full knowledge of uncertainties in foreign markets; this gives such firms a competitive advantage over their competitors (Grant, 2008; Cui & Jiang, 2009; Ballegooiljen, 2010). To answer Research Question 6 and address Research Objective 6, the study formulated two hypotheses to test the relationship between the resources of SACCs and the decisions made to enter the ACM and vice versa. The diagram in Figure 3.3 shows this.

Main Hypothesis (H_{3a}): Resources have direct and significant relationships with entry decisions.
Null Hypothesis (H_0): Resources have no direct and significant relationships with entry decisions.
Main Hypothesis ($H3_b$): An entry decision has a direct and significant relationship with resources.

Null Hypothesis (H_0): An entry decision does not have a direct and significant relationship with resources.

Figure 3.3: The relationships between resources and entry modes

3.3.4 Relationship between resources and entry decisions in mitigating risks

Individual modes of entry into foreign markets have varied resource requirements and different approaches to risk mitigation (Ballegooiljen, 2010). According to Hill et al. (1990), the best utilization of an organization resource to mitigate the perceived impact of risks in foreign markets depends on whether the type of entry mode has been strategically selected. The authors of a number of studies opined that the perceived impact of risks in overseas markets can be best managed when the resources within firms relate to the ownership of the firm, and to control in the choice of entry mode (Driscoll & Paliwoda, 1997; Osland, Taylor & Zou, 2001; Luo, 2002; Forlani et al., 2008).

Moreover, the perception of impact of risk determines the level of resources and expertise that firms will be willing to deploy into a particular market and this influences decisions on choice of entry mode into such markets (Brouthers, 1995; Mitchell, 1995; Cui & Jiang, 2009). High-capability firms often give preference to entry modes that require a high level resources commitment when the risks in the target market is high (Cui & Jiang, 2009) and vice versa for firms with limited ability and competency (Ballegooiljen, 2010). The arguments are that entry decisions should be centred on trade-offs between risks and the resources and expertise of a firm, in order to minimize the perceived impact of risk, in order to make a decent return on the foreign market investment (Agarwal & Ramaswami, 1992; Luo, 1999; Chen & Messner, 2011). In an attempt to further answer Research Question 6 and address Research Objective six, six hypotheses were formulated to test the relationships between the resources of SACCs and entry decisions made in mitigating the perceived impact of risk encountered in the ACM. This is graphically in Figure 3.4.

Main Hypothesis (H_4): Resources have direct and significant relationships with the entry decisions, which mitigates the perceived impact of the six classes of risk.

Null Hypothesis (H_0): Resources do not have a direct and significant relationships with the entry decisions, which mitigates the perceived impact of the six classes of risk.

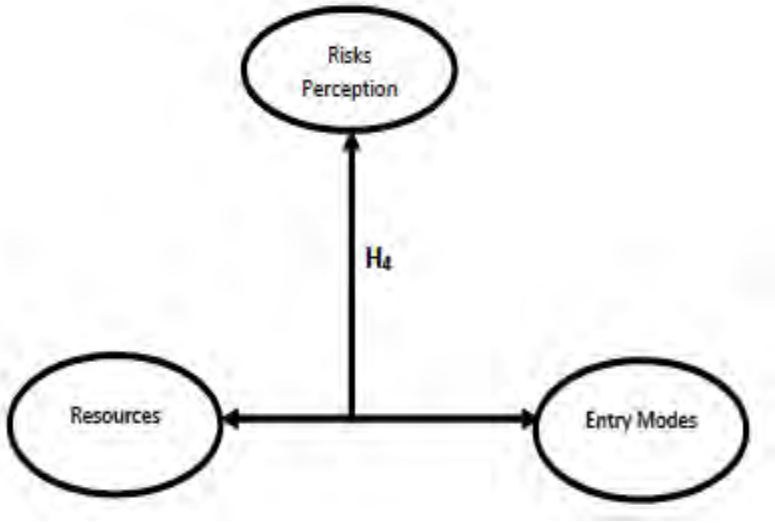

Figure 3.4: The relationships between resources and entry modes in mitigating risks

3.4 CONCEPTUAL MODEL OF THE STUDY

In previous sections of this chapter, the relationships among the research constructs which are underpinned with theoretical concepts, were outlined. This section presents the conceptual, theoretical model of a risk-based entry decision into the ICM, within African context. The present study is being undertaken to establish the relationships between the resources of SACCs and their perception of the variables of the six classes of risks (Chapter Two) in the ACM; a further goal of this study is to establish the relationships between the perceived impact of six classes risks and decisions made to enter the ACM, and investigate whether the relationships between resources of SACCs and the entry decisions made, would mitigate the perceived impact of risks in the ACM. A conceptual model giving the relationships between resources, each class of risk, and entry decisions made, was drawn up; a graphic presentation of the model is given in Figures 3.5.

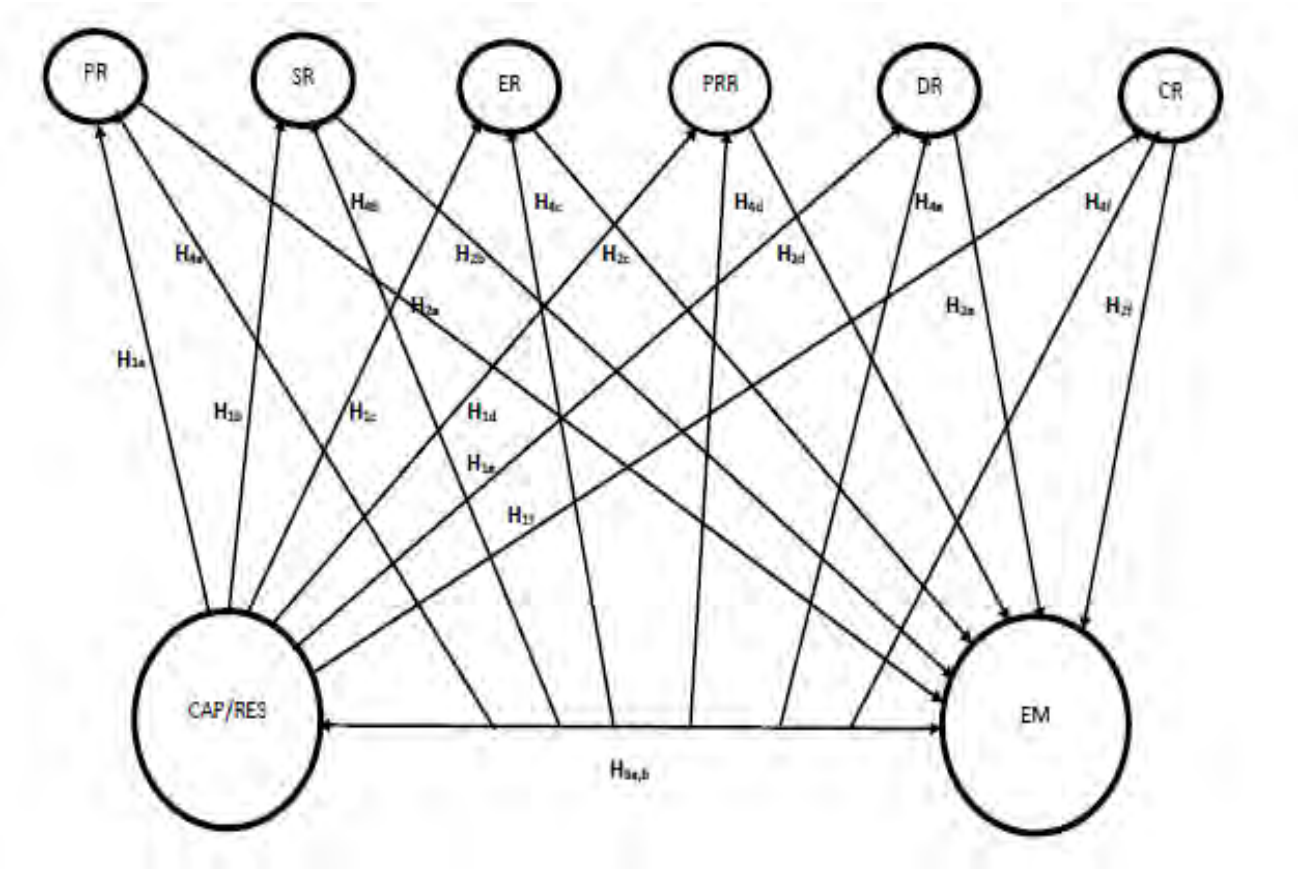

Figure 3.5: An integrated conceptual model of a risk-based entry decision model

RES: capabilities/resources; EM: entry mode; PR: political risk; SR: social risk; EFR: economic/financial risk; PRR: procurement-related risk; DRR: design-related risk; CRR: construction-related risk.

Figure 3.5 presents how resources of SACCs relate to the perception of political risks, how the perceived impact of political risks relate to entry decisions made, and how relationships between resources and entry decisions mitigate the perceived impact of political risks in the ACM. The same process is applicable to other classes of risks. In Figure 3.5, a one-headed arrow indicates a direct relationship while two-headed arrow shows interaction between constructs. This is an integrated conceptual, theoretical model for this research which outlines the summary of rationale investigated by the researcher, based on the underlying and synthesized theories (Section 3.2) and hypotheses developed (Section 3.3). Hence, a summary of the relationships among resources of SACCs, the perceived impact of the six classes of risk, and the entry modes used to access the ACM are modelled in the figure. This is an integrated model of the philosophy behind this research and the paths that were tested in Chapter Five and validated in Chapter Seven.

3.5 SUMMARY

This chapter outlines the theories of internationalization that support the research ideology, develops the research hypotheses, and provides a conceptual model for the study. The review of relevant theories on internationalization show that internalization, dynamic capability and the resource-based view theories, support the proposition that there are relationships between resources of SACCs and their perception of the risks in the ACM (Hypothesis 1). Hymer-Kindleberger market imperfection theory agrees with the proposition that there are relationships between the perceived impact of risks and decisions made by SACCs to enter the ACM (Hypothesis 2). Moreover, internationalization, business strategy, eclectic theory and industrial network-based theories support the research position that there are relationships between resources of SACCs and decisions made to enter the ACM (Hypothesis 3); the Hymer-Kindleberger market imperfection theory agrees that such relationships would mitigate the perceived impact of risks in the ACM.

Through a review of extant literature on the ICM, research hypotheses were developed as presented in Section 3.3 and a conceptual, integrated risk-based entry decision model was developed, which shows how resources of SACCs influence their perception of all classes of risk, and how the perceived impact of all classes of risks influence decisions made by SACCs to enter the ACM. The conceptual model also establishes that there are relationships between the resources of SACCs and entry decisions made, which mitigate the perceived impact of risk encountered in the ACM.

CHAPTER FOUR –RESEARCH METHODOLOGY

4.1 INTRODUCTION

This chapter presents the research philosophy, paradigms, approach and strategy adopted in this study. Procedures adopted in data collection, determination of the unit of analysis, sampling procedure and sample selection are discussed. Methods of data analysis employed are also outlined.

4.2 RESEARCH PHILOSOPHY

A research philosophy is a systematic approach designed by a researcher based on their own understanding of the problem being investigated. The process may include the setting up of fundamental beliefs or assumptions for the study in terms of the research objectives, research questions, theoretical perspectives and design (Guba & Lincoln, 2005; Flowers, 2009; Creswell & Plano Clark, 2011). According to Easterby-Smith, Thorpe and Jackson (2002), a research philosophy helps the researcher to be innovative in the choice of research method or methods to be adopted. There are terms used in describing the set of assumptions in social sciences research (Cresswell & Plano Clark, 2011) and the common ones are *paradigm* which is based on the knowledge of research problem (Lincoln, Lynham & Guba, 2011), *epistemologies and ontologies* (Crotty, 1998) and *worldview* (Creswell, 2014). The term employed in this study to describe research assumptions or beliefs is research paradigm.

4.3 RESEARCH PARADIGM

The purpose of a research paradigm is to provide a philosophical and conceptual framework, and methodological direction in a study in order to answer research questions and solve research problem (Denzin & Lincoln, 2000; Ponterotto, 2005; Greener, 2011; Creswell & Plano Clark, 2011). A research paradigm also helps the researcher understand where his/her discipline is located within the worldviews or paradigms that are available (Creswell, 2009). There are four basic paradigms that provide research with broad theoretical orientation, and these include post positivism, realism, interpretivism and pragmatism (Phillips & Burbles, 2000; Johnson and Onwuegbuzie, 2004; Creswell & Plano Clark, 2011; Creswell, 2014). Two of these paradigm are dominants in construction management research which include the interpretivist or phenomenological approach and the positivist approaches (Love, Holt & Li, 2002; Holt & Goulding, 2014). The phenomenological approach relies on interpretive methods of data collection. Dainty (2008) identified the positivist approach as being dominant and according to Love et al. (2002), no single research paradigm can independently provide

what is required to address problems in construction management research has a point of convergence falls in-between the natural and the social sciences.

To obviate this criticism for using a single paradigm in this study, the similar stances of Baldry, Sarshar and Newton (2002), Denscombe (2007) and Johnson and Onwuegbuzie (2004), were adopted; they all affirmed that pragmatic paradigm is considered appropriate in research related to construction and the built environment. This is because it supports a multi-dimensional method and offers the researcher opportunities to collect data from multiple sources (quantitative and qualitative strands) in a single study (Creswell & Plano Clark, 2011; Creswell, 2014). The pragmatic paradigm is further explained below.

4.3.1 Pragmatism

The concepts behind the pragmatic paradigm emanates from earlier historical figures: Charles Sanders Peirce (1839–1914), William James (1842–1910), and John Dewey (1859–1952). These concepts have been supported by contemporaries researchers: Murphy (1990), Patton (1990), Rorty (1990) and Cherryholmes (1992) (Creswell & Plano Clark, 2011; Creswell, 2014). This paradigm is considered appropriate in this study because it focuses on a real problem, the appropriate method of solving it, and solving it (Patton, 1990; Morgan, 2007; Tashakkori & Teddlie, 2010; Creswell & Plano Clark, 2011; Creswell, 2014). The paradigm also establishes the connection between truth and action; the interaction between knowledge and action facilitates the solution of immediate problems, and creates beneficial knowledge that can be practically applied (Fendt, Kaminska-Labbe & Sachs, 2008).

Tashakkori and Teddlie (2003a), and Creswell (2014) are of the view that the pragmatic paradigm and mixed‒methods research approach are related. This is a research approach which combines the strengths of both the quantitative and qualitative strands in data collection which are respectively founded on the positivism and interpretivism paradigms (Johnson & Onwuegbuzie, 2004). Creswell and Plano Clark (2011) also established that this approach combines the views of both the positivists and interpretivists (quantitative and qualitative) in solving a research problem. Therefore, the present study employed convergent parallel mixed‒methods in research design where both the quantitative (survey) and qualitative (interviews and document analysis) data were collected concurrently.

4.4 RESEARCH APPROACH USED IN CONSTRUCTION MANAGEMENT RESEARCH

Construction management within international markets is complex because it combines diverse knowledge in social sciences and management, like ― financial, legal, political knowledges, as well

as human resource, engineering and natural science (Dainty, 2008; Fellows & Liu, 2008). Three methods are available to researchers in the social sciences and management—related disciplines and choice depends on the problem being investigated, the personal experience of the researcher, the unit of analysis, the type of data and the conclusion drawn from the findings. The methods include quantitative, qualitative and mixed—methods (Creswell, 2014). However, Amaratunga et al. (2002) established that no research method is perfect, but each offers partial solutions to a problem. The present study employs a mixed-methods approach in data collection and analysis. The variants are further discussed below.

4.4.1 Quantitative research approach

In a quantitative research approach, assumptions, theories and hypotheses are tested empirically using statistical procedures (Ponterotto, 2005; Creswell, 2008b; Creswell, 2009). This approach is associated with post positivist worldview (Creswell, 2014) where assumptions are made that human behaviour can be explained by social facts (Amaratunga et al., 2002). A quantitative approach could either be experimental quantitative research (that is: *quasi-experimental, or applied behavioural, or single-subject experimental*) or non-experimental quantitative research (typically *survey*) (Campbell & Stanley, 1963; Cooper, Heron & Heward, 2007; Creswell, 2014). The later allows the researcher to compare and establish correlational relationships between two or more groups based on the cause (independent variable) and the recipient (dependent variable) (Creswell, 2012; Creswell, 2014).

In recent times, the quantitative research approach has been elaborated to incorporate more complex statistical approaches in data analysis like logistic regression, hierarchical linear modelling and structural equation modelling (which shows causal paths and identifies the collective strength of multiple variables) (Amaratunga et al., 2002; Creswell, 2014). The strengths of quantitative method are that it allows the researcher to use survey forms with closed-ended questions with predetermined scales that can yield statistical inference. Data collected are usually precise and reliable, and the findings obtained can be generalized to the entire population (Neuman, 1997; Amaratunga et al., 2002; Stiles, 2003; Creswell, 2003; Awodele, 2012). This study employed a non-experimental quantitative survey approach where copies of a closed-ended questionnaire were administered. The approach is very common in international construction research (Zhi, 1995; Hastak & Shaked, 2001; Baloi & Price, 2003; Han et al., 2004; Gunhan & Arditi, 2005; Walewski et al., 2006; Eybpoosh et al., 2011; Dikmen et al., 2011; Zhang, 2011; Xiaopeng & Pheng, 2013).

4.4.2 Qualitative research approach

Qualitative research is another approach in data collection and analysis; this type of research delves deeper into the information available and provides more detailed knowledge about a particular problem (Creswell, 2014). According to Amaratunga et al. (2002) the data collection process is flexible and the results obtained are more exhaustive, richer and more meaningful. In the opinion of the interpretivists, this approach has it origin from the fact that the external world cannot be accessed directly, but has to be accessed indirectly through opinions of people about it, their personal interpretation of the available data and their experience about a particular problem under investigation (Stiles, 2003; Ardley, 2008; Greener, 2011).

Different methods exist in conducting qualitative research and these include a narrative analysis (*a study of an individual or their life*) (Clandinin & Connelly, 2000; Riessman, 2008); a phenomenological approach (*obtaining the experience of an individual through interviews*) (Moustakas, 1994; Giorgi, 2009); grounded theory (*obtaining general knowledge using multiple stages of data collection, until final the refined data are obtained*) (Charmaz, 2006; Corbin & Strauss, 2007); ethnography (*studying of the shared pattern of behaviours, or actions over a prolonged period of time*) (Wolcott, 2008; Fetterman, 2010); and case studies (*evaluation of a system, or case by collecting detailed information using different data collection procedures over a continuous period of time*) (Yin, 2012).

This study adopts phenomenological approach where interviews were conducted and case analysis was used; this was done to obtain more detailed knowledge and practical experience about the problem under investigation, and which might not be addressed by the quantitative method (Amaratunga et al., 2002; Knox & Burkard, 2009). Barkley (2006), Yin (2009) and Ntiyakunze (2011) described the case study approach as an either exploratory inquiry, or an investigation of reality about a problem, or both. Data collection was done based on the pre-determined themes and research constructs, which guided the interpretation of data (Creswell, 2014). In the presentation of the results obtained, a more flexible approach than that of the structured forms used in the quantitative method, was adopted.

Different forms of case study exist, and two basic variants are the single-case and the multiple-case study (Barkley, 2006; Yin, 2009). Barkley (2006) argued that the choice between these variants depends on the aim of the research, the availability of suitable cases, and the funds available to a researcher. Yin (2009) advised researchers against the use of the single-case study because it might be vulnerable and the results might differ from those expected. However, multiple-cases are recommended and preferred because the more cases selected in a study, the more accurate the results

will be in providing answers to the problem being investigated (Rowley, 2002; Yin, 2009; Awodele, 2012). Multiple-cases studies also provide more than one judgment, various sources of evidence; and ensure the results of the observation patterns and iterations are similar (Rowley, 2002; Barkley, 2006; Yin, 2009). This study therefore employed multiple cases approach in order to obtain better knowledge of the problem investigated.

4.4.3 Mixed—methods research approach

Mixed—methods as a field of research design, is fairly new in construction management research. It has been described in many ways, but the simpler description is that it is a research approach that combines the ideologies of the quantitative method (*postpositivist views*) and method qualitative (*iinterpretivist views*) into a single research approach (Greene, 2007; Johnson, Onwuegbuzie & Turner, 2007; Creswell & Plano Clark, 2007; Creswell, 2014). Because results from individual methods are considered biased, the results collected through these approaches from multiple sources, are triangulated or converged to address the research problem (Jick, 1979). In this research process, the strengths of each of the multiple methods are combined to offset the weaknesses of individual methods. This provides multiple approaches to solving and providing more solutions to a research problem, and it also enhances the credibility and validity of research results (Love et al., 2002; Boyd, Finkelstein & Gove, 2005; Christ, 2009; Creswell & Plano Clark, 2011; Easterby-Smith et al., 2012). An enhancement of the mixed—methods research approach by Holt and Goulding (2014) has been named the ambiguous mixed—methods research (AMMR). The ideology of AMMR came from observations made from building and construction research where most researchers failed to categorically clearly state which research methods they intended to adopt, despite the actual approach employed being either of the quantitative or the qualitative research methods.

This research therefore employed the mixed—methods approach, that is the quantitative (top-down or deductive) and the qualitative (bottom-up or inductive) method, to gain a better understanding of the problem facing the construction industry, to unravel the level of complexity in the industry (Love et al., 2002; Dainty, 2008), and most especially for application in the ICM. The design processes for the mixed—methods approach used in this study, were adapted from Creswell and Plano Clark (2011) (see Figure 4.1).

4.5 RESEARCH STRATEGY FOR THE STUDY

Selecting the right strategy is one of the significant steps in a research process because it provides a robust roadmap to solving a research problem. Different strategies exist in the design of mixed methods research and there are four basic frameworks which include: a convergent parallel, an explanatory sequential, an exploratory sequential, and an embedded framework (Creswell & Plano Clark, 2011). Nevertheless, the choice of the most appropriate design strategy depends on the problem being investigated and rationale for

the use of the mixing-methods approach (Creswell & Plano Clark, 2011), with each strategy contributing its specific benefits to a research process. The convergent parallel model was employed in this study because it eliminates most of the limitations of the other methods, and provides adequate platforms for obtaining sufficient information about a problem being investigated.

The convergent parallel approach, where the results obtained from quantitative and qualitative methods were triangulated, is probably the most widely used strategy in mixed‒methods research (Jick, 1979; Creswell & Plano Clark, 2011). Different terminologies had been used to described this strategy, which include simultaneous triangulation (Morse, 1991), parallel study (Tashakkori & Teddlie, 1998), convergence model and concurrent triangulation (Creswell et al, 2003; Creswell & Plano Clark, 2011). The most recent mixed‒methods approach is convergent parallel design, where data collection and analysis in both the quantitative and qualitative strands are carried out concurrently, and results mixed together at the overall interpretation stage (Creswell & Plano Clark, 2011; Creswell, 2014). Creswell and Plano Clark (2011) further argued that the points of convergence and divergence of both results from the quantitative and qualitative strands could be determined at this interpretation stage, from which conclusions and recommendations are made.

The essence of the triangulation process is to establish how the findings from a mixed‒methods approach reinforces each other and how they differ to provide a wider perspective of the problem being investigated (Morse, 1991; Creswell & Plano Clark, 2011). Patton (1990) opined that where the results obtained from both strands, converged, this could be generalized to the entire population. In order to answer the research questions and solve the problem being investigated, a convergent parallel approach was employed for data collection and analysis; the approach also allows cross-validation of the results. Details of the procedures followed in the design of the convergent parallel strategy as part of the mixed‒methods research employed in this study, was adapted from Creswell and Plano Clark (2011). A flowchart of this process is presented in Figure 4.1.

4.6 STUDY POPULATION, SAMPLING TECHNIQUE AND SAMPLE SIZE

This section provides information on the study population and sampling techniques adopted in selecting the sample size for the study.

4.6.1 Study population

The study population for the quantitative strand are SACCs that are registered on Grades 8 and 9 with cidb in South Africa. Those with specializations in general building and civil engineering work, and

that are operating in the ICM were asked to participate in the survey. Table 4.1 presents statistics on the population of the quantitative strand. In September 2014, information about the SACCs selected for this study, were obtained from the website of cidb; there were 354 active contractors with 254 and 100 on Grades 8 and 9 respectively. Some of these contractors are registered on more than one grade. The unit of each company was determined, and there were 231 units of companies, of which 177 and 54 have their registrations on Grades 8 and 9 respectively.

Table 4.1: Study population

Grade	Active company	Unit of company
8	254	177
9	100	54
Total	**354**	**231**

Key: CE: Civil engineering, GB: General Building,
Source**:** cidb (September 8, 2014).
Available at: https://register.cidb.org.za/PublicContractors/

For the qualitative strand, the study population was obtained from the same construction companies as were selected for quantitative strand. Those selected for qualitative strand (interviews or cases, or both) were those with significant experience in the ICM. A substantial number of these companies are listed on Johannesburg Stock Exchange (JSE) and have cross-border operations within African markets. However, four construction companies were selected for interviews and case studies, so as to explore and establish the prevailing situation within the ACM through their experience.

4.6.2 Sampling techniques and sample size

Determining sampling techniques and sample sizes constitute important decisions in a research process. This is because practically it is impossible to obtain data from an entire population within the scope of a study, the purpose of sampling is to obtain data that are representative of the population from which the data are taken (Fellows & Liu, 2008; Oyewobi, 2014). In order to have a sample size that is a representation of the entire population for quantitative strand in this study, a stratified, purposive sampling technique was employed, where potential participants were stratified using certain criteria, and sample size was determined by size of the corresponding stratum from the relevant stratum to the study (Teddlie & Yu, 2007).

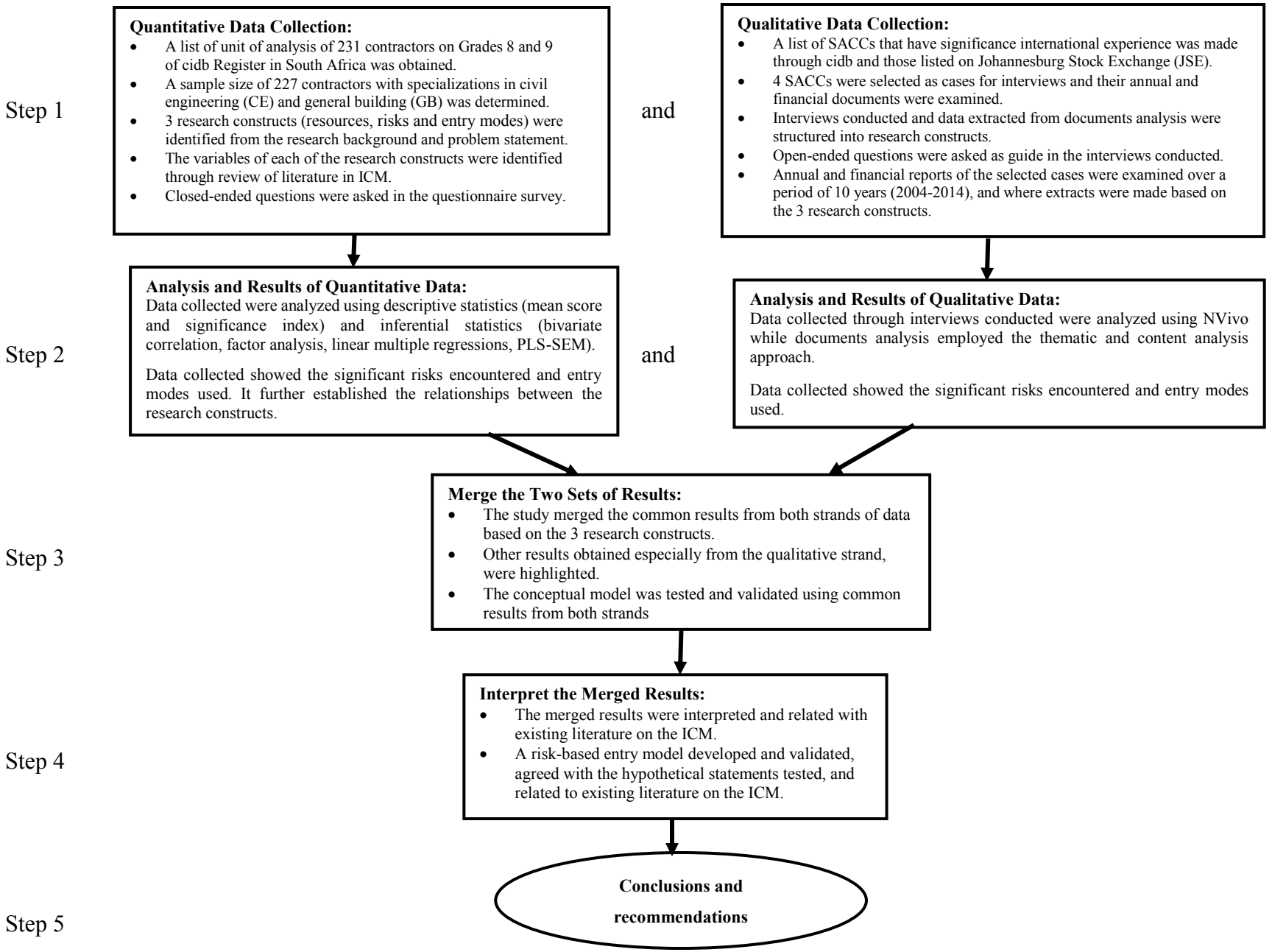

Figure 4.1: Flowchart of the procedures in the convergent parallel strategy used in the study (Adapted from Creswell and Plano Clark, 2011).

The stratification process in this study comprised the selection of contractors on Grades 8 and 9, which are the highest grades allocated to contractors in South Africa, and in these grades those contractors operating in the ACM are found. The criteria used by cidb to stratify these contractors are their revenues, grades, specializations and geographical locations across the country. This study considered the grade and specialization of a contractor when selecting the sample size. The sample frame for this study was 231 active construction company units on Grades 8 and 9 of the cidb register, specialising in civil engineering and general building construction.

From the sample frame, it is imperative to determine the sample size for the study. Earlier studies on sampling procedure cited in Ankrah (2007), developed a formula to determine sample size, and this formula was employed in this study (Czaja & Blair, 1996; Creative Research System, 2003):

$$ss = \frac{z^2 p(1-p)}{c^2} \qquad [4.1]$$

where:

ss = sample size

z = standardised variable

p = percentage picking a choice, expressed as a decimal

c = confidence interval, expressed as a decimal

The purpose of this formula is to determine sample size, based on the required degree of accuracy and confidence level. According to Ankrah (2007), a 95% confidence level is appropriate in a construction management study with a significance level, $\alpha = 0.05$; $z = 1.96$, and a confidence interval, c of ±10%. According to Czaja and Blair (1996) cited in Ankrah (2007), there is a need to determine the worst case percentage of picking a particular member of the population p which is given as 50%.

These values were set into Equation 4.1 to yield the minimum sample size for this study:

$$ss = \frac{1.96^2 \times 0.5(1-0.5)}{0.1^2}$$

$$ss = 96.04$$

Based on the Ankrah (2007) formula, the prescribed minimum sample size from the sample frame of the quantitative strand (survey) was calculated as 96 construction company units. However, a further adjustment is required in order to determine an ideal and a representative revised sample size; the formula is given as (Czaja and Blair, 1996 cited in Ankrah, 2007):

$$New\ ss = \frac{ss}{1 + \left[\frac{(ss - 1)}{pop} \right]} \qquad [4.2]$$

where *pop* = population

$$\text{Therefore} \quad New\ ss = \frac{96.04}{1 + \left[\frac{(96.04 - 1)}{231} \right]}$$

New *ss* = 68.11, adopted value = 68

The revised sample size adopted was 68 construction company units. Generally the sample size for most of the surveys done on the ICM research, is low, and the response rate form 10–70%, depending on the sample size (Gunhan & Arditi, 2005; Zhang, 2011; Abdul-Raham et al., 2011; Xiaopeng & Pheng, 2013). Ankrah (2007) was of the opinion that there is a need to adjust the revised sample size obtained, in order to cater for non-responses among the sample frame. Assuming a response rate of 30% for this study, the compensated survey sample size was calculated as:

$$\text{Survey ss} = \frac{\text{New ss}}{\text{Response rate}} \qquad [4.3]$$

$$\text{Survey ss} = \frac{68}{0.3}$$

= 227 construction companies

From the sampling frame, a stratified selection of 227 construction companies on Grades 8 and 9 of cidb Register of Contractors, and specialising in civil engineering and general building construction, was made. Table 4.2 presents how these construction companies were stratified for the purpose of this study.

Table 4.2: Stratification of the sample

Grade	CE	GB	Total
8	106	76	182
9	30	15	45
Total	**136**	**91**	**227**

CE: Civil engineering, GB: General Building

4.7 DATA COLLECTION PROCEDURES

This section presents the procedures adopted for data collection in this study. As outlined in the previous sections, this study adopted a mixed methods research approach for data collection and analysis. The subsequent sections provide details on how both strands of data were collected.

4.7.1 Quantitative strand

Most social sciences research employ a questionnaire survey to collect quantitative data because it is a structured means of data collection from a large population (Blaxter, Hughes & Tight, 2006; Saunders et al., 2009; Creswell, 2014). In this data collection technique, respondents are allowed to rank questions in the survey instrument using numerical scales (Creswell & Plano Clark, 2011). Saunders et al. (2009) described the technique as simple, and it also allows comparisons and the establishment of relationships among the research variables. Saunders et al. (2009) further established that different techniques exist in administering questionnaire surveys on respondents, and the choice of the most appropriate technique depends on the accessibility of the respondents are. The questionnaire administration techniques identified by Blaxter, Hughes and Tight (2001), include a postal questionnaire survey, a self-administered questionnaire, and an online/internet survey.

The postal and online internet options provide the researcher with an opportunity to reach, more respondents, but provide a lower response rate (Blaxter et al., 2006). Of the three options the self-administered or face—to—face survey nearly has the best response rates, but it takes a longer time (Blaxter et al., 2001; Awodele, 2012). This study employed an online support system (SurveyMonkey), because directly reaching the respondents surveyed, who were mostly the decision makers and top managers in large—sized construction companies, is difficult and take longer. The online system provides the researcher with easy access to the respondents, who have quick and easy access to the survey at a time that suits them.

4.7.1.1 Variables of research constructs used in the questionnaire design

Through the extensive review of extant literature conducted in Chapter Two, the research variables used in designing the questionnaire survey for this study, were obtained. There are three constructs in this study and each has its own variables, as presented in Chapter Three where the conceptual model was developed. Earlier Tables 2.9, 2.10 and 2.11 respectively provide lists of variables of risks, entry modes and resources, these variables were employed in the questionnaire survey. The sources where these variables were obtained, are also presented. As shown in Table 2.9, there are six classes of risk namely: political, social, financial and economic, procurement-related, design-related and construction-related, and each of these has respectively 15, 11, 14, 13, 11 and 17 variables. This gave a total of 81 variables of risks identified from international construction literature.

Similarly, 10 variables of entry modes were identified which were classified into eight entry modes as shown in Table 2.10. The number of entry modes was reduced to eight because joint venture and sole venture modes of entry have two variants each which could either be a 'company' or 'on a project'. Moreover, Table 2.11 indicates four significant resources that should be considered by MNCCs before taking decisions to enter markets abroad. The sources of variables of entry modes and resources are also provided.

4.7.1.2 Unit of analysis

Teddlie and Tashakkori (2009) described a unit of analysis as an entity which could typically be an individual, or group or a company, or a case; this unit is the object of a research study and data pertaining to it are collected for analysis. In the quantitative strand of this study, SACCs on Grades 8 and 9 of the cidb Register of Contractors, were the units of analysis. The research variables investigated within the unit of analysis were the risks encountered by these SACCs within ACM, their resources and entry modes used to access the ACM (Tables 4.3, 3.4 and 4.5). This was achieved by means of a questionnaire survey which was administered on the respondents.

4.7.1.3 Development of the questionnaire

The questionnaire is an instrument used to obtain objective or continuous data from respondents when conducting research. It must be designed to minimize difficulties (in completion time and clarity) that may affect the response rate and accuracy of data to be

obtained; the questionnaire document must be unambiguous, coherent, logically set out, free of language errors and well presented (Creswell, 2003; Awodele, 2012; Oyewobi, 2014). Questions posed in a questionnaire survey could either be open—ended or closed—ended. Fellows and Liu (2008) opined that open ended questions allow respondents to and give answer to research questions, based on their opinion while closed—ended questions provide a list of answers from which respondents must to select an option. Moreover, researchers are always advised to avoid questions with negative implications (Blaxter, 2001; Fellows and Liu, 2008). All these elements of a good questionnaire were taken account of while designing the questionnaire used in this study (Appendix B).

Different drafts of the questionnaire were assessed by editors at the Writing Centre of the University of Cape Town and the final draft received the supervisor's approval before being administered to the respondents. The questionnaire was divided into three sections. The three sections were preceded by a preliminary section seeking the consent of the respondents to participate in the study. The first section sought information on the background profile of the companies and the responding company officers who provided the information; this includes information on the designation of the responding officer, the year of establishment of the company, the number of employees, annual revenues, assets and years of international experience at the close of the 2014 financial year. Data collected in this section were objective data. Other background information asked, included their grad on the cidb Register and their exporting status. Questions were also asked about the African countries in which these SACCs are operating and construction services being offered within those markets. These questions were ranked on five-point Likert items (Holt, 2014). The questions asked, examined how often the company enters the various African markets, or executes construction projects.

The second section addressed the risks encountered by SACCs and the impact of these risks on the ease of entry into the ACM. The respondents were asked to answer questions under the second and third sections by selecting a particular country they had operated in or in which they were operating, and to rank the risks encountered and their impacts on ease of entry into that particular market (See Appendix B). The overall perceived impact of each class of risks on ease of entry into the selected markets was evaluated using a five-point Likert scale as employed by earlier studies (Trochim, 2002; Long, Ogunlana, Quang & Lam, 2004; Li et al., 2005; Awodele, 2012; Holt & Goulding, 2014).

The third section also examined the modes of entry used by SACCs to access the ACM. Based on a particular market they had operated in and perceived impact of risk encountered in that market, the respondents were asked to rank how often they use entry modes and how effective the entry modes used, were in mitigating the perceived impact of risk encountered. This assessment was also done using a five-point Likert scale. The decision to align a market or country, the perceived impact of risk encountered, and modes of entry used, was required to ensure the coherence and validity of the data collected. Further details about the research constructs and their variables are provided in section 4.7.1.1. The rating scales ranged from '1' (never) to '5' (very often), for risks encountered, and from '1' (no) to '5' (extreme) for impact of risk encountered on ease of entry. The scales also ranged from '1' (never) to '5' (very often) for the level of usage of entry modes, and from '1' (totally ineffective) to '5' (extremely effective) for the level of effectiveness of entry modes used in mitigating the perceived impact of risks encountered.

4.7.1.4 Pre-test of the questionnaire

For the purpose of obtaining valid and reliable data in a study, Fellow and Liu (2008) and Saunders et al. (2009) stated that the research instrument, being (questionnaire) in this research, should be piloted. This can be done by administering few copies to respondents within the same study population, or to academics within the subject field where a study is being carried out (Zhang, 2011; Xiaopeng & Pheng, 2013). This is done to check whether the questions raised are simple, easy to read and to determine the time required to complete the questionnaire. The process also helps to improve the quality of the questionnaire, achieve a better response rate and to establish whether the data to be collected will be suitable for analysis. In this study, a copy of the final draft of the questionnaire was sent to: five contractors from the identified population, three top-management employees of international contracting organizations outside South Africa, and three academics with research interests in risk management. Out of 11 copies of questionnaire sent out, three responded with useful suggestions which were included in the questionnaire, before it was sent to the potential respondents.

4.7.1.5 Questionnaire administration and collection

The questionnaire administration process was started by obtaining the contact details of the selected respondents while some were obtained through the websites of the public companies. The questionnaire was uploaded to an online survey platform called SurveyMonkey, through which it was administered to the selected participants. The study received the approval of the

University Ethics in Research Committee in December 2014 before data collection began. Data collection was carried out between December 2014 and May 2015.

Earlier studies (Smyth & Christian, 2009; Boyer, Adams & Lucero, 2010; Israel, 2011) established that online surveys often pose challenges, such as a low response rate; they are however, likely to offer some benefits like low cost, wide accessibility, easy reminder facilities and direct analysis. One of the challenges encountered at this stage of the study was a low response rate from the respondents - some opted out, or their emails were non-responsive. In order to improve no of response and the quality of responses, telephone calls were made to the respondents to confirm whether they received the emails sent; and to enlighten and encourage them to participate in the survey. Some reacted with abusive words while some did not respond to the calls made to them. This activity increased the no of responses obtained in this study.

4.7.1.6 Response rate

An estimated sample size of 227 potential respondents were sent questionnaires. At the end of data collection period, 76 completed questionnaires had been received. Based on the estimated sample size, the response ratio in this study was about 34%, which is considered high for online or web-based construction management research (Akintoye & Fitzgerald, 2000; Takim, Akintoye & Kelly, 2004; Petchenik & Watermolen, 2011). Hence, the response ration in this study is considered reasonable when compared with previous studies on risk and entry modes in the ICM (Table 4.3).

4.7.1.7 Margin error of sample size

To apply inferential statistics analysis, the need for a large sample is well acknowledged. However, the most important factor is that the sample size adequately represents the study population. This is important because the sample size influences the quality of the data collected, the findings of study need to be linked to the entire population, and the predictive power of statistical tools must be valid (for example correlations, multiple regressions, and factor analysis) (Oyewobi, 2014). Hair, Black, Babin and Anderson (2010) considered a sample size with 30 observations as adequate. A sample size of 30 is normally considered adequate.

Hence, related to the responses received, a sample size of 76 was used to carry out inferential analysis. The estimated margin of error in this study was estimated at 12% on 95% confidence level based on a total of 76 usable questionnaire responses; this implies that there was a 95%

probability that results obtained from this survey were within a ± 12% range of population sample.

Table 4.3: Response rate in similar studies on risks and entry modes in international construction market

Author/year	Research title	Country of research	Response rate (%)
Mat Isa et al. (2014)	Entry location and entry timing (ELET) decision model for international construction firms	Malaysia	39.1
Xiaopeng and Pheng (2013)	Understanding the critical variables affecting the level of political risks in international construction projects	China	28.2
Al-Sabah et al. (2012)	Evaluating significant risks in the Middle East North Africa (MENA) construction projects from perspective of multinational firms	USA	10.0
Zhang (2011)	Social risks for international players in the construction market: A China study	China	17.4
Abdul-Raham et al. (2011)	Risk identification and mitigation for architectural, engineering, and construction firms operating in the Gulf region	Malaysia	71.5
Ahmad and Kitchen (2008)	International expansion strategies of Malaysian construction firms: entry mode choice and motives for investment	Malaysia	50.7
Chen (2008)	Entry mode selection for international construction markets: the influence of host country related factors	Australia	23.4
Ling and Hoi (2006)	Risks faced by Singapore firms when undertaking construction projects in India	Singapore	45.5
Gunhan and Arditi (2005)	Factors affecting international construction	USA	22.0
Ling et al. (2005)	Entry and business strategies used by international architectural, engineering and construction firms in China	Singapore	21.3
Awil and Abdul-Aziz (2001	International markets: Malaysian construction contractors and the stage theory	Malaysia	22.0
Shen et al. (2001)	Risk assessment for construction joint venture in China	Hong Kong	29.2

4.7.1.8 Criteria for judging the quality of research design

According to Creswell and Plano Clark (2011), the ability of a researcher to judge the quality of research design is fundamental in a research process and this will determine the reliability of: the data collected, the results obtained, and the interpretations drawn. Yin (2009) outlined

various ways to examine the quality of research design, some of which relate to internal and external construct validity; and reliability. The concept of validity in quantitative and qualitative researches differs, but the essence of validity in research design is to ensure that good quality of is data obtained in the process (Creswell & Plano Clark, 2011). The details of quantitative research design validity and reliability tests conducted in this study are discussed below. According to Creswell and Plano Clark (2011) validity of research design in quantitative research can be assessed internally or externally, as discussed below.

i. ***Internal validity***

Earlier studies (Fellows & Liu, 2008; Yin, 2009; Creswell & Plano Clark, 2011) described internal validity from different perspectives. To Fellows and Liu (2008) and Yin (2009), internal validity is the degree to which measured and observed effects among variables are related, so as to identify causal factors rather than false relationships. Also, Creswell and Plano Clark (2011) described internal validity as the rate at which a researcher can draw correct conclusions that there are causes and relational effects among variables, which might be influenced by attributes of the participants, and maturity and biases in the selection process. Internal validity is also referred to as content validity, and criterion-related validity or construct validity. Content validity examines whether variables are representative of possible items, while criterion-related or construct validity examines whether scores relate to an external standard or measure as intended. This can be done by means of statistical procedures, or by consulting external experts (Creswell & Plano Clark, 2011). In this study, the consideration for internal validity focused on the quality of scores obtained from the results of the questionnaire survey, and how the quality of the scores influenced the quality of findings and conclusions.

To address content validity, every effort was made through to identify right variables for research constructs through a review of extant literature, and to obtain right answers to the research questions by ensuring the clarity of the questions. In addressing criterion-related and construct validity, universal scales of measurement were employed in the questionnaire, so as to collect the right scores from the respondents. Universal scales are tools employed to measure intervals between values, and included the use of one-to-three, one-to-five, and one-to-seven scales, depending on the outcome of a measurement (Holt, 2014). The ordinal data used in the study was measured on a one-to-five scale. This is important since in this study, a series of

hypotheses testing through inferential statistical analyses, was carried out (Spearman's correlations and multiple linear regressions).

Once the survey process was completed, checks were made by the principal researcher to determine which responses would be retained for data analysis; some responses were discarded excluded due to failure to meet internal validity criteria.

ii. External validity

External validity refers to the degree to which a researcher can conclude that the results can be generalized to the population or group within which the research was conducted. External validity is fundamental to quantitative research and can be achieved when a researcher employs standardized procedures in selecting a sample that is representative of the population (Yin, 2009; Cresswell & Plano Clark, 2011). External validity can best be described by considering two of its sub-categories, ecological validity and population validity. Population validity is premised on the possibility of generalizing the findings obtained through the sample, to the entire population while ecological validity is concerned with the possibility of generating the findings of the research, to other contexts (Creswell & Plano Clark, 2011; Fellows & Liu, 2008; Yin, 2009). To achieve population validity, the researcher ensured that the sample size in the present study was determined on an unbiased basis for using a standardized technique.

iii. Reliability test

Reliability in quantitative research is effected by establishing that the scores received from the respondents are consistent and stable over time; reliability is often assessed through reliability coefficients (Creswell & Plano Clark, 2011). One of the statistical tools that are commonly used to check the internal consistency of a research variable is Cronbach's alpha (α) (Nurosis, 1992; Field, 2005); Cronbach's alpha was employed in this study. The values of Cronbach's alpha that is commonly used to determine the internal reliability, consistency, and co-variation among variables related to the measurement of each construct, often ranges from 0 to 1 (Chew, Yan & Cheah, 2008). Differing acceptable values of Cronbach's alpha are proposed in the studies consulted; Van de Ven & Ferry (1979) argued that 0.55 is acceptable for measuring broad constructs while 0.6 is acceptable in exploratory research (Nandakumar, 2008). Table 4.4 presents the results of reliability test obtained, and the results are largely acceptable, except for 'procurement—related risks', 'design—related' and 'construction—related risks'. Cronbach's alpha value for the variables related to resources also did not meet the required

minimum value, because they were categorical data, which were transformed into continuous data by the researcher, to ensure uniformity and consistency.

Table 4.4: Reliability values of the scales

Research construct	Measured variables	Alpha value
Political risk	1. Red tape/legislative bottlenecks 2. Restrictions on repatriation of funds 3. Changes in the host country laws, regulations and policies 4. Delay/denial in issuance of license/permits to expatriate firms	0.877
Social risks	1. Crime rate/social insecurity 2. Social disorder/instabilities 3. Inadequate social infrastructure/facilities (power, communication, road, health care, education etc.) 4. Discriminative acts/treatment/attitude towards expatriate/foreign firms	0.898
Economic and financial risks	1. Payment risk 2. Delay in payment/shortage in payment	0.872
Procurement-related risks	1. Ambiguity in contractual conditions/requirements 2. Contractual procedure	0.019
Design-related risks	1. Skills and experience of the designer company 2. Diffused responsibilities among design consultants/team	0.563
Construction risks	1. Variations/reworks/changes in scope of works 2. Site/construction logistics/planning/management 3. Delay in payment and cash flow 4. Theft of resources (materials/machine/equipments)	0.515
Entry modes	1. Joint venture company 2. Joint venture project 3. Branch office/company 4. Strategic alliance	0.869
Capabilities	1. Revenues 2. Assets 3. Number of employees 4. International experience	0.456

4.7.2 Qualitative strand

Qualitative research strategy answers questions of "how and why" in social research (Barkley, 2006; Yin, 2009), and the purpose is to obtain more detailed and in-depth information about a problem through careful investigation of multiple data sources (Creswell, 2005; Remenyi, Money, Price & Bannister cited in Proverbs & Gameson, 2008; Creswell, 2014). There are no formal methods of data collection in qualitative research, but a researcher needs to develop a

set of semi-structured interview protocols and establish a more convenient way of presenting data extracted from the various cases. In this study, data extracted from various sources were coded and presented on an Excel spreadsheet.

4.7.2.1 Unit of analysis

Teddlie and Tashakkori (2009) described unit analysis in qualitative research as selected cases whose data are expected to provide answers to the research problem. The units of analysis in this study were SACCs registered on Grades 8 and 9 of cidb, and who have significant presence in the ACM.

4.7.2.2 Case selection

This study employed a case approach to data collection. According to Flyvbjerg (2006) there are two approaches by which a multiple number of cases can be selected—random selection, or information-oriented selection. Purposive random sampling was employed in this study because according to Flyvbjerg (2006) it allows the entire population to be stratified into groups and findings can be generalized to a sub-group within the entire population. Under this strategy, three to four cases may be selected for consideration by the researcher (Flyvbjerg, 2006; Oyewobi, 2014). The actual data on SACCs that are operating in the ACM, are not available. However, information on companies with considerable cross-border experience, was obtained from the cidb office, and from archived data of those listed on the Johannesburg Stock Exchange in South Africa.

From the list of contractors obtained, four larger–sized construction companies were contacted and they agreed to participate as cases in this study. The data collection activities included interviews granted by the senior personnel and the examination of annual and financial reports. General information about the selected cases and the responding company officers who participated in the interviews, are shown in Table 4.5. From the companies selected for interviews, there were two interviewees from company A (R1 and R2), and one each from companies B (R3), C (R4), and D (R5). R1 is a commercial director, R2 and R4 are business development managers while R3 and R5 are chief executive officers. This gives a total of five interviewees, each having a different experience of operating in the ACM.

4.7.2.3 Pilot testing

Pilot testing in qualitative research is the process of establishing whether the data collection instrument is appropriate to provide right answers in solving research problem (Morgan, 2010; Turner, 2010; Jacobs & Furgerson, 2012). Pilot testing is necessary to ensure that questions in interview protocol are clear, free of errors, and the right questions, which address the research problems, are asked (Kvale, 2007). According to Turner (2010), piloting of the interview protocol can be done with respondent from the study population, or with academics and experts with related experience. In this study, a draft of interview protocol was reviewed by the thesis supervisor, as well as by editors at the UCT Writing Centre, to improve tense structures and eliminate invalid data. The final copy of the interview protocol used is shown in Appendix E.

Table 4.5: Background information of the selected cases

Company	cidb grade	Class of work	Year Established	Current Employees	Regions of operation	Interviewee	Position of the Interviewee
A	9	9CE 9GB	1971	>12,000	African countries, Middle East, Abu Dhabi & Qatar	R1 R2	Commercial Director Business Development Manager
B	8 9	8GB 9CE 9GB	1984	Nil	Southern African Development Community	R3	CEO
C	9	9CE 9GB	1974	>12,000	African countries, Middle East & Eastern Europe	R4	Business Development Manager
D	9	9CE 9GB	1970	>14,000	SADC, Middle East, Indian Oceans Islands	R5	CEO

CE- Civil Engineering; GB- General Building; CEO- Chief Executive Officer

4.7.2.4 Conduct of interviews and the procedures

The data collection instrument used in interviews conducted was an interview protocol that provided lists of open—ended questions of the type "how and why". The participants were senior personnel in the selected cases, and the interviews were face-to-face, which introduced and afforded interviewees the opportunity to discuss their experience in the ACM. As suggested by Turner (2010), the interviews were moderated by the researcher in order to sustain

the focus of the discussion on the scope of the research problem. The interview protocol was divided into three sections. Section A highlighted the general profile of the companies; Section B addressed the significant risks encountered while Section C addressed entry modes used to access the ACM.

The first personal interview was conducted with the CEO of company B with office in Cape Town, while the second interview was conducted with the CEO of company D in Johannesburg. The third and fourth interviews were respectively conducted with the commercial director and business development manager of company A, and business development manager of company C; these interviews were conducted at the Johannesburg offices of the companies. Each interview spanned between 45 minutes to an hour. All interviews were recorded using an audio tape recorder, with the permissions of the interviewees sought beforehand. All information recorded were kept anonymous to ensure confidentiality and compliance with ethical requirements.

4.7.2.5 Archival document analysis

The second stage of qualitative data collection was an assessment of archival documents (annual and financial reports) of the selected cases. The reports were obtained through their websites and personal contacts. Available information that was obtained from the selected cases, fell within the scope of the study (resources risks and entry modes) and covered a period of ten years (2005–2014). As postulated by Yin (2009), records of all information obtained from each of the cases were kept and made anonymous in order to comply with ethics requirements.

4.7.2.6 Validity and reliability in qualitative research

To determine whether information provided by the participants is credible, accurate and reliable, there is greater emphasis on validity than on reliability in qualitative research (Lincoln & Guba, 1985). However, according to Creswell & Plano Clark (2011), reliability is more focused on the agreeability of the information obtained from the interviewee or the document examined of selected cases during interactions. Different approaches exist to check whether qualitative data are valid, including research team checking and examination of data by the research team, triangulation of data and disconfirming evidence. This study employed the

triangulation approach where the data collected were coded. A careful comparison of multiple cases selected in this study also helped to improve the validity of the qualitative data collected.

4.8 METHOD OF DATA ANALYSIS

Using appropriate techniques for data analysis is one of the important steps in achieving a research aim. The right decision on data analysis techniques helps researchers to communicate the results obtained, correctly, and leads to right and valid conclusions being drawn (Ankrah, 2007; Awodele, 2012). Two streams of data were collected in this study, being the quantitative and qualitative strand. However, multiple techniques were employed to analyse and demonstrate the validity and reliability of the sets of data collected.

4.8.1 Quantitative analysis

Quantitative data were analyzed using both descriptive and inferential statistical techniques. The descriptive statistics employed were percentiles and mean scores while the inferential statistics included confirmatory factor analysis (CFA), analysis of variance (ANOVA), and chi-squares and multiple regression analysis (MLR). To validate the conceptual model in Chapter 3, the partial least squares structural equation modelling (PLS-SEM) technique was employed. These statistical analyses were performed using a software package called Statistical Packages for the Social Sciences (SPSS) version 22.

4.8.1.1 Mean scores and indices

The mean score is an average value of the respondents' answers to a set of questions linked to specified scale. The mean score technique was used to analyse some background profile of the SACCs surveyed and to the examine variables of research constructs. Mean scores have been used in earlier studies on the ICM (Ling et al., 2005; Walewski et al., 2006; Zhang, 2011; Eybpoosh et al., 2011; Abdul-Raham, 2012; Xiaopeng & Pheng, 2013). The mean score (MS) for each of the variables in the research instrument, was determined using the formula below:

$$\text{Mean Score} = \frac{5n5 + 4n4 + 3n3 + 2n2 + 1n1}{n5+n4+n3+n2+n1} \qquad [4.4]$$

where n_5 = number of respondents who picked 5
n_4 = number of respondents who picked 4
n_3 = number of respondents who picked 3
n_2 = number of respondents who picked 2
n_1 = number of respondents who picked 1

The MS obtained were further explored by developing significance indices of risks encountered and entry modes. This was employed in Research Objectives. The risk significance index (RSI) was computed as follow:

$$RSI = \frac{\text{MS}}{5} \qquad [4.5]$$

In addition, the RSI was computed because intervals between values in the computation of means cannot be presumed to be equal, and this makes the calculation of mean values inappropriate forms of data analysis (Jamieson, 2004; Holt, 2014). Holt (2014) further confirmed RSI to be appropriate because it allows researchers to generate indices from mean values and provide easy application for different situation.

4.8.1.2 Factor analysis

Factor analysis is a multivariate statistical tool that examines the underlying features of constructs or relationships among a large number of variables (DeCoster, 1998; Hair et al., 2010). There are two approaches in factor analysis, namely exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA is an orderly simplification of interrelated measures that explores the underlying structure of a set of observed variables without imposing a preconceived structure on the outcome (Child, 1990; Fabrigar, Wegener, MacCallum & Straham, 1999). CFA verifies the structure of a set of observed variables and tests whether there are certain numbers within a set of variables that influence predicted responses (DeCoster, 1998). Schumacker and Lomax (1996) also established that CFA allows the researcher to test hypotheses based on the knowledge of the existing theories. CFA was employed because the study predicted how resources and the perceived impact of risk in foreign markets influence decisions made to enter into the markets. These propositions were achieved through the testing of hypotheses.

The essence of factor analysis in this study was to determine variables of research constructs that would be retained for hypotheses testing and validating the conceptual model. There are many extraction methods in factor analysis and earlier studies (Park, Dailey & Lemus, 2002; Costello & Osborne, 2005) suggested that a screen plot is the most suitable and accurate approach to determine the variables to be retained for further analysis, but this test requires a larger sample size (Cliff & Hamburger, 1967; Linn, 1968; Zwick & Velicer, 1982; Park et al., 2002). According to Stevens (2002), the number of observations required is above 200 for a screen plot and eigenvalue test. However, the variables to be retained for hypotheses testing in

this study were extracted by means of principal component method using varimax rotation, because of the relatively small sample size of 76.

Through this extraction method, factor loadings were extracted which measured correlations between variables and the constructs. The Kaizer-Meyer-Olkin measure of sampling adequacy (KMO MSA) and Bartlett's test of sphericity were used to measure the strength of each variable during factor extraction and rotation (Fellows & Liu, 2003). In order to determine variables to be retained for further analysis, Hair et al. (2010) developed a guideline using sample size and factor loadings; typically the value of a factor loading ranges between 0 and 1. From the model developed by Hair et al. (2010), a factor loading of 0.55 and below is appropriate when the sample size exceed 100, but when sample size is below 100, factor loadings of 0.60 and above will be appropriate for further analysis. This indicates that the bigger the sample size, the lower the factor loading and vice versa. This position is further supported by Field (2013), who claimed that with a sample size of less than 100, a factor loading greater than 0.6 may be considered acceptable. The sample size in this study is 76 which falls between 70 and 85 with respective factor loadings of 0.65 and 0.60. Hence, all variables with factor loadings equal to, or greater than 0.60 were considered adequate for hypothesis testing and model validation in this thesis.

4.8.1.3 Correlation analysis

Correlational analysis is a statistical tool which establishes the types of relationship that exist among research variables and also tests the strength and significance of association between two variables: these relationships can be either positive or negative, or non-existent (Hair et al., 2010). Such relationship is measured by a correlation coefficient which ranges from +1 to -1; where +1 indicates a perfect positive relationship, 0 means no relationship and -1 indicates a perfect negative relationship. Hair et al. (2010) described correlational analysis as a pertinent confirmatory statistical tool contributing toward the development of a regression model. This has been employed in substantial number of studies on international businesses (Brouthers, 2002; Forlani et al., 2008; Sadaghiani et al., 2011). This study employed Spearman's rank correlation coefficient to establish the kind of relationship existing among the research variables used in developing a risk-based entry decision model. Spearman's correlation coefficient was determined using ordinal data: all non-ordinal data were transformed to ordinal data prior to calculating Spearman's coefficient.

4.8.1.4 Multiple regression analysis

Regression analysis is an advanced version of correlational analysis, and is a statistical tool that measures how the action of an independent variable, influences the behaviour of a dependent variable within a research construct; this applies equally to multiple independent variables and multiple dependent variables. Regression analysis could either be linear or multiple. Linear regression measures the relationship between two variables where behaviour of one variable influences the conduct of the other variable. Similarly, simultaneous or stepwise multiple linear regression (MLR) analysis measures how two or more independent variables influence the actions of one a dependent variable (Hair et al., 2010; Kerlinger & Lee, 2000; Pallant, 2010).

Different approaches exist in conducting regression analysis, which include hierarchical or sequential, forces entry, and stepwise regression analysis (Field, 2013). In this research work hierarchical multiple linear regression was employed to test the research hypotheses, because it provides a certain level of control in checking the predictive power of the model and its validation. The influence of independent variables on dependent variables was measured by R^2 which is the coefficient of determination and it ranges from zero to +1. This was used in Research Objectives 3, 5 and 6 to respectively examine how resources influence risk perception in markets, how the perceived impact of risk influences entry decisions, and how resources and entry decisions interact to mitigate the perceived impact of risk in foreign markets.

4.8.1.5 Partial least squares structural equation modelling (PLS-SEM)

Validation has become a essential process in testing the applicability of a proposed model. Different methods exist to validate theories and one of the most widely used method is structural equation modelling (SEM) (Fernandes, 2012; Hair, Sarstedt, Pieper & Ringle, 2012). SEM is a multivariate analytical approach that combines features of analysis methods mentioned earlier methods (such as CFA and MLR analysis) (Fornell, 1982). SEM also helps to test theories by estimating the type and significance of relationships between variables (Chin, 2010; Robins, 2012). To model relationships among variables, variants of SEM exist; these include either covariance-based SEM (CBSEM) or variance-based partial least squares (PLS) path modelling (Hair et al., 2012; Hair, Hult, Ringle & Sarstedt, 2013).

This study employed partial least squares structural equation modelling, which is a predictive multivariate method that explains discrepancies in relationships between one or more independent variables with the focus on the measurement parameters of the constructs in a model (Hair et al., 2012). PLS-SEM was employed because it eliminates a number of assumptions which are common to other approaches (Vinzi et al., 2010 cited in Wong, 2013). PLS-SEM is also considered suitable when the sample size is limited, when high predictive power is important, when theories supporting the research hypotheses are limited, when the focus of research is prediction and when data are not uniformly distributed (skewed) (Reinartz, Haenlein & Henseler. 2009; Hwang et al., 2010; Wong, 2010; Wong, 2011). Henseler, Ringle and Sinkovics (2009) further affirmed that a PLS path is an appropriate technique for a research where prediction becomes essential. Other advantages of PLS-SEM are that, it has the ability to produce unbiased estimates with a small data set (Hair et al., 2012; Robins, 2012), helps to model the level of associations among the constructs, and that it established a new relationship which is not hypothesized in the literature.

The PLS-SEM was carried out by computing a series of structural equations that estimated all direct, causal paths concurrently, and generated an overall goodness of fit measure for a model, being R or R^2 (Hair, Ringle & Sarstedt, 2011). Earlier studies proposed rules of thumb which will produce strong PLS-SEM; among these rules are that the minimum sample size should be ten times the number of path relationships leading to an endogenous construct, and that the minimum sample size can be determined by considering the number of arrows pointing at a latent variable in a model respectively (Marcoulides & Saunders, 2006; Malhotra, Kim, Tomiuk & Hong, 2013). The conditions were fulfilled in this study because the model had three main paths that led to an entry decision, and this gave a minimum size of 30 observations. PLS-SEM technique employed in the present study was reliant on guidelines from other studies (Chin, 2010; Hair et al., 2011; 2012).

A software package called SmartPLS (version 3.0) was used to compute and evaluate the PLS-structural equation model, based on the quantitative data collected. The path model as presented in Chapter 3, was tested in Chapter 7 where a risk-based entry decision model was developed (Hair et al., 2014). In these interrelated theoretical concepts, capabilities were independent variables (moderators), while initially risk perception was dependent variable (outcome) in the first instance. Subsequently, risk perceptions became independent variables (moderators) while entry modes became dependent variable (outcome). In the risks-based entry decision model

developed, these interrelations were investigated (Lleras, 2005). Details of how PLS-SEM was computed and generated, are given in Chapter 7. Significant p-values of 0.10 and 0.20 were adopted, to allow for special circumstances where conditions for p-values of 0.05 and 0.01were not met.

4.8.2 Qualitative data analysis

Several methods exist for analyzing qualitative research data. These could be categorized into four major procedures: discursive, thematic, structured, instrumental (Madill & Gough, 2008; Yin, 2009) and content analysis (Fellow & Liu, 2008; Bowen, Edwards & Cattell, 2012). A further classification expanded for the procedures mentioned to include pattern matching, time-series analysis, logic model, and cross-case syntheses (Yin, 2009). The present study therefore employed thematic and content analysis, and cross-case fusions (Blaxter et al., 2006; Edwards & Holt, 2010). Thematic and content analysis involves conducting interview and examining annual and financial reports, extracting useful information from several sources, summarising data, grouping data into themes and presenting data; this was corroborated by earlier studies (Blaxter et al., 2006; Fellow & Liu, 2008; Yin, 2009) which described the data collection process in qualitative research as including extracting general and unique themes from all the interviews and making a composite summary (Blaxter et al., 2006; Fellow & Liu, 2008; Yin, 2009).

The interviews were transcribed using NVivo, an analysis software package, and in order to prevent making early and immature conclusions from the preliminary findings, a Microsoft Excel spreadsheet was used to record and store data, because it could accommodate a larger amount of data (Meyer & Avery, 2009). Common themes and sub-themes were created and coded in line with research constructs. The coding system used is strongly influenced by the researcher's opinion and worldview. Responses from interviewees representing individual companies were defined and coded under appropriate sections on the spreadsheet. Periodic cross-checks were made during the extraction of data extracted, compilation of data extracted and coding of data extracted. The initial themes were made and reviewed; subsequently the final themes emanating from each of the codable units, were named. Similar processes were employed for extracting data obtained from the annual and financial reports of the selected cases. The details and discussion of the final data obtained from the multiple sources are presented in Chapter 6.

4.9 ETHICAL CONSIDERATION

The ethical implications of the procedures to be adopted by a researcher in planning and conducting academic research have become necessary. These are norms and standards that differentiate acceptable and unacceptable conduct (Shah, 2011). Obtaining ethical approval and adherence to ethical principles are likely to improve the credibility of findings obtained from research, and protect the privacy of the participants (Jimoh, 2012; Oyewobi, 2014). Among ethical norms as earlier identified (Leedy & Ormrod, 2005; Resnik, 2007; Shah, 2011), are the principles of honesty, integrity, informed consent, confidentiality, care and the right to privacy. This study received the approval of Ethics in Research (EiR) committee of the Faculty of Engineering and Built Environment at the University of Cape Town on 8 December 2014 before data collection and compilation.

Respondents were adequately informed about the purpose of the study and type of data to be collected. Their consents was sought before their participation in the study (see Appendix A). They were provided with the options to reject or accept participation, or to withdraw at any point during the process of data collection. Details of the participants were kept anonymous and remained undisclosed throughout the study. The codes to identify each of the participants are confidential and known only to the principal researcher.

CHAPTER FIVE–PRESENTATION OF QUANTITATIVE DATA ANALYSIS AND RESULTS

5.1 INTRODUCTION

This chapter presents the results obtained from the analysis of quantitative data. These include results of the general profile of the companies and the responding officers, the countries of operation, and construction services exported by the companies to the ACM. Underlying attributes of the variables of research constructs were examined and a series of hypotheses were tested.

5.2 GENERAL PROFILE OF THE COMPANIES AND RESPONDING OFFICERS WITH EXPORTING EXPERIENCE WITHIN AFRICAN MARKETS

This section presents the general profile of the companies and designation of the responding officers.

5.2.1 Companies and profile of the respondents

The results in Table 5.1 shows general information about the companies surveyed and the officers who responded to the research questions. It emerged that approximately 71% of the companies had been in the construction business for more than ten years. The results further show that 54% and 46% of the companies respectively, are registered with cidb on Grades 8 and 9 while 49% had a permanent staff exceeding 100. Further assessment shows that 50% of the companies export their services into the international space which includes Africa; this percentage includes established companies that have been exporting continuously. As well as new exporters. Information about the total revenues of the companies shows that about 70% had revenues that are well above ZAR 500 million while the revenues of approximately 35% of the companies are above ZAR 1 billion. Approximately 33% of the companies had total assets well above ZAR 500 million. About 70% of the officers who responded to the survey, are in senior management positions in their respective establishments.

Table 5.1: The general profile of the companies and responding officers

Profile of companies	Frequency	Valid percentage	Cumulative percentage
No of years in business			
1-5 years	15	20	20
6-10 years	7	9	29
11-20 years	31	41	70
21-30 years	11	14	84
> 30 years	12	16	100
Grade of works on cidb Contractor Register			
8	41	54	54
9	35	46	100
Number of employees			
0-99	39	51	51
100-199	8	11	62
200-499	10	13	75
500 and above	19	25	100
Exporting status			
Established exporter	16	21	21
Continuing exporter	15	20	41
New exporter	7	9	50
Non-exporter	38	50	100
Revenue (ZAR)			
0-250 million	11	14	14
251-500 million	14	18	32
501-750 million	9	12	44
751-999 million	15	20	64
1-5 billion	18	24	88
> 5 billion	9	12	100
Assets (rand)			
0-250 million	24	31	31
251-500 million	27	36	67
501-999 million	9	12	79
1-2.5 billion	4	5	84
> 2.5 billion	12	16	100
Responding officers designations			
Top management	17	22	22
Middle management	36	48	70
Senior employees	23	30.26	100

5.2.2 Construction services exported by the companies into African construction markets

Tables 5.2 presents the type of construction services being exported to the ACM by the companies surveyed. The results reveal that the construction service companies most often provide in African markets is general building; this is followed by transportation, water, power and sewer projects.

Table 5.2: Construction services exported into African markets

Construction Services	Frequency			Descriptive statistics		
	N	%	Rank	SD	Mean	Rank
General building	38	50	1	1.76	4.16	1
Transportation	35	46	2	1.60	3.71	2
Water	29	38	4	1.55	3.41	3
Power	34	45	3	1.58	3.24	4
Wastewater	27	36	5	1.59	3.19	5
Industrial	27	35	5	1.55	2.82	6
Telecommunication	21	28	9	1.71	2.71	7
Hazardous waste	24	32	8	1.40	2.71	8
Petroleum	26	34	7	1.58	2.54	9
Manufacturing	20	26	10	1.46	2.15	10

SD: standard deviation, N: number of respondents

Table 5.3 indicates the countries within the ACM where these companies had operated or were operating; the top countries identified were Mozambique, Botswana, Zambia, Tanzania, Kenya, Nigeria and Senegal, with a minimal presence in countries like South Sudan, Cameroon, Ethiopia and Equatorial Guinea.

Table 5.3: Selected countries where construction companies had operated or operating in Africa

Selected countries	Frequency				Descriptive Statistics			
	N	%	R	OR	SD	Mean	R	OR
North Africa								
Morocco	18	24	1	11	1.67	1.72	3	15
Tunisia	17	22	3	14	1.73	1.88	2	14
Egypt	18	24	1	11	2.10	2.22	1	12
Southern Africa								
Mozambique	29	38	3	3	1.94	3.62	1	1
Botswana	32	42	1	1	1.83	3.53	2	2
Zambia	32	42	1	1	1.79	3.34	3	3
Angola	27	36	4	4	1.66	2.74	4	8
Malawi	20	26	5	8	1.50	2.50	5	9
West Africa								
Nigeria	21	28	2	6	3.03	2.91	1	6
Sierra Lone	18	24	3	11	1.62	2.17	4	13
Ghana	23	30	1	5	1.64	2.35	3	11
Senegal	12	16	4	17	3.10	2.83	2	7
East Africa								
Tanzania	19	25	2	10	1.73	3.11	1	4
Kenya	20	26	1	8	1.76	3.05	2	5
Ethiopia	12	16	3	17	1.17	1.42	3	17
South Sudan	12	16	3	17	.00	1.00	4	19
Central Africa								
Congo DR	21	28	1	6	1.43	2.43	1	10
Equatorial Guinea	14	18	2	15	1.22	1.64	2	16
Cameroon	13	17	3	16	.38	1.15	3	18

SD: standard deviation, N: number of respondents, sample size: 76, R: rank, *OR:* overall rank

5.3 RISKS ENCOUNTERED, THEIR IMPACT ON EASE OF ENTRY AND SIGNIFICANCE INDEX

Research Objectives 1 and 2 sought to establish the risks encountered by SACCs in the ACM and the perceived impact of these risks on ease of entry into the markets. Risks in the ICM were classified into two categories, namely country, and project-related risks. The rate at which these risks were encountered and their impact, were assessed by computing their standard deviation (SD) and mean scores (MS). Mean scores were further used to compute the risks significance index (RSI) which determines the impact of a risk on ease of entry.

5.3.1 Country risks

This section presents the findings on country risks (political, social, and economic and financial) encountered and their perceived impact on the ease of entry.

5.3.1.1 Political risks

Table 5.4 shows the political risk with the most significant impact on ease of entry into ACM from ranking perspective is red tape/legislative bottlenecks (RSI = 0.52); this is followed by: instability/changes in government; bureaucracy/administrative delays; changes in the host country laws, regulations and policies; delays in the public decision-making process; restrictions on repatriation of funds; and, bribery and corruption.

Table 5.4: Political risks encountered, their impact on ease of entry and significance index

Code	Risk	SD1	SD2	M1	M2	RSI	R
PR7	Red tape/legislative bottleneck	1.11	1.12	3.58	3.65	0.52	1
PR1	Instability/changes in government	1.08	1.15	3.40	3.63	0.49	2
PR2	Bureaucracy/administrative delays	1.02	1.10	3.39	3.56	0.49	2
PR12	Delays in the public decision-making process	1.08	1.14	3.29	3.46	0.46	5
PR5	Restrictions on repatriation of funds	1.06	1.17	3.23	3.56	0.46	5
PR6	Bribery and corruption	1.15	1.32	3.22	3.59	0.46	5
PR3	Changes in the host country laws, regulations and policies	0.88	1.15	3.15	3.72	0.47	4
PR11	Tariff barriers/difficulty in doing business	0.96	1.13	3.10	3.55	0.44	8
PR13	Cross-border delays in the movement of resources (human, materials, machinery/equipment)	1.00	.99	3.00	3.26	0.39	12
PR8	Adverse legal rulings or judicial/legal system in the host country	0.90	1.07	2.97	3.51	0.42	9
PR10	Political godfatherism/dictatorship	0.96	1.07	2.92	3.56	0.42	9
PR15	Institutional capacity in government agencies	1.09	1.10	2.90	3.44	0.40	11
PR14	Delay/denial in issuance of licenses/permits to expatriates firms	1.17	1.11	2.83	3.00	0.34	14
PR4	Unwritten/ambiguous laws, regulations and policies in the host country	0.99	1.03	2.79	3.47	0.39	12
PR9	Host government local content policies and political will towards project	0.98	1.09	2.75	3.13	0.34	14

SD1: standard deviation for risks encountered, SD2: standard deviation for risks impact, M: mean, RSI: risk significance index, R: rank

5.3.1.2 Social risks

Table 5.5 presents the descriptive statistics obtained on social risks encountered and their perceived impact on ease of entry and the significance index. The social risk with the most significant impact on ease of entry from a ranking perspective, is the threat of terrorism/insurgencies (RSI = 0.52). This was followed by: crime rate/social security; discriminative acts/treatments/attitudes towards expatriates/foreign firms; social disorders/instabilities like strikes, riots, labour unrest and the outbreak of diseases; and dispute management systems/arbitration.

Table 5.5: Social risks encountered, their impact on ease of entry and significance index

Code	Risk	SD	SD2	M1	M2	RSI	R
SR1	Threats of terrorism/insurgencies	1.20	1.24	3.45	3.75	0.52	1
SR5	Crime rate/social insecurity	1.14	1.12	3.26	3.54	0.46	2
SR11	Discriminative acts/treatments/attitudes towards expatriates/foreign firms	.90	1.10	3.15	3.54	0.45	3
SR4	Social disorders/instabilities (strikes, riots, labour unrests and outbreak of diseases)	1.10	1.10	3.08	3.48	0.43	4
SR9	Changes in social systems/norms	.90	1.01	3.05	3.10	0.38	7
SR10	Inadequacy in social infrastructure/facilities (power, communication, road, health care, educational etc.)	.96	1.16	3.00	3.30	0.40	6
SR8	Dispute management systems/arbitration	.89	1.07	3.00	3.49	0.42	5
SR6	Restrictive labour laws/markets	.86	1.09	2.80	3.38	0.38	7
SR7	Local protectionism/local consideration	.94	1.15	2.68	3.53	0.38	7
SR3	Ethical requirements and practices	.93	1.16	2.53	3.13	0.32	10
SR2	Societal differences (language, religion, culture and custom)	.88	0.86	2.45	2.85	0.28	11

SD1: standard deviation for risks encountered, SD2: standard deviation for risks impact, M: mean, RSI: risk significance index, R: rank

5.3.1.3 Economic and financial risks

Table 5.6 reveals that of the economic and financial risks, the most significant impact on the ease of entry into African markets is payment the risk (RSI = 0.68). This is followed by: delays in payment/shortage in payment; volatility in foreign exchange rates; restriction on the repatriation of profits/royalties; fluctuation in inflation rate/royalties to home country; access to credit/finance; and volatility in tax rates.

Table 5.6: Economic and financial risks encountered, their impact on ease of entry and significance index

Code	Risk	SD1	SD2	M1	M2	RSI	R
EFR1	Payment risk	1.16	1.04	4.02	4.22	0.68	1
EFR12	Delays in payment/shortage in payment	1.10	1.10	3.71	4.00	0.59	2
EFR3	Volatility in foreign exchange rates	1.19	1.12	3.46	3.88	0.54	3
EFR9	Restrictions in the repatriation of profits/royalties	1.07	1.17	3.18	3.51	0.45	4
EFR2	Fluctuation in inflation rate/rising inflation	1.05	1.14	3.17	3.42	0.43	5
EFR13	Access to credit/finance	0.95	1.05	3.12	3.42	0.43	5
EFR7	Volatility in tax rates	1.04	1.12	3.08	3.51	0.43	5
EFR14	Availability of economic information for market forecast	0.84	.91	3.03	3.26	0.40	9
EFR10	Economic stagnation/growth rate	0.89	1.02	3.03	3.38	0.41	8
EFR6	Multiple/double tax system/payment	1.05	1.14	3.03	3.33	0.40	9
EFR8	Excessive price control	1.11	1.12	2.95	2.98	0.35	14
EFR4	Volatility in interest rates	1.07	1.15	2.90	3.22	0.37	12
EFR5	Inadequacy in project funding	1.19	1.23	2.88	3.27	0.38	11
EFR11	Difficulty in capital returns	0.94	.98	2.82	3.21	0.36	13

SD1: standard deviation for risks encountered, SD2: standard deviation for risks impact, M: mean, RSI: risk significance index, R: rank

5.3.2 Project risks

Aside from country risks that are specific to individual countries, there are uncertainties associated within the construction processes of procurement, design and construction. This section presents the results of project-related risks encountered and their perceived impact on the ease of entry into the ACM.

5.3.2.1 Procurement-related risks

Table 5.7 presents the descriptive statistics on the significant procurement-related risks in the ACM. Although, the risk significance index was low, the top—ranked procurement-related risk with a significant impact on ease of entry is the ambiguity in contractual conditions (RSI = 0.45). Others material risks include: contractual procedures; uncertainties in the estimating processes; and procurement policies in the host country.

5.3.2.2 Design-related risks

From a ranking perspective, the design-related risk with the most noticeable effect on ease of entry, is diffused responsibilities among design the consultants/team with an RSI = 0.42 (Table 5.8). Risks which are also of consequences, are incomplete design brief/information or

ambiguity in design scope/detailing; site characteristics and physical conditions; the skills and experience of the design company; and design errors/incorrect drawings/design flaws.

Table 5.7: Procurement-related risks encountered, their impact on ease of entry and the risk significance index

Code	Risk	SD1	SD2	M1	M2	RSI	R
PRR4	Uncertainties in the estimating processes	1.34	1.08	3.00	2.90	0.35	2
PRR5	Contractual procedures	1.25	1.13	2.98	2.90	0.35	2
PRR6	Ambiguity in contractual conditions/requirements	1.30	4.37	2.98	3.73	0.45	1
PRR2	Procurement policies in the host country	1.19	1.16	2.87	2.93	0.34	4
PRR1	Biases in the bidding process	1.15	1.27	2.80	2.85	0.32	6
PRR3	Number of bidders	1.22	1.14	2.73	2.98	0.33	5
PRR12	Local authorities/agencies requirements	0.91	1.09	2.60	3.11	0.32	6
PRR11	Construction/building regulations and acts	1.19	.97	2.53	2.70	0.27	10
PRR8	Contract size	0.92	1.08	2.47	2.58	0.25	11
PRR7	Contract type	1.25	.96	2.47	2.28	0.23	12
PRR9	Bidding requirements	0.99	1.11	2.40	2.88	0.28	8
PRR10	Land uses acts and control	1.01	.81	2.20	2.25	0.20	13

SD1: standard deviation for risks encountered, SD2: standard deviation for risks impact, M: mean, RSI: risk significance index, R: rank

Table 5.8: Design-related risks encountered, their impact on the ease of entry and risk significance index

Code	Risk	SD1	SD2	M1	M2	RSI	R
DRR4	Diffused responsibilities among the design consultants/team	1.17	1.06	3.10	3.38	0.42	1
DRR3	Incomplete design brief/information or ambiguity in design scope/detailing	1.16	1.03	3.08	3.15	0.39	2
DRR11	Site characteristics and physical conditions	1.10	1.25	3.05	3.23	0.39	2
DRR1	Frequent changes to design and/or drawings	1.06	.97	2.63	2.78	0.29	6
DRR2	Design errors/incorrect drawings/design flaws	1.06	.92	2.58	2.93	0.30	5
DRR6	Skills and experience of the design company	0.82	1.23	2.55	3.15	0.32	4
DRR7	Delay in the timing and delivery of designs	0.90	.88	2.38	2.88	0.27	7
DRR10	Bottlenecks in design approvals	0.79	.95	2.30	2.38	0.22	9
DRR5	Sub-contracting of designs by primary consultants	0.79	.86	2.30	2.78	0.26	8
DRR9	Conflicts related to design documents	0.61	.60	2.13	2.53	0.22	9
DRR8	Design process of engineering components/elements	0.62	.82	1.98	2.80	0.22	9

SD1: standard deviation for risks encountered, SD2: standard deviation for risks impact, M: mean, RSI: risk significance index, R: rank

5.3.2.3 Construction-related risks

Table 5.9 indicates that from ranking perspective, the construction-related risk with the most significant impact on ease of entry, is an act of God (RSI=0.50) such as heavy floods, landslides, earthquakes, or hurricanes. Other top—rated are: variations/reworks/changes in scope of work; site/construction logistics/planning/management; access to construction resources; delay in progress payment and cash flow; and site topographic conditions.

Table 5.9: Construction-related risks encountered, their impact on ease of entry and risk significance index

Code	Risk	SD1	SD2	M1	M2	RSI	Rank
CRR15	Acts of God (i.e. heavy floods, landslides, earthquakes, hurricanes, wind, epidemic diseases, historical findings)	4.31	1.12	4.10	3.05	0.50	1
CRR1	Geological conditions (mining sites, resources etc.)	0.93	1.01	3.48	2.73	0.38	7
CRR12	Site/construction logistics/planning/management	1.08	.94	3.40	3.13	0.43	3
CRR2	Site topographical conditions (rivers, mountain, buried services pipes etc.)	1.08	1.36	3.40	2.90	0.39	5
CRR5	Variations/reworks/changes in scope of work	1.25	1.07	3.33	3.33	0.44	2
CRR9	Access to construction resources (materials and skilled labour)	1.20	1.29	3.30	3.15	0.42	4
CRR6	Delays in progress payments and cash flow	1.17	1.07	3.15	3.08	0.39	5
CRR7	Availability of qualified professionals in the local markets	1.03	1.01	3.03	2.55	0.31	8
CRR17	Complexity of project	0.98	.87	2.90	2.43	0.28	10
CRR13	Delays in procurement and supply of resources (materials/components/machines/equipment)	0.93	1.28	2.63	2.83	0.30	9
CRR8	Productivity/expertise of local labour and plant/equipment operators	0.87	.86	2.60	2.68	0.28	10
CRR16	Coordination and communication among erection team and component/element manufacturers/suppliers	0.82	.78	2.55	2.75	0.28	10
CRR10	Theft of resources (materials/machines/equipment)	0.72	1.02	2.53	2.68	0.27	13
CRR3	Climatic/weather conditions (rainfall, heat, wind, dust storms, earthquake etc.)	0.90	1.19	2.40	2.33	0.22	16
CRR14	Delay due to erection/installation of supports/elements	0.98	.9658	2.38	2.88	0.27	13
CRR11	Construction methods/technologies requirements	0.67	1.0378	2.25	2.50	0.23	15
CRR4	Skills and competency of client-generated subcontractors	1.07	.8738	2.23	2.43	0.22	17

SD1: standard deviation for risks encountered, SD2: standard deviation for risks impact, M: mean, RSI: risk significance index, R: rank

5.3.3 Overall perception of risks impact on ease of entry

Having examined the perceptions of SACCs on the significance of the impact of various risks on the ease of entering the ACM, Table 5.10 presents the results of the overall perception of the impact of each class of risk on ease of entry into markets in Africa. In Table 5.1 it is revealed that political risk (Mean = 3.25) has the most significant impact on ease of entry into the ACM. This was followed by: economic and financial risk; social risk; construction risk; procurement risk and design risk — the latter showing a moderate impact on ease of entry into the ACM.

Table 5.10: The overall perception of risks impact on ease of entry

Risks impact	SD	Mean	Rank
Political risk	1.01	3.25	1
Economic/financial risk	0.89	2.68	2
Social risk	1.06	2.64	3
Construction risk	1.06	2.45	4
Procurement risk	1.06	2.35	5
Design risk	0.77	1.93	6

SD: standard deviation

5.4 ENTRY MODES USED IN ACCESSING AFRICAN MARKETS

Research Objective 4 of this research sought to determine the entry mode employed by SACCs when entering construction markets in Africa and how effective these entry modes were in mitigating the perceived impact of risks when entering the markets. In order to answer this question, the standard deviation (SD) and the mean scores (M) of the results obtained from the survey conducted among SACCs, were computed; the results related to 10 ranked entry modes which were identified from a review of the literature. From the mean scores of the level of usage of an entry mode and its effectiveness in mitigating risk, an entry mode significance index (EMSI) was computed to determine the significance of entry decisions made by SACCs, to mitigate the perceived impact of a risk encountered. Results obtained (Table 5.11) shows that the most effective entry mode in mitigating the perceived impact of risk is joint venture company (JVC) (EMSI = 0.59). Others effective entry modes are a joint venture project (JVP), a branch office (BRO) and a strategic alliance (SRA). The results show that variants of a joint venture was the entry mode often used by SACCs to mitigate the perceived impact of risk in African construction markets. In Table 5.12 it shows the resulting overall perception of SACCs regarding entry modes used to mitigate the perceived impact of risk in the markets

Table 5.11: Entry modes used and level of effectiveness in mitigating impact of risks

Entry mode	SD1	SD2	M1	M1	EMSI	Rank
Joint venture project	1.41	1.41	3.83	3.73	0.57	2
Joint venture company	1.47	1.47	3.83	3.79	0.59	1
Branch office	1.31	1.36	3.63	3.50	0.51	3
Strategic alliance	1.17	1.22	2.98	3.24	0.39	4
Sole venture company	1.08	1.04	2.60	2.68	0.28	5
Licensing	1.09	1.08	2.28	2.58	0.24	6
Local agent	0.97	0.98	2.23	2.58	0.23	7
Sole venture project	0.97	0.98	2.20	2.42	0.21	8
Representative office	1.10	1.21	2.03	2.38	0.19	9
Build-Operate-Transfer (BOT)/Equity project	0.74	.94	1.65	2.08	0.14	10

SD1: standard deviation on level of usage of entry modes, SD2: standard deviation on level of effectiveness in mitigating risks, M: mean, EMSI: entry mode significance index

Table 5.12: The overall effectiveness of entry modes in mitigating risks

Entry modes	SD	Mean
Overall perception of the effectiveness of entry modes used in mitigating the perceived impact of risks in African markets	0.86	3.89

SD: standard deviation

5.5 IDENTIFYING THE UNDERLYING DIMENSIONS OF RESEARCH VARIABLES

Research Objectives 3, 5 and 6 in this study aim to respectively investigate and establish the relationships between resources, risks with significant impact on ease of entry and decisions made to enter the ACM. It is the intention that these research objectives will be achieved by testing the hypotheses as set up in Section 3.3. Although the findings in Sections 5.3 and 5.4 established that there are significant risks in the ACM, SACCs nonetheless made entry decisions that mitigate the perceived impacts of risks in the markets. It is imperative at this stage to further explore and establish the underlying attributes of the significant risks and entry modes to determine those to be used for hypotheses testing and model validation. To achieve this, confirmatory factor analysis (CFA) was employed and variables were extracted by means of the principal component method using varimax rotation (Section 4.8.1.2).

5.5.1 Identifying the strategic attributes of risks and entry modes

The strategic attributes of risks and entry modes were earlier assessed by use of the Kaiser-Meyer-Olkin measures of sampling adequacy (KMO MSA) and Bartlett's test of sphericity which measured how adequate the data collected and analyzed were. Similarly, component

matrix for all classes of risks and entry modes were computed. These are discussed in subsequent sections.

5.5.1.1 Test of sample adequacy and appropriateness

Table 5.13 presents the results obtained from the application of KMO MSA and Bartlett's test of sphericity conducted. The value of KMO MSA varies from 0 to 1, and for factor analysis to proceed, a minimum value of 0.5 is suggested (Hair et al. 2010; William, Brown & Boyle, 2012; Field, 2013). Hence, KMO MSA values greater than 0.5 were considered in this study, with Bartlett's test of sphericity significant at P > 0.05 (see William et al., 2012; Mat Isa et al., 2014). The results obtained met this condition, based on the average KMO MSA computed; also and Bartlett's test of sphericity was significant for all research constructs.

Table 5.13: KMO MSA and Bartlett's Test

Risks and entry modes	KMO MSA **1**	KMO MSA **2**	**AKMO**	**Bartlett's test of sphericity**
Political risks	0.83	0.85	0.84	Significant
Social risks	0.78	0.85	0.82	Significant
Economic/financial risks	0.80	0.89	0.83	Significant
Procurement-related risks	0.64	0.54	0.59	Significant
Design-related risks	0.48	0.64	0.56	Significant
Construction-related risks	0.56	0.49	0.53	Significant
Entry modes	0.69	0.62	0.66	Significant

KMO 1: for risks encountered/entry modes used; KMO 2: for risks impact/entry modes effectiveness; AKMO MSA: Average KMO MSA

5.5.1.2 Factor rotation: risks

Once the appropriateness of the data collected was established through KMO MSA and Bartlett's test of sphericity, the second step taken in identifying the underlying attributes of research constructs was to perform factor extraction through rotation. In order to establish the variables of the risks to be retained, all eighty-one (81) risks were imported into the variable column of the SPSS software package, and component matrix was computed to determine how often each of the risks were encountered and their perceived impact on the ease of entry. Average loading values were computed to determine variables to be retained for hypotheses testing and model validation. The result obtained is presented in Table 5.14. Six factors were extracted and each of the risks was correlated with the six factors. All variables with a loading greater than, or equal to 0.60, were retained for hypothesis testing and model validation

(Section 4.8.1.2). These variables are presented in Table 5.16, together with a summary of their statistics for further assessment.

5.5.1.3 Factor rotation: entry modes

The results of the factor loadings obtained for on entry modes used in accessing the ACM, is shown in Table 5.15. To achieve this, all ten entry modes were imported into the variable column of the SPSS software package, and the component matrix was computed for frequency of usage and level of effectiveness in mitigating the perceived impact of risk on the ease of entry. Three components were extracted and each of the entry modes was correlated with the three components (F1, F2 and F3). For each of the three components, average factor loading values were computed. Entry modes on component F1 are independent modes while those on component F2 are co-operative modes. All entry modes have loading values greater than 0.60. The top–rated values from both the risk significance index and the factor loadings, were considered for hypotheses testing and model validation. These include a joint venture company, a joint venture project, a branch office and a strategic alliance.

5.5.2 Selection of variables for the research constructs

The constructs in this study were resources, risks and entry modes. This chapter tested the relationships between the variables of these constructs but the central intention was to employ PLS-SEM technique to develop a risk-based entry decision model which shows the interactions among the constructs. It is important to select number of variables of research constructs that will satisfy this purpose, carefully. PLS-SEM has not been widely used in international construction management research but a recent philosophical study by Oyewobi (2014) on construction management, 2—3 variables for each of the constructs were used in a model developed using PLS-SEM. Other recent works include studies by Sahinidis, Giovanis and Sdrolias (2012), Al-Gahtani, Hubona and Wang (2007) and Memon and Abdul-Raham (2014), with 3—6, 3 and 4—8 variables respectively; the number of variables retained for hypotheses testing and model validation in this study followed the views of these authors. There are four variables for resources, and four entry modes; while risks are grouped into six categories (political, social, economic and financial; procurement-related, design-related and construction-related) with a total of 14 risk variables; each category of risk has two to three variables.

Table 5.14: Rotated component matrix for all risks

Code	RISKS	F1	F2	F3	F4	F5	F6
PR1	Instability/changes in government	0.59					
PR2	Bureaucracy/administrative delays	0.44					
PR3	Changes in the host country laws, regulations and policies	**0.69**					
PR4	Unwritten/ambiguous laws, regulations and policies in the host country	**0.64**					
PR5	Restrictions on the repatriation of funds	**0.75**					
PR6	Bribery and corruption	0.47					
PR7	Legislative bottlenecks/red tape	**0.65**					
PR8	Adverse legal rulings or judicial/legal system in the host country	**0.76**					
PR9	Host government local content policies and political will towards project	0.45					
PR10	Tariff barriers/difficulty in doing business	**0.70**					
PR11	Delays in public decision-making process	**0.62**					
PR12	Cross-border delays in the movement of resources (human, materials, machineries/equipment)	0.41					
PR13	Delays/denials in issuance of license/permits to expatriates firms	**0.61**					
PR14	Institutional capacity in government agencies	0.56					
PR15	Political godfatherism/dictatorship						
SR1	Threats of terrorism/insurgencies		0.58				
SR2	Societal differences (language, religion, culture and custom)		0.59				
SR3	Ethical requirements and practices		0.54				
SR4	Social disorders/instabilities (strikes, riots, labour unrests and outbreak of diseases)		**0.68**				
SR5	Crime rate/social insecurity		**0.68**				
SR6	Restrictive labour laws/markets		**0.61**				
SR7	Local protectionism/local consideration		**0.66**				
SR8	Dispute management systems/arbitration		**0.71**				
SR9	Changes in social systems/norms		0.54				
SR10	Inadequacy in social infrastructure/facilities (power, communication, road, health care, educational etc.)		**0.69**				
SR11	Discriminative acts/treatments/attitudes towards expatriates/foreign firms		**0.68**				

Extraction method: principal component; rotation: varimax; F: factor

Table 5.14 (continued): Rotated component matrix for all risks

Code	RISKS	F1	F2	F3	F4	F5	F6
EFR1	Payment risk			**0.68**			
EFR2	Fluctuation in inflation rate/rising inflation			0.59			
EFR3	Volatility in foreign exchange rates			-0.51			
EFR4	Volatility in interest rates			-0.59			
EFR5	Inadequacy in project funding			-0.49			
EFR6	Multiple/double tax system/payment			0.47			
EFR7	Volatility in tax rates			**0.72**			
EFR8	Excessive price control			0.44			
EFR9	Restrictions in the repatriation of profit/royalties			0.56			
EFR10	Economic stagnation/growth rate			0.54			
EFR11	Difficulty in capital returns			0.45			
EFR12	Delays in payment/shortage in payment			**0.72**			
EFR13	Access to credit/finance			**0.63**			
EFR14	Availability of economic information for market forecast			0.59			
PRR1	Biases in bidding process				**0.61**		
PRR2	Procurement policies in the host country				0.51		
PRR3	Number of bidders				0.54		
PRR4	Uncertainties in the estimating processes				0.42		
PRR5	Contractual procedures				**0.71**		
PRR6	Ambiguity in contractual conditions/requirements				**0.67**		
PRR7	Contract type				0.55		
PRR8	Contract size				**0.60**		
PRR9	Bidding requirements				0.49		
PRR10	Land uses acts and controls				0.45		
PRR11	Construction/building regulations and acts				0.57		
PRR12	Local authorities/agencies requirements				0.60		
PRR13	Non-refundable bidding costs				0.45		

Extraction method: principal component; rotation: varimax

Table 5.14 (continued): Rotated component matrix for all risks

Code	RISKS	F1	F2	F3	F4	F5	F6
DRR1	Frequent changes to designs and/or drawings					0.54	
DRR2	Design errors/incorrect drawings/design flaws					**0.61**	
DRR3	Incomplete design brief/information or ambiguity in design scope/detailing					0.52	
DRR4	Diffused responsibilities among design consultants/team					**0.65**	
DRR5	Sub-contracting of designs by prime consultants					0.50	
DRR6	Skills and experience of the designer company					**0.63**	
DRR7	Delays in the timing and delivery of designs					0.46	
DRR8	Design process of engineering components/elements					**0.60**	
DRR9	Conflicts related to design documents					**0.61**	
DRR10	Bottlenecks in design approvals					0.56	
DRR11	Site characteristics and physical conditions					0.53	
CRR1	Geological conditions (mining sites, resources etc.)						0.51
CRR2	Site topographical conditions (rivers, mountain, buried services pipes etc.)						0.50
CRR3	Climatic/weather conditions (rainfall, heat, wind, dust storms, earthquake etc.)						0.60
CRR4	Skills and competency of client-generated subcontractors						**0.63**
CRR5	Variations/reworks/changes in scope of work						**0.64**
CRR6	Delays in progress payments and cash flows						**0.72**
CRR7	Availability of qualified professionals in the local markets						0.57
CRR8	Productivity/expertise of local labour and plant/equipment operators						**0.61**
CRR9	Access to construction resources (materials and skilled labour)						**0.61**
CRR10	Theft of resources (materials/machines/equipment)						**0.69**
CRR11	Construction methods/technologies requirements						0.57
CRR12	Site/construction logistics/planning/management						**0.62**
CRR13	Delays in procurement and supply of resources (materials/components/machines/equipment)						0.56
CRR14	Delays due to erection/installation of supports/elements						0.51
CRR15	Acts of God (heavy floods, landslides, earthquakes, hurricanes, wind, epidemic diseases, historical findings)						0.51
CRR16	Coordination and communication among erection team and component/element manufacturers/suppliers						**0.63**
CRR17	Complexity of the project						0.55

Extraction method: principal component; rotation: varimax

Table 5.15: Rotated component matrix for entry modes

Entry mode	F1	F2	F3
Branch office/company	0.69		
Sole venture company	0.86		
Sole venture project	0.81		
Strategic alliance		0.68	
Local agent		0.72	
Joint venture company		0.80	
Representative		0.83	
Joint venture project		0.85	
Build-operate-transfer/equity project		0.76	
Licensing			0.64

Extraction method: principal component; rotation: varimax

Of all the country risks that met the factor reduction requirements (that is, with loading of not less than 0.60), three out of eight political risks, two out of seven social risks, and two out of four economic financial risks, were selected for hypotheses testing and model validation.

For the category of project–related risks, two out of four procurement-related risks, two out of four design-related risks, and three out of eight construction-related risks were selected. This gave a list of 14 risks (Table 5.16) out of 35 significant risks that met the factor rotation condition (Table 5.14). Moreover, the four top–rated entry modes were retained (Section 5.5.1.3). The resources of SACCs employed were: revenue, assets, number of employees and years of international experience. This gave a total of 22 variables retained for hypotheses testing and model validation (Table 5.16).

5.6 TEST OF RESEARCH HYPOTHESES

This section presents the results of hypotheses outlined to test the relationships among the variables of research constructs. As explained earlier in Section 4.8, inferential statistical tools employed in this sections were Spearman's correlation, multiple regression analysis (MRA) and analysis of variance (ANOVA). There were 22 variables (18 continuous and 4 categorical data) collected from 76 construction companies. The four variables for resources were transformed into continuous variables, to ensure that all variables are uniform prior to hypotheses testing. Table 5.16 also shows that the data collected comprising 22 variables were adequate for hypotheses testing and model validation. Prior to hypotheses testing, a normal distribution test of the variables was conducted. Histograms were computed for all the final variables, and the corresponding normal distribution curve for each was plotted on the same graph (Appendix C).

Table 5.16: Summary on statistics of the research variables

Code	Risk	Average Mean	RSI/ EMSI/CI	AFL
RT	Red tape or legislative bottlenecks	3.62	0.52	0.65
RRF	Restrictions on the repatriation of funds	3.40	0.46	0.75
CLR	Changes in the host country laws, regulations, and policies	3.44	0.47	0.69
CRR	Crime rate/social insecurity	3.40	0.46	0.68
SCD	Social disorder or instabilities (strikes, riots, labour unrests, and outbreak of diseases)	3.28	0.43	0.68
PR	Payment risk	4.12	0.68	0.68
DPY	Delays in payment or shortage in payment	3.86	0.59	0.72
ACC	Ambiguity in contractual conditions or requirements	3.36	0.45	0.71
CPD	Contractual procedure	2.94	0.35	0.67
SKE	Skills and experience of the designer company	2.85	0.32	0.63
DRP	Diffused responsibilities among design consultants/team	3.24	0.42	0.65
VRS	Variations or reworks/changes in scope of works	3.33	0.44	0.64
SCL	Site and construction logistics or planning or management	3.27	0.43	0.62
DLP	Delays in payment and cash flow	3.12	0.39	0.72
JVC	Joint venture company	3.81	0.59	0.80
JVP	Joint venture project	3.78	0.57	0.85
BRO	Branch office/company	3.57	0.51	0.69
SRA	Strategic alliance	3.11	0.39	0.68
RVN	Revenues	7.69	0.77	0.66
AST	Assets	4.79	0.48	0.84
EPY	Number of employees	4.61	0.46	0.84
EXP	International experience	0.26	0.03	0.94

RSI-risk significance index; EMSI-entry mode significance index, CI-capabilities index, AFL- average factor loading

5.6.1 Correlational analysis on the research variables

In order to address Research Objectives 3, 4 and 6, and to establish the relationships among the variables of the research constructs, a Spearman's correlational analysis was conducted among the selected research variables. The results presented in Table 5.17, show that there are positive significant relationships among variables of political, social, and economic and financial risk; between variables of social and procurement–related risk, procurement and design–related risk, and among variables of construction–related risk ($p < 0.01$, $p < 0.05$). Similarly, positive significant relationships exist among the perceived risks and entry decisions made by SACCs into the ACM. The perceived impacts of all classes of risks (procurement, design and construction) influence the decisions of SACCs to use joint venture project (JVP), branch office (BRO) or strategic alliance (SRA) as entry modes. Significant interactions also exist among the resources of SACCs and entry decisions made, which mitigate the perceived impacts of risk. The results of Spearman's correlational analysis show that positive significant relationships exist between the resources of SACCs, their perception of risk in the ACM, and entry decisions made.

5.6.2 Resources and risks perception

Resource Objective 3 sought to establish how the resources of SACCs influence their perception of risk in the ACM. This was required to provide an answer to Research Question 3 (Section 1.4) and to test Hypothesis 1:

Hypothesis 1: Resources have direct and significant relationships with the perception of the significant risks encountered.

The variables of resources were the independent variables (moderators) while variables of the six classes of risks were the dependent variables, because the hypothesis was to develop risk perception models. This section tests the six sub-sets of Hypotheses 1 as outlined in Section 3.3.2 and shown in Figure 3.5. A multiple linear regression analysis was conducted and the results are presented in Sections 5.6.2.1.1 to 5.6.2.1.6. The predictive power of the models was measured by the value of R^2.

5.6.2.1 Resources and perception of political risks

Hypothesis 1a states that: r*esources have direct and significant relationships with the perception of the significant political risks encountered.* A typical result of the MLR conducted is shown in Appendix D. For the variables of political risk that were statistically tested, the following MLRs were fitted as shown by equations 5.1–5.3, together with their associated regression coefficients:

$$\boldsymbol{y}_{RT} = \beta_0^{(RT)} + \beta_{RVN}^{(RT)}(RVN) + \beta_{AST}^{(RT)}(AST) + \beta_{EPY}^{(RT)}(EPY) + \beta_{EXP}^{(RT)}(EXP) \quad [5.1]$$

$$\boldsymbol{y}_{RRF} = \beta_0^{(RRF)} + \beta_{RVN}^{(RRF)}(RVN) + \beta_{AST}^{(RRF)}(AST) + \beta_{EPY}^{(RRF)}(EPY) + \beta_{EXP}^{(RRF)}(EXP) \quad [5.2]$$

$$\boldsymbol{y}_{CLR} = \beta_0^{(CLR)} + \beta_{RVN}^{(CLR)}(RVN) + \beta_{AST}^{(CLR)}(AST) + \beta_{EPY}^{(CLR)}(EPY) + \beta_{EXP}^{(CLR)}(EXP) \quad [5.3]$$

The results of the three political risk perception models tested, are presented in Table 5.18. Model 1 tested the degree to which the perceived impact of red tape/legislative bottlenecks was predicted by the resources. The predictive power of the model is about 27%. Model 2 shows that revenue and years of international experience influences the perceived impact of restrictions on the repatriation of funds ($p < 0.10$).

Table 5.17: Correlational analysis on the research variables

Code	RT	RRF	CLR	CRR	SCD	PR	DPY	ACC	CPD	SKE	DRP	VRS	SCL	DLP	JVC	JVP	BRO	SRA	RVN	AST	EPY	EXP
RT	1																					
RRF	.527**	1																				
CLR	.403*	.501**	1																			
CRR	.320*	.553**	.421**	1																		
SCD	.526**	.470**	.536**	.629**	1																	
PR	.617**	.593**	.560**	.426**	.643**	1																
DPY	.690**	.522**	.454**	.376*	.554**	.815**	1															
ACC	.365	.183	-.130	.574**	.334	.294	.216	1														
CPD	.199	.357	-.128	.596**	.355	.242	.118	.815**	1													
SKE	-.093	.088	.370	.146	.320	.200	.132	.360*	.306	1												
DRP	-.190	-.065	.222	.328	.198	-.053	-.215	.209	.292	-.005	1											
VRS	.012	.177	-.075	.049	-.242	.079	-.167	.278	.083	-.145	.097	1										
SCL	-.164	.087	.163	-.201	-.121	-.159	-.176	-.248	-.174	-.067	.154	.318*	1									
DLP	-.357	.197	-.186	-.016	-.289	-.269	-.677**	-.030	.173	.089	.180	.091	.175	1								
JVC	.219	.109	-.054	.243	.155	.131	.132	.402*	.268	.455**	.210	.234	.329*	-.116	1							
JVP	.229	.108	.009	.320	.251	.199	.178	.458**	.313*	.469**	.260	.254	.365*	-.148	.979**	1						
BRO	.294	.233	-.131	.284	.005	.072	.379*	.357*	.172	.126	-.139	.431**	.324*	-.127	.552**	.569**	1					
SRA	-.240	.092	.316	.005	.353	.172	-.166	-.020	.032	.584**	.312	-.065	.305	.212	.333*	.381*	-.099	1				
RVN	-.252	-.335	.182	-.118	-.186	-.117	-.139	-.239	-.314	-.234	.124	.331	.101	.071	-.257	-.274	-.295	-.020	1			
AST	.228	.205	-.130	.250	.128	.016	-.013	-.058	-.210	-.236	.126	.241	.124	-.202	.222	.246	.255	-.061	.053	1		
EPY	.052	-.039	.240	-.131	.072	.311	-.075	-.034	-.269	.224	-.139	.180	.023	-.261	.112	.125	.217	.010	.178	.433*	1	
EXP	.206	.053	-.119	.249	.212	-.044	.001	.255	.228	-.063	-.053	.115	-.176	.087	-.001	.014	-.037	-.153	.184	.560**	-.078	1

**. Correlation is significant at the 0.01 level.

*. Correlation is significant at the 0.05 level.

The codes and regulations for the variables used are described in Table 5.16.

The predictive power of the model (R = 0.802; R^2 = 0.643; F-change= 3.595, p < 0.10) implies that 64.3% of the perceived impact of restrictions on repatriation of funds was influenced by revenue and years of international experience. The relationship with revenues is negative implying that the more the revenue, the less the perceived impact of restrictions on repatriation of funds, and vice versa. The relationship between years of international experience and the perceived impact of restrictions on repatriation of funds is positive, meaning a proportional increase or decrease.

Model 3 indicates that the number of employees influence the perceived impact of changes in the laws, regulations and policies of the host country. The predictive power of the model (R = 0.739; R^2 = 0.546; F- change = 2.404, with p < 0.05) implies that 54.6% of the perceived impact of changes in the laws, regulations and policies of the host country was influenced by the number of employees. The relationship is negative, meaning that the more the employees, the less the perceived impact of changes in the laws, regulations and policies of the host country will be, and vice versa. The results indicate that the perceived impact of political risks in the ACM was influenced by the resources in SACCs. The results of Models 2 and 3 support Hypothesis 1a.

Table 5.18: Regression analysis of the resources and the perception of political risks

	Political risks		
Resources	Red tape or legislative bottleneck	Restrictions on repatriation of funds	Changes in the host country laws, regulations, and policies
	Model 1	**Model 2**	**Model 3**
Revenue	0.460	**-0.765****	-0.350
Assets	-0.064	0.258	0.419
Number of employees	0.009	-0.433	**-0.873****
Years of international experience	0.186	**0.781****	0.429
R	0.521	0.802	0.739
R^2	**0.272**	**0.643**	**0.546**
F change	0.839	3.595*	2.404

*P < 0.10, **P < 0.05

5.6.2.2 Resources and perception of social risks

Hypothesis 1b states that: r*esources have direct and significant relationships with the perception of the significant social risks encountered*. Two variables of social risks were

statistically tested and the following MLRs as shown in Equations 5.4 and 5.5 were fitted with their associated regression coefficients:

$$\boldsymbol{y}_{CRR} = \beta_0^{(CRR)} + \beta_{RVN}^{(CRR)}(RVN) + \beta_{AST}^{(CRR)}(AST) + \beta_{EPY}^{(CRR)}(EPY) + \beta_{EXP}^{(CRR)}(EXP) \quad [5.4]$$

$$\boldsymbol{y}_{SCD} = \beta_0^{(SCD)} + \beta_{RVN}^{(SCD)}(RVN) + \beta_{AST}^{(SCD)}(AST) + \beta_{EPY}^{(SCD)}(EPY) + \beta_{EXP}^{(SCD)}(EXP) \quad [5.5]$$

The results of the two social risks perception models tested are presented in Table 5.19. Model 1 shows that number employees in SACCs influences their perceived impact of the crime rate/social insecurity in the ACM. The predictive power of the model (R = 0.835; R^2 = 0.697; F- change =4.606, with p = 0.05) implies that 69.7% of the perceived impact of the crime rate or social insecurity was influenced by the number of employees. This relationship is negative, meaning that as number of employees increases, the perceived impact of crime rate/social insecurity decrease and vice versa. Model 2 indicates that 21.2% of the perceived impacts of social disorder/instabilities was influenced by resources. The results of Model 1 supports Hypothesis 1b.

Table 5.19: Regression analysis of the resources and the perception of social risks

Resources	**Social risks**	
	Crime rate/social insecurity	Social disorder or instabilities (strikes, riots, labour unrests, and outbreaks of diseases
	Model 1	**Model 2**
Revenue	0.244	0.108
Assets	0.416	0.321
Number of employees	**-0.942*****	-0.338
Years of international experience	0.294	0.366
R	0.835	0.460
R^2	**0.697**	**0.212**
F change	**4.606****	0.604

*P < 0.10, **P < 0.05, ***P < 0.01

5.6.2.3 Resources and perception of economic/financial risks

Hypothesis 1c states that: r*esources have direct and significant relationships with the perception of the significant economic/financial risks encountered.* Two variables of

economic/financial risk were statistically tested and the following MLRs as shown in Equations 5.6 and 5.7 were fitted with their associated regression coefficient:

$$\boldsymbol{y}_{PR} = \beta_0^{(PR)} + \beta_{RVN}^{(PR)}(RVN) + \beta_{AST}^{(PR)}(AST) + \beta_{EPY}^{(PR)}(EPY) + \beta_{EXP}^{(PR)}(EXP) \quad [5.6]$$

$$\boldsymbol{y}_{DPY} = \beta_0^{(DPY)} + \beta_{RVN}^{(DPY)}(RVN) + \beta_{AST}^{(DPY)}(AST) + \beta_{EPY}^{(DPY)}(EPY) + \beta_{EXP}^{(DPY)}(EXP) \quad [5.7]$$

The results of the two economic/financial risks perception models tested are presented in Table 5.20. The predictive power of Models 1 and 2 show that respectively 32.4% and 18.2% of the perceived impact of payment risks and delays in payment/shortage in payment in the ACM, was influenced by the resources in the SACCs. The predictive powers of the models moderately support Hypothesis 1c.

Table 5.20: Regression analysis of the resources and the perception of economic and financial risks

Resources	**Economic and financial risks**	
	Payment risks	Delay in payment or shortage in payment
	Model 1	**Model 2**
Revenue	0.029	-0.177
Assets	0.475	0.197
Number of employees	-0.272	-0.522
Years of international experience	-0.242	0.302
R	0.569	0.427
R^2	**0.324**	**0.182**
F change	1.077	0.501

*P < 0.10, **P < 0.05, ***P < 0.01

5.6.2.4 Resources and the perception of procurement-related risks

Hypothesis 1d states that: r*esources have direct and significant relationships with the perception of the procurement-related risks encountered.* Two variables of procurement-related risks were statistically tested and the MLRs as shown in Equations 5.8 and 5.9 were fitted with their associated regression coefficients:

$$\boldsymbol{y}_{ACC} = \beta_0^{(ACC)} + \beta_{RVN}^{(ACC)}(RVN) + \beta_{AST}^{(ACC)}(AST) + \beta_{EMY}^{(ACC)}(EPY) + \beta_{EXP}^{(ACC)}(EXP) \quad [5.8]$$

$$\boldsymbol{y}_{CPD} = \beta_0^{(CPD)} + \beta_{RVN}^{(CPD)}(RVN) + \beta_{AST}^{(CPD)}(AST) + \beta_{EPY}^{(CPD)}(EPY) + \beta_{EXP}^{(CPD)}(EXP) \quad [5.9]$$

The results of the two procurement-related risk perception models tested are presented in Table 5.21. The predictive power of Model 1 revealed that about 28% of the perceived impact of ambiguity in contractual conditions/requirements in the ACM was influenced by the resources and capabilities of SACCs. Also, Model 2 showed that years of international experience influenced the perceived impact of contractual procedures. The predictive power of this model ($R = 0.662$; $R^2 = 0.438$; F-change = 0.520, with $p < 0.05$) implied that about 44% of the perceived impact of contractual procedures was influenced by the years of international experience. The relationship was positive, meaning that years of international experience and the perceived impact of contractual procedures increased proportionally, and vice versa. The results of Model 2 support Hypothesis 1d.

Table 5.21: Regression analysis of the resources and the perception of procurement-related risks

Resources	**Procurement-related risks**	
	Ambiguity in contractual conditions/ requirements	Contractual procedures
	Model 1	**Model 2**
Revenue	-0.334	0.423
Assets	-0.391	-
Number of employees	-0.010	0.452
Years of international experience	0.389	**0.927***
R	0.527	0.662
R^2	**0.278**	**0.438**
F change	1.733	0.520

*P < 0.10, **P < 0.05, ***P < 0.01

5.6.2.5 Resources and the perception of design-related risks

Hypothesis 1e states that: *resources have direct and significant relationships with the perception of significant design-related risks encountered*. Two variables of design-related risks were statistically tested and the following MLRs in Equations 5.10 and 5.11 were fitted with their associated regression coefficients:

$$\boldsymbol{y}_{SKE} = \beta_0^{(SKE)} + \beta_{RVN}^{(SKE)}(RVN) + \beta_{AST}^{(SKE)}(AST) + \beta_{EPY}^{(SKE)}(EPY) + \beta_{EXP}^{(SKE)}(EXP) \quad [5.10]$$

$$\boldsymbol{y}_{DRP} = \beta_0^{(DRP)} + \beta_{RVN}^{(DRP)}(RVN) + \beta_{AST}^{(DRP)}(AST) + \beta_{EPY}^{(DRP)}(EPY) + \beta_{EXP}^{(DRP)}(EXP) \quad [5.11]$$

The results of the two design-related risks perception models tested are presented in Table 5.22. The predictive power of Model 1 shows that 18.4% of the perceived impact of skills and experience of the design company in the ACM was influenced by the resources of SACCs. Model 2 indicates that number of employees influences the perceived impact of diffused responsibilities among the design consultants/team. The predictive power of the Model 2 (R = 0.714; R^2 = 0.509; F-change =0.692, with p ≠ 0.05) shows that 50.9% of the perceived impact of diffused responsibilities among the design consultants/team was influenced by the number of employees. The relationship is positive, implying that as the number of employees increases, the perceived impact of diffused responsibilities among the design consultants/team also increases, and vice versa. The results of Model 2 supports Hypothesis 1e.

Table 5.22: Regression analysis of the resources and the perception of design-related risks

Resources	**Design-related risks**	
	Skills and experience of the designer company	Diffused responsibilities among design consultants/team
	Model 1	**Model 2**
Revenue	0.199	0.774
Assets	-	-
Number of employees	0.414	**0.039***
Years of international experience	-0.079	0.722
R	0.429	0.714
R^2	**0.184**	**0.509**
F change	0.150	0.692

*P < 0.10, **P < 0.05, ***P < 0.01

5.6.2.6 Resources and the perception of construction-related risks

Hypothesis 1f states that: *resources have direct and significant relationships with the perception of significant construction-related risks encountered*. Three variables of construction-related risks were statistically tested and the following MLRs were fitted with their associated regression coefficients:

$$\boldsymbol{y}_{VRS} = \beta_0^{(VRS)} + \beta_{RVN}^{(VRS)}(RVN) + \beta_{AST}^{(VRS)}(AST) + \beta_{EPY}^{(VRS)}(EPY) + \beta^{(VRS)}(EXP) \quad [5.12]$$

$$\boldsymbol{y}_{SCL} = \beta_0^{(SCL)} + \beta_{RVN}^{(SCL)}(RVN) + \beta_{AST}^{(SCL)}(AST) + \beta_{EPY}^{(SCL)}(EPY) + \beta_{EXP}^{(SCL)}(EXP) \quad [5.13]$$

$$\boldsymbol{y}_{DLP} = \beta_0^{(DLP)} + \beta_{RVN}^{(DLP)}(RVN) + \beta_{AST}^{(DLP)}(AST) + \beta_{EPY}^{(DLP)}(EPY) + \beta_{EXP}^{(DLP)}(EXP) \quad [5.14]$$

Table 5.23 presents the results of the three construction-related risks perception models tested. The predictive power of Model 1 (R = 0.560; R^2 = 0.313; F-change =2.054, with p ≠ 0.05) reveals that about 31% of the perceived impact of variations/reworks/changes in scope of works in the ACM was influenced by the revenue in SACCs. From Model 2 it can be seen that 50.0% of the perceived impact of site/construction logistics/planning and management was influenced by resources of SACCs. Further, Model 3 indicated that 31.2% of the perceived impact of delays in progress payments and cash flows was influenced by the resources of SACCs. The results of Model 2 and 3 support Hypothesis 1f.

Table 5.23: Regression analysis of the resources and the perception of construction-related risks

	Construction-related risks		
Resources	Variations/reworks/ changes in scope of works	Site/construction logistics/planning /management	Delays in progress payments and cash flows
	Model 1	**Model 2**	**Model 3**
Revenue	**0.497****	**0**.446	**-0**.020
Assets	**0**.213	-	-
Number of employees	**-0**.008	**0**.375	**0**.162
Years of international experience	**-0**.089	**-0**.412	**0**.428
R	**0**.560	**0**.707	**0**.559
R^2	**0.313**	**0.500**	**0.312**
F change	2.054	**0**.668	**0**.303

*P < 0.10, **P < 0.05, ***P < 0.01

Based on the results obtained, Hypothesis 1 (H1) is accepted and the findings show that the perceived impact of restrictions on the repatriation of funds and variations/reworks/change in the scope of work was influenced by the revenue of SACCs, while the perceived impact of changes in the laws, regulations and policies of the host country, the crime rate/social insecurity and diffused responsibilities among design consultants/team was influenced by the number of employees. The perceived impact of restriction on the repatriation of funds was also influenced by the years of international experience of SACCs. Moreover, a significant number of the risk perception models tested have satisfactory power in predicting the perceived impact of risk in the ACM. The predictive power of the models ranges from about 18% to 70%. A substantial number of the models show that significant relationships exist between the resources of SACCs and their perceived impact of the risks encountered, on ease of entry in ACM.

5.6.3 Risks perception and entry decisions

Research Objective 5 sought to establish how the perceived impact of the risks encountered by SACCs influence decisions made to enter the ACM. This is with a view to provide answers to Research Question 5 and to test Hypothesis 2:

Hypothesis 2: Perceived impact of risk has a direct and significant relationship with the entry decisions.

The variables of six classes of risks that were the dependent variables in testing Hypothesis 1, became the independent variables in testing Hypothesis 2. This was because Hypothesis 2 aimed to develop entry decision models based on the perceived impact of risk in the ACM. The dependent variables were the four entry modes (JVC, JVP, BRO and SRA) used by SACCs to enter the ACM. This section, however tests the 6 sub-sets of Hypothesis 2, as outlined in Section 3.3.3 and shown in Figure 3.5. An MLR analysis was conducted and the results are presented in Sections 5.6.3.1 to 5.6.3.6. The predictive power of the models was measured by the value of R^2.

5.6.3.1 Political risks perception and entry decisions

Hypothesis 2a states that: the *perceived impact of political risks has direct and significant relationships with the entry decisions*. For the Four entry decision models that were statistically tested, the following MLRs as shown in equation 5.15 to 5.18 were fitted with their associated regression coefficients (see Appendix D):

$$\boldsymbol{y}_{JVC} = \beta_0^{(JVC)} + \beta_{RT}^{(JVC)}(RT) + \beta_{RRF}^{(JVC)}(RRF) + \beta_{CLR}^{(JVC)}(CLR) \quad [5.15]$$

$$\boldsymbol{y}_{JVP} = \beta_0^{(JVP)} + \beta_{RT}^{(JVP)}(RT) + \beta_{RRF}^{(JVP)}(RRF) + \beta_{CLR}^{(JVP)}(CLR) \quad [5.16]$$

$$\boldsymbol{y}_{BRO} = \beta_0^{(BRO)} + \beta_{RT}^{(BRO)}(RT) + \beta_{RRF}^{(BRO)}(RRF) + \beta_{CLR}^{(BRO)}(CLR) \quad [5.17]$$

$$\boldsymbol{y}_{SRA} = \beta_0^{(SRA)} + \beta_{RT}^{(SRA)}(RT) + \beta_{RRF}^{(SRA)}(RRF) + \beta_{CLR}^{(SRA)}(CLR) \quad [5.18]$$

Table 5.24 presents the result of the four entry decision models tested based on the perceived impact of the political risks in the ACM. The predictive power of Model 1 indicated that about 12% of the decisions made to employ a JVC as an entry model were influenced by the perceived impact of political risks. Similarly Model 3 predicted that about 27% of the decisions made to use a BRO as an entry model, were also influenced by the perceived impact of political risks.

The predictive power of Model 2 (R = 0.437; R^2 = 0.191; F-change =0.551, with p ≠ 0.05) reveals that about 19% of the decisions made to involve a JVP as an entry model were influenced by their perceived impact of red tape/legislative bottlenecks. Model 4 predicted that about 16 % of the decisions to adopt an SRA as an entry model, were influenced by the perceived impact of the restrictions on repatriation of funds. The relationships in both Models 2 and 4 are positive; this means that the decisions to use a JVP in Model 1 and an SRA in Model 2 respectively as entry models, will increase as the perceived impact of red tape/legislative bottlenecks and restrictions on repatriation of funds, when political risks increase. The results of Models 2 and 4 support Hypothesis 2a that entry decisions made by SACCs are influenced by their perceived impact of political risks in the ACM.

Table 5.24: Regression analysis of the perception of political risks and entry decisions

Political risks	**Entry decisions**			
	Joint venture company (JVC)	Joint venture project (JVP)	Branch office/ company (BRO)	Strategic alliance (SRA)
	Model 1	**Model 2**	**Model 3**	**Model 4**
Legislative bottleneck/red tape	0.010	0**.047****	0.161	0.306
Restrictions on repatriation of funds	-0.064	0.000	0.531	0**.159****
Changes in the host country laws, regulations and policies	0.357	0.423	-0.006	-0.223
R	0.353	0.437	0.518	0.393
R^2	0**.124**	0**.191**	0**.269**	0**.155**
F change	0.331	0.551	0.858	1.343

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.3.2 Social risks perception and entry decisions

Hypothesis 2b states that: the *perceived impact of social risks has direct and significant relationships with the entry decisions*. For the variables of the entry models that were selected and statistically tested, the following MLRs were fitted with their associated regression coefficients:

$$\boldsymbol{y}_{JVC} = \beta_0^{(JVC)} + \beta_{CRR}^{(JVC)}(CRR) + \beta_{SCD}^{(JVC)}(SCD) \quad [5.19]$$

$$\boldsymbol{y}_{JVP} = \beta_0^{(JVP)} + \beta_{CRR}^{(JVP)}(CRR) + \beta_{SCD}^{(JVP)}(SCD) \quad [5.20]$$

$$\boldsymbol{y}_{BRO} = \beta_0^{(BRO)} + \beta_{CRR}^{(BRO)}(CRR) + \beta_{SCD}^{(BRO)}(SCD) \quad [5.21]$$

$$\boldsymbol{y}_{SRA} = \beta_0^{(SRA)} + \beta_{CRR}^{(SRA)}(CRR) + \beta_{SCD}^{(SRA)}(SCD) \quad [5.22]$$

The results of entry decision models tested were based on the perceived impact of social risks and are presented in Table 5.25. Models 1 and 3 indicate that 8.7% of the decisions to use a JVC and 16.1% of the decisions to use a BRO, as a mode to enter the ACM, were influenced by the perceived impact of social risks. The predictive power of Model 2 (R = 0.381; R^2 = 0.145; F-change =0.687, with p ≠ 0.05) indicates that about 15% of the decisions to use a JVP were influenced by the perceived impact of the crime rate/social security. Model 4 (R = 0.599; R^2 = 0.359; F-change =2.241, with p ≠ 0.05) confirms that about 40% of the decisions to adopt an SRA, were influenced by the perceived impact of crime rate/social insecurity and social disorder/instabilities. The relationships between the decisions to use JVPs and SRAs and the perceived impact of crime rate/social insecurity are positive, implying proportional increases or decreases. However, the decisions to adopt an SRA will decrease as the perceived impact of social disorder/instabilities increases and vice versa. The results of Models 2 and 4 support Hypothesis 2b that entry decisions made by SACCs were influenced by their perceived impact of social risks in the ACM.

Table 5.25: Regression analysis of the perception of social risks and entry decisions

Social risks	**Entry decisions**			
	Joint venture company (JVC)	Joint venture project (JVP)	Branch office/ company (BRO)	Strategic alliance (SRA)
	Model 1	**Model 2**	**Model 3**	**Model 4**
Crime rate/social insecurity	0.049	**0.166****	-0.286	**0.480****
Social disorder/instabilities (strikes, riots, labour unrests and outbreaks of diseases)	0.264	0.260	0.489	**-0.716***
R	0.294	0.381	0.401	0.599
R^2	**0.087**	**0.145**	**0.161**	**0.359**
F change	0.380	0.678	0.769	2.241

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.3.3 Economic/financial risks perception and entry decisions

Hypothesis 2c states that: the *perceived impact of economic/financial risks has direct and significant relationships with the entry decisions*. For the variables of entry models that were statistically tested, the following MLRs were fitted with their associated regression coefficients:

$$\boldsymbol{y}_{JVC} = \beta_0^{(JVC)} + \beta_{PR}^{(JVC)}(PR) + \beta_{DPM}^{(JVC)}(DPM) \qquad [5.23]$$

$$\boldsymbol{y}_{JVP} = \beta_0^{(JVP)} + \beta_{PR}^{(JVP)}(PR) + \beta_{DPM}^{(JVP)}(DPM) \quad [5.24]$$

$$\boldsymbol{y}_{BRO} = \beta_0^{(BRO)} + \beta_{PR}^{(BRO)}(PR) + \beta_{DPM}^{(BRO)}(DPM) \quad [5.25]$$

$$\boldsymbol{y}_{SRA} = \beta_0^{(SRA)} + \beta_{PR}^{(SRA)}(PR) + \beta_{DPM}^{(SRA)}(DPM) \quad [5.26]$$

Table 5.26 presents the results of the entry decision models tested based on the perceived impact of economic/financial risks in the ACM. The predictive power of Models 1, 3 and 4 confirmed that respectively 2.8% of the decisions by SACCs were to use a JVC, 30.3% of the decisions by SACCs were use a BRO, and 16.1% of the decisions by SACCs were to use an SRA, as an entry model because of the influence of the perceived impact of economic/financial risks in the ACM. Model 2 ($R = 0.307$; $R^2 = 0.094$; F-change =0.416, with $p \neq 0.05$) establishes that about 9% of the decisions to use a JVP as an entry model, were influenced by the perceived impact of payment risk. The relationship between a JVP and the perceived impact of payment risk in Model 2 is positive, implying that an increase in the decision to use a JVP will lead to an increase in the perceived impact of payment risks and vice versa.

Table 5.26: Regression analysis of the perception of economic and financial risks and entry decisions

	Entry decisions			
Economic and financial risks	Joint venture company (JVC)	Joint venture project (JVP)	Branch office/ company (BRO)	Strategic alliance (SRA)
	Model 1	**Model 2**	**Model 3**	**Model 4**
Payment risk	0.152	**0.315***	0.385	-0.475
Delay in payment/shortage in payment	0.023	-0.012	0.208	0.119
R	0.168	0.307	0.550	0.401
R^2	**0.028**	**0.094**	**0.303**	**0.161**
F change	0.117	0.416	1.738	0.768

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.3.4 Procurement-related risks perception and entry decisions

Hypothesis 2d states that: the *perceived impact of procurement-related risks has direct and significant relationships with entry decisions*. Entry decision models tested, based on the perceived impact of procurement-related risks with their coefficients are presented below:

$$\boldsymbol{y}_{JVC} = \beta_0^{(JVC)} + \beta_{ACC}^{(JVC)}(ACC) + \beta_{CDP}^{(JVC)}(CDP) \quad [5.27]$$

$$\boldsymbol{y}_{JVP} = \beta_0^{(JVP)} + \beta_{ACC}^{(JVP)}(ACC) + \beta_{CDP}^{(JVP)}(CPD) \quad [5.28]$$

$$\boldsymbol{y}_{BRO} = \beta_0^{(BRO)} + \beta_{ACC}^{(BRO)}(ACC) + \beta_{CDP}^{(BRO)}CPD) \quad [5.29]$$

$$\boldsymbol{y}_{SRA} = \beta_0^{(SRA)} + \beta_{ACC}^{(SRA)}(ACC) + \beta_{CDP}^{(SRA)}(CPD) \quad [5.30]$$

Table 5.27 presents the results of the entry decision models tested based on the perceived impact of procurement-related risks in the ACM. The predictive power of Model 1 determined that 17.2% of the decisions to use a JVC as an entry model were influenced by the perceived impact of contractual procedures. For Model 2 the predictive power that indicated the decisions to gain entry via a JVP, was 22.0%, with the decisions being affected by the perceived impact of contractual procedures. The predictive power of Model 3 showed that 17.0% of the decisions to make use of a BRO were impinged by the perceived impact of contractual procedures.

Further, Model 4 also established that 6.5% of the decisions to use an SRA as an entry model, were influenced by the perceived impact of procurement-related risks. The relationship is positive, implying that the decision to use a JVP as an entry model will increase as the perceived impact of payment risk increases and vice versa. The models support Hypothesis 2d that the decisions of SACCs to use the entry models tested (JVC, JVP, BRO and SRA) were influenced by the perceived impact of procurement-related (like contractual procedures) risks in the ACM.

Table 5.27: Regression analysis of the perception of procurement-related risks and entry decisions

	Entry decisions			
Procurement-related risk	Joint venture company (JVC)	Joint venture project (JVP)	Branch office/ company (BRO)	Strategic alliance (SRA)
	Model 1	**Model 2**	**Model 3**	**Model 4**
Ambiguity in contractual conditions/requirements	-0.178	-0.179	-0.357	0.303
Contractual procedures	0**.548****	0**.604****	0**.648****	-0.065
R	0.415	0.469	0.413	0.256
R^2	0**.172**	0**.220**	0**.170**	0**.065**
F change	3.856	**5.225****	**3.797****	0.470

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.3.5 Design-related risks perception and entry decisions

Hypothesis 2e was tested; this hypothesis states that: the p*erceived impact of design-related risks has direct and significant relationships with the entry decisions*. Entry decision models

tested, are based on the perceived impact of design-related risks. The models with their coefficients are presented below:

$$\boldsymbol{y}_{JVC} = \beta_0^{(JVC)} + \beta_{SKE}^{(JVC)}(SKE) + \beta_{DRP}^{(JVC)}(DRP) \quad [5.31]$$

$$\boldsymbol{y}_{JVP} = \beta_0^{(JVP)} + \beta_{SKE}^{(JVP)}(SKE) + \beta_{DRP}^{(JVP)}(DRP) \quad [5.32]$$

$$\boldsymbol{y}_{BRO} = \beta_0^{(BRO)} + \beta_{SKE}^{(BRO)}(SKE) + \beta_{DRP}^{(BRO)}DRP) \quad [5.33]$$

$$\boldsymbol{y}_{SRA} = \beta_0^{(SRA)} + \beta_{SKE}^{(SRA)}(SKE) + \beta_{DRP}^{(SRA)}(DRP) \quad [5.34]$$

The results in Table 5.28 shows entry decision models tested that were based on the perceived impact of design-related risks in ACM. Model 1 revealed that 44.0% of the decisions to use JVC as an entry model were influenced by the perceived impact of diffused responsibilities among the design team. For Model 2 the predictive power that indicated the decisions to gain entry via a JVP, was 45.0%, with the decisions being affected by the perceived impact of diffused responsibilities among the design team. The predictive power of Model 4 showed that 44.0% of the decisions to make use of a BRO were impinged by the perceived impact of skills and experience of the design company and diffused responsibilities among the design team. The relationships are positive. The predictive power of Model 3 also revealed that 20.0% of the decision to use BRO was influenced by the perceived impact of design-related risks. The results of the models support Hypothesis 2f and established that entry decisions made by SACCs were influenced by the perceived impact of design-related risks in the ACM.

Table 5.28: Regression analysis of the perception of design-related risks and entry decisions

	Entry decisions			
Design-related risks	Joint venture company (JVC)	Joint venture project (JVP)	Branch office/ company (BRO)	Strategic alliance (SRA)
	Model 1	**Model 2**	**Model 3**	**Model 4**
Skills and experience of the designer company	0.152	0.145	0.415	0**.315****
Diffused responsibilities among design consultants/team	0**.667*****	0**.672*****	0.370	0**.585*****
R	0.664	0.668	0.519	0.663
R^2	0**.442**	0**.446**	0**.269**	0**.440**
F change	**4.744****	4.840	2.207	**14.525*****

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.3.6 Construction-related risks perception and entry decisions

Hypothesis 2e states that: the *perceived impact of construction-related risks has direct and significant relationships with entry decisions*. Entry decision models tested based on the perceived impact of construction-related risks. The models with their coefficients are presented below:

$$\boldsymbol{y}_{JVC} = \beta_0^{(JVC)} + \beta_{VRS}^{(JVC)}(VRS) + \beta_{SCL}^{(JVC)}(SCL) + \beta_{DLP}^{(JVC)}(DLP) \quad [5.35]$$

$$\boldsymbol{y}_{JVP} = \beta_0^{(JVP)} + \beta_{VRS}^{(JVP)}(VRS) + \beta_{SCL}^{(JVP)}(SCL) + \beta_{DLP}^{(JVP)}(DLP) \quad [5.36]$$

$$\boldsymbol{y}_{BRO} = \beta_0^{(BRO)} + \beta_{VRS}^{(BRO)}(VRS) + \beta_{SCL}^{(BRO)}SCL) + \beta_{DLP}^{(BRO)}DLP) \quad [5.37]$$

$$\boldsymbol{y}_{SRA} = \beta_0^{(SRA)} + \beta_{VRS}^{(SRA)}(VRS) + \beta_{SCL}^{(SRA)}(SCL) + \beta_{LP}^{(SRA)}(DLP) \quad [5.38]$$

Models 1, 2 and 4 in Table 5.29 show that 15.9%, 20.3% and 26.5% of the decisions made by SACC to use JVC, JVP and SRA respectively, as entry models were influenced by the perceived impact of delay in payment and cash flow in ACM. Model 1 established that 16.0% of the decisions to use JVC as an entry model were influenced by the perceived impact of delays in payment and cash flow. For Model 2 the predictive power that revealed the decisions to gain entry via a JVP, was 20.0%, with the decisions being affected by the perceived impact of delays in payment and cash flow. The predictive power of Model 4 showed that 27.0% of the decisions to make use of a BRO were imposed by the perceived impact of delays in payment and cash flow. The relationships are positive, meaning that the decisions to use the entry modes will increase as the perceived impact of delay in payment and cash flow increases, and vice versa. The predictive power of Model 3 showed that 27.0% of the decisions to use a BRO as an entry mode were influenced by the perceived impact of variations/reworks/changes in scope of works. The results of the modes support Hypothesis 2g and established that the decisions to use entry modes tested by SACCs were influenced by the perceived impact of construction-related risks in the ACM.

Based on the results of the MLR analysis undertaken, Hypothesis 2 is accepted because the four entry decision modes used by SACC and tested, were influenced by the perceived impact of risks in ACM. The findings reveal that the decisions made to use JVC as entry mode were influenced by the perceived impact of contractual procedures, diffused responsibilities among the design consultants/team and delay in payment and cash flow. The decisions to employ a JVC were influenced by the perceived impact of red tape/legislative bottleneck, crime rate/social insecurity, payment risk, contractual procedures, diffused responsibilities among

design consultants/team, and delay in payment and cash flow. The use of BRO as entry mode was influenced by the perceived impact of the contractual procedures and variations/reworks/changes in scope of works.

Table 5.29: Regression analysis of the perception of construction-related risks and entry decisions

Construction-related risks	**Entry decisions**			
	Joint venture company (JVC)	Joint venture project (JVP)	Branch office/ company (BRO)	Strategic alliance (SRA)
	Model 1	**Model 2**	**Model 3**	**Model 4**
Variations/reworks/changes in scope of works	0.151	0.163	0**.373****	-0.186
Site/construction logistics/planning/management	-0.184	-0.224	-0.203	0.170
Delay in payment and cash flow	0**.313***	0**.352****	0.241	0**.334****
R	0.399	0.451	0.515	0.387
R^2	0**.159**	0**.203**	0**.265**	0**.150**
F change	2.277	**3.058****	**4.323****	2.114

*p < 0.10; **p < 0.05; ***p < 0.01

Decisions to use SRA as an entry mode were influenced by legislative bottlenecks/red tape, crime rate/social insecurity, skills and experience of the design company, diffused responsibilities among the design consultants/team and site/construction logistics/planning/management. The predictive power of the models range from about 3.0% to 45.0%. A sizeable number of the entry decision models tested are significant. These results support Hypothesis 2 and established that entry decisions made by SACCs were influenced by the perceived impact of risks in the ACM.

5.6.4 Main effect and interaction between resources and entry decisions

Hypothesis 3 states that: the *resources have direct and significant relationships with entry decisions.* This is with a view to answer Research Question 6 and to address Research Objective 6. A correlational analysis and two interactive MLR analyses between the resources and entry decisions made, were tested. Details are shown in the subsequent sections.

5.6.4.1 A correlational analysis between resources and entry decisions

The results of correlational analysis are presented in Table 5.30. Significant relationships exist between revenue and JVC; assets, JVC and JVP; and international experience and JVP. These relationships are significant at ($p < 0.05, 0.10$). It emerges that positive significant relationships exist among the resources of SACCs such as revenue, assets and years of international experience ($p < 0.05, 0.10$), and the use of JVCs and JVPs as entry modes to enter the ACM.

Table 5.30: Correlation matrix for relationships between resources and entry decisions

Code	Resources and entry decisions	RVN	AST	EPY	EXP	JVC	JVP	BRO	SRA
RVN	Revenue	1.000							
AST	Assets	**0.468****	1.000						
EPY	Number of permanent employees	**0.436***	**0.393***	1.000					
EXP	Years of international experience	**0**.093	**0**.214	**-0**.176	1.000				
JVC	Joint venture company	**0.520***	**0.548***	**0**.487	**0**.676	1.000			
JVP	Joint venture project	**0**.383	**0.592***	**0**.433	**0.926****	**0.970****	1.000		
BRO	Branch office/company	**0**.242	**0**.352	**0**.384	**0**.759	**0**.424	**0**.436	1.000	
SRA	Strategic alliance	**-0**.017	**0**.103	**0**.026	**0**.093	**0**.337	**0**.401	**-0**.122	1.000

*. Correlation is significant at the 0.05 level
**. Correlation is significant at the 0.01 level

5.6.4.2 Interactive relationships between resources and entry decisions

Hypothesis 3a states that: the *resources have direct and significant relationships with entry decisions.* This is with a view to establish whether significant relationships exist among the variables of resources and entry decisions made. The interactive models tested with their coefficients, are shown below. The predictive power of the models was measured by the value of R^2 (Appendix D).

$$\boldsymbol{y}_{RVN} = \beta_0^{(RVN)} + \beta_{JVC}^{(RVN)}(JVC) + \beta_{JVP}^{(RVN)}(JVP) + \beta_{BRO}^{(RVN)}(BRO) + \beta_{SRA}^{(RVN)}(SRA) \quad [5.39]$$

$$\boldsymbol{y}_{AST} = \beta_0^{(AST)} + \beta_{JVC}^{(AST)}(JVC) + \beta_{JVP}^{(AST)}(JVP) + \beta_{BRO}^{(AST)}(BRO) + \beta_{SRA}^{(AST)}(SRA) \quad [5.40]$$

$$\boldsymbol{y}_{EPY} = \beta_0^{(EPY)} + \beta_{JVC}^{(EPY)}(JVC) + \beta_{JVP}^{(EPY)}(JVP) + \beta_{BRO}^{(EPY)}(BRO) + \beta_{SRA}^{(EPY)}(SRA) \quad [5.41]$$

$$\boldsymbol{y}_{EXP} = \beta_0^{(EXP)} + \beta_{JVC}^{(EXP)}(JVC) + \beta_{JVP}^{(EXP)}(JVP) + \beta_{BRO}^{(EXP)}(BRO) + \beta_{SRA}^{(EXP)}(SRA) \quad [5.42]$$

Table 5.31 presents the results on interactive models between the resources in SACC and entry decisions made into the ACM. Model 1 established that about 33.0% of revenue interacted with entry decisions made. For Model 3 showed that 46.0% of assets interacted with the decisions to enter the ACM. Moreover, Model 4 revealed that 36.0% of years of international experience

interacted with entry decisions made by SACCs. The predictive power of Model 2 showed that 82.0% of the assets interacted with the BRO as an entry mode into the ACM. The relationship is positive, implying that the more assets an SACC possesses, the more likely it is that decisions will be made to use BRO as an entry mode into the market. The models support Hypothesis 3a and established that the resources of SACCs and entry decisions made to enter the ACM, are related.

Table 5.31: Regression analysis of the interactive relationships between of resources and entry decisions

Entry modes	**Resources**			
	Revenue	Assets	Number of employees	Years of international experience
	Model 1	**Model 2**	**Model 3**	**Model 4**
Joint venture company	0.217	-0.080	-0.075	-0.370
Joint venture project	0.250	0.347	0.221	0.368
Branch office/company	0.038	**0.705***	0.516	0.152
Strategic alliance	0.160	-0.136	0.062	-0.565
R	0.572	0.906	0.681	0.600
R^2	**0.328**	**0.821**	**0.463**	**0.360**
F change	1.097	**10.292****	1.944	1.267

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.4.3 Interactive relationships between entry decisions and resources

Hypothesis 3b states that: *entry decisions have direct and significant relationships with resources.* This is with a view to establish whether significant relationships exist among the variables of entry decisions and resources deployed. The interactive models tested with their coefficients are shown below:

$$\boldsymbol{y}_{JVC} = \beta_0^{(JCV)} + \beta_{RVN}^{(JVC)}(RVN) + \beta_{AST}^{(JVC)}(AST) + \beta_{EPY}^{(JVC)}(EPY) + \beta_{EXP}^{(JVC)}(EXP) \quad [5.43]$$

$$\boldsymbol{y}_{JVP} = \beta_0^{(JCP)} + \beta_{RVN}^{(JVP)}(RVN) + \beta_{AST}^{(JVP)}(AST) + \beta_{EPY}^{(JVP)}(EPY) + \beta_{EXP}^{(JVP)}(EXP) \quad [5.44]$$

$$\boldsymbol{y}_{BRO} = \beta_0^{(BRO)} + \beta_{RVN}^{(BRO)}(RVN) + \beta_{AST}^{(BRO)}(AST) + \beta_{EPY}^{(BRO)}(EPY) + \beta_{EXP}^{(JVC)}(EXP) \quad [5.45]$$

$$\boldsymbol{y}_{SRA} = \beta_0^{(SRA)} + \beta_{RVN}^{(SRA)}(RVN) + \beta_{AST}^{(SRA)}(AST) + \beta_{EPY}^{(SRA)}(EPY) + \beta_{EXP}^{(SRA)}(EXP) \quad [5.46]$$

Table 5.32 presents the results of interactive models between entry decisions made into the ACM and resources in SACC. Model 1 established that about 62.0% of the decisions to use a JVC and a JVP, interacted with assets of SACCs. For Model 2 74.0% of the decisions to use a JVC and a JVP as entry modes, interacted with assets. The predictive power of Model 4

revealed that about 39.0% of the decisions to use an SRA as an entry mode, are affected by the years of international experience of the company. Model 3 also revealed that about 53.0% of the decisions to use a BRO as an entry mode, relate to the resources of the company. The interactive models support Hypothesis 3b and established that decisions made to enter the ACM, relate to the resources of an SACC.

Table 5.32: Regression analysis of the interactive relationships between entry decisions and resources

Resources	**Entry models**			
	Joint venture company	Joint venture project	Branch office/ company	Strategic alliance
	Model 1	**Model 2**	**Model 3**	**Model 4**
Revenue	0.252	0.132	-0.200	0.259
Asset	0**.842****	0**.970****	0.573	0.080
Number of employees	-0.312	-0.244	0.296	-0.016
Years of international experience	-0.144	0.038	-0.241	**-0.506***
R	0.786	0.860	0.727	0.621
R^2	0**.617**	0**.740**	0**.529**	0**.386**
F change	**3.626****	**6.416*****	**2.808***	1.415

*p < 0.10; **p < 0.05; ***p < 0.01

Based on the results obtained, Hypothesis 3 is accepted because the four interactive models tested show that the resources in SACCs and decisions made to enter the ACM, relate. The findings show that revenue relates to branch office/company; a joint venture company and a joint venture project relate to assets; and a strategic alliance relates to years of international experience. The findings established that interactive relationships exist between the resources of SACC and decisions made to enter the ACM, while entry decisions made also relate to resources. The predictive power of the interactive models tested, range from about 39.0% to 81.0%. The results support Hypothesis 3 and established that resources in SACCs have direct and significant relationships with decisions made to enter the ACM.

5.6.5 Interactive mediating relationship between resources and entry decisions in mitigating risks

Having established that the resources of SACCs relate to decisions made to enter the ACM, the study further examined whether these interactions mitigate the perceived impacts of risks encountered in the ACM. Hence, Hypothesis 4, which states that: *resources have direct and*

significant relationships with entry decisions which mitigates the perceived impact of the six classes of risks, was investigated. This further answers the Research Question 6 and address Research Objective 6. The mitigation models for the six categories of risks, are presented in the subsequent sections. The predictive powers of the models were measured by the value of R^2.

5.6.5.1 Mitigating the perceived impact of political risks

Hypothesis 4a states that: *resources have direct and significant relationships with entry decisions which mitigates the perceived impact of political risks.* The political risk mitigation models tested, are based on interactive mediating relationships between resources and entry decisions made. The models with their coefficients are presented below:

$$\boldsymbol{y}_{RT} = \beta_0^{(RT)} + \beta_{RVN}^{(RT)}(RVN) + \beta_{AST}^{(RT)}(AST) + \beta_{EPY}^{(RT)}(EPY) + \beta_{EXP}^{(RT)}(EXP) + \beta_{JVC}^{(RT)}(JVC) + \beta_{JVP}^{(RT)}(JVP) + \beta_{BRO}^{(RT)}(BRO) + \beta_{SRA}^{(RT)}(SRA) \quad [5.47]$$

$$\boldsymbol{y}_{RRF} = \beta_0^{(RRF)} + \beta_{RVN}^{(RRF)}(RVN) + \beta_{AST}^{(RRF)}(AST) + \beta_{EPY}^{(RRF)}(EPY) + \beta_{EXP}^{(RRF)}(EXP) + \beta_{JVC}^{(RRF)}(JVC) + \beta_{JVP}^{(RRF)}(JVP) + \beta_{BRO}^{(RRF)}(BRO) + \beta_{SRA}^{(RRF)}(SRA) \quad [5.48]$$

$$\boldsymbol{y}_{CLR} = \beta_0^{(CLR)} + \beta_{RVN}^{(CLR)}(RVN) + \beta_{AST}^{(CLR)}(AST) + \beta_{EPY}^{(CLR)}(EPY) + \beta_{EXP}^{(CLR)}(EXP) + \beta_{JVC}^{(CLR)}(JVC) + \beta_{JVP}^{(CLR)}(JVP) + \beta_{BRO}^{(CLR)}(BRO) + \beta_{SRA}^{(CLR)}(SRA) \quad [5.49]$$

Table 5.33 presents the results obtained and the predictive power of Models 1, 2 and 3 reveal that 80.9%, 57.3% and 91.2% respectively, of the perceived impact of the significant political risks were mitigated through the mediating relationships between the resources of SACCs and decisions made enter the ACM. The models support Hypothesis 4a and also established that the interactive relationships between the resources of SACCs and entry decisions made, mitigate the perceived impact of political risks in the ACM.

5.6.5.2 Mitigating the perceived impact of social risks

Hypothesis 4b states that: *resources have direct and significant relationships with entry decisions which mitigates the perceived impact of social risks.* Two social risks mitigation models were tested based on the interactive mediating relationships between resources and entry decisions made. The models with their coefficients are presented below:

$$\boldsymbol{y}_{CRR} = \beta_0^{(CRR)} + \beta_{RVN}^{(CRR)}(RVN) + \beta_{AST}^{(CRR)}(AST) + \beta_{EPY}^{(CRR)}(EPY) + \beta_{EXP}^{(CRR)}(EXP) + \beta_{JVC}^{(CRR)}(JVC) + \beta_{JVP}^{(CRR)}(JVP) + \beta_{BRO}^{(CRR)}(BRO) + \beta_{SRA}^{(CRR)}(SRA) \quad [5.50]$$

$$\boldsymbol{y}_{SCD} = \beta_0^{(SCD)} + \beta_{RVN}^{(SCD)}(RVN) + \beta_{AST}^{(SCD)}(AST) + \beta_{EPY}^{(SCD)}(EPY) + \beta_{EXP}^{(SCD)}(EXP) + \beta_{JVC}^{(SCD)}(JVC) + \beta_{JVP}^{(SCD)}(JVP) + \beta_{BRO}^{(SCD)}(BRO) + \beta_{SRA}^{(SCD)}(SRA) \quad [5.51]$$

Table 5.33: Regression analysis on mitigating the perceived impact of political risks

Resources and entry decisions	**Political risks**		
	Red tape/legislative bottleneck	Restrictions on repatriation of funds	Changes in the host country laws, regulations and policies
	Model 1	**Model 2**	**Model 3**
Revenue	-0.620	-0.040	0.163
Assets	0.890	0.776	-0.001
Number of employees	0.215	-0.768	-1.108
Years of international experience	0.101	0.164	0.112
Joint venture company	0.873	0.102	0.823
Joint venture project	-0.238	-0.717	-0.781
Branch office	-1.090	0.538	0.762
Strategic alliance	0.954	-0.564	-0.533
R	0.900	0.757	0.955
R^2	0**.809**	0**.573**	0**.912**
F change	0.530	0.168	1.303

*p < 0.10; *p < 0.05; ***p < 0.01

From Table 5.34, Model 1 shows that 99.0% of the perceived impact of the crime rate/social instability was mitigated by the interactive relationships between the resources of SACCs and decisions made to enter the ACM. Model 2 reveals that about 100.0% of the perceived impacts of social disorder/instabilities was mitigated by revenue, years of international experience, and a JVC as entry mode. The interactions between revenue and a JV is positive. Revenue and JVC are positive in the interactions, meaning that the more the revenue and the higher the decisions to use a JVC, the more the perceived impact of social disorder/instabilities was mitigated. Moreover, years of international experience is negative which implies that more years of international experience leads to a lower perceived impact of social disorder/instabilities. Both models show very strong predictive power in mitigating the perceived impact of the significant social risks. These models support Hypothesis 4b and established that the interactive relationships between the resources of SACCs and entry decisions made, mitigate the perceived impact of social risks in ACM.

Table 5.34: Regression analysis on mitigating the perceived impact of social risks

Resources and entry decisions	**Social risks**	
	Crime rate/social insecurity	Social disorder/instabilities (strikes, riots, labour unrests and outbreaks of diseases)
	Model 1	**Model 2**
Revenue	-0.510	**-0.634***
Assets	-0.497	-0.661
Number of employees	0.187	0.078
Years of international experience	-0.641	**-0.403***
Joint venture company	0.716	**0.884***
Joint venture project	0.056	0.128
Branch office	0.251	0.209
Strategic alliance	0.000	0.065
R	0.996	0.999
R^2	**0.992**	**0.999**
F change	16.337	**99.564***

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.5.3 Mitigating the perceived impact of economic and financial risks

Hypothesis 4c states that: *resources have direct and significant relationships with entry decisions which mitigates the perceived impact of economic/financial risks.* The economic/financial risk mitigation models tested, are based on interactive mediating relationships between resources and entry decisions made. The models with their coefficients are presented below:

$$\boldsymbol{y}_{PR} = \beta_0^{(PR)} + \beta_{RVN}^{(PR)}(RVN) + \beta_{AST}^{(PR)}(AST) + \beta_{EPY}^{(PR)}(EPY) + \beta_{EXP}^{(PR)}(EXP) + \beta_{JVC}^{(PR)}(JVC) + \beta_{JVP}^{(PR)}(JVP) + \beta_{BRO}^{(PR)}(BRO) + \beta_{SRA}^{(PR)}(SRA) \quad [5.52]$$

$$\boldsymbol{y}_{DPY} = \beta_0^{(DPY)} + \beta_{RVN}^{(DPY)}(RVN) + \beta_{AST}^{(DPY)}(AST) + \beta_{EPY}^{(DPY)}(EPY) + \beta_{EXP}^{(DPY)}(EXP) + \beta_{JVC}^{(DPY)}(JVC) + \beta_{JVP}^{(DPY)}(JVP) + \beta_{BRO}^{(DPY)}(BRO) + \beta_{SRA}^{(DPY)}(SRA) \quad [5.53]$$

The results are presented in Table 5.35. Model 1 reveals that 66.0% of the perceived impacts of payment risks in the ACM were mitigated by the interactive relationships between JVCs and JVPs as entry models. A JVC is negative, meaning that the more the decisions to use JVC, the lower the perceived impact of payment risks was mitigated; while JVP is positive, implying

that the more the decisions to use a JVP, the more the perceived impact of payment risks was mitigated. Model 2 revealed that about 99.0% of the interactive relationships between resources and entry decisions made, mitigate the perceived impact of delays in payment/shortages in payment. The models support Hypothesis 4c and established that the interactive relationships between the resources of SACCs and entry decisions made, mitigate the perceived impact of economic/financial risks in the ACM.

Table 5.35: Regression analysis on mitigating the perceived impact of economic and financial risks

Resources and entry decisions	**Economic/financial risks**	
	Payment risks	Delays in payment/shortage in payment
	Model 1	**Model 2**
Revenue	-0.313	0.490
Assets	-0.796	0.374
Number of employees	0.574	-1.190
Years of international experience	0.483	-0.134
Joint venture company	**-1.872***	-0.159
Joint venture project	**2.137***	-1.309
Branch office	0.145	1.736
Strategic alliance	-0.495	-0.540
R	0.810	0.994
R^2	**0.655**	**0.987**
F change	1.426	9.760

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.5.4 Mitigating the perceived impact of procurement-related risks

Hypothesis 4d states that: *resources have direct and significant relationships with entry decisions which mitigates the perceived impact of procurement-related risks.* The procurement-related risk mitigation models tested, are based on interactive mediating relationships between resources and entry decisions made. The models with their coefficients are presented below:

$$\boldsymbol{y}_{ACC} = \beta_0^{(ACC)} + \beta_{RVN}^{(ACC)}(RVN) + \beta_{AST}^{(ACC)}(AST) + \beta_{EPY}^{(ACC)}(EPY) + \beta_{EXP}^{(ACC)}(EXP) + \beta_{JVC}^{(ACC)}(JVC) + \beta_{JVP}^{(ACC)}(JVP) + \beta_{BRO}^{(ACC)}(BRO) + \beta_{SRA}^{(ACC)}(SRA) \quad [5.54]$$

$$\boldsymbol{y}_{CDP} = \beta_0^{(CDP)} + \beta_{RVN}^{(CDP)}(RVN) + \beta_{AST}^{(CDP)}(AST) + \beta_{EPY}^{(CDP)}(EPY) + \beta_{EXP}^{(CDP)}(EXP) + \beta_{JVC}^{(CDP)}(JVC) + \beta_{JVP}^{(CDP)}(JVP) + \beta_{BRO}^{(CDP)}(BRO) + \beta_{SRA}^{(CDP)}(SRA) \quad [5.55]$$

The results obtained are presented in Table 5.36. Model 1 established that about 59.0% of the perceived impact of the ambiguity in contractual conditions/requirements were mitigated by the decisions to use SRA as an entry mode. For Model 2 about 85.0% of the perceived impact of the ambiguity in contractual conditions/requirements and contractual procedures were influenced by JVC and strategic. An SRA is positive, meaning that the more the decisions to use SRAs, the more the perceived impact of these risks was mitigated. Model 2 further reveals that about 85.0% of the perceived impacts of contractual procedures was mitigated by the decisions to use JVCs. A JVC is negative, implying that more the decisions to use JVCs, the lower the perceived impact of contractual procedures was mitigated. Hypothesis 4d is supported.

Table 5.36: Regression analysis on mitigating the perceived impact of procurement-related risks

Resources and entry decisions	**Procurement-related risks** Ambiguity in contractual conditions/ requirements	Contractual procedures
	Model 1	**Model 2**
Revenue	-0.228	0.503
Assets	1.467	0.409
Number of employees	-0.190	-0.756
Years of international experience	0.585	-0.353
Joint venture company	0.941	**-1.345****
Joint venture project	-0.955	0.887
Branch office	-1.200	0.338
Strategic alliance	0**.993***	0**.580***
R	0.769	0.924
R^2	0**.591**	0**.854**
F change	0.902	**3.645***

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.5.5 Mitigating the perceived impact of design-related risks

Table 5.37 presents the results of the design-related risks mitigation models tested. This was achieved by testing Hypothesis 4e, which states that *resources have direct and significant relationships with entry decisions which mitigates the perceived impact of design-related risks.* The coefficients of the models are presented below:

$$\boldsymbol{y}_{SKE} = \beta_0^{(SKE)} + \beta_{RVN}^{(SKE)}(RVN) + \beta_{AST}^{(SKE)}(AST) + \beta_{EPY}^{SKE}(EPY) + \beta_{EXP}^{(SKE)}(EXP) +$$

$$\beta_{JVC}^{(SKE)}(JVC) + \beta_{JVP}^{(SKE)}(JVP) + \beta_{BRO}^{(SKE)}(BRO) + \beta_{SRA}^{(SKE)}(SRA) \quad [5.56]$$

$$\boldsymbol{y}_{DRP} = \beta_0^{(DRP)} + \beta_{RVN}^{(DRP)}(RVN) + \beta_{AST}^{(DRP)}(AST) + \beta_{EPY}^{(DRP)}(EPY) + \beta_{EXP}^{(DRP)}(EXP) + \beta_{JVC}^{(DRP)}(JVC) + \beta_{JVP}^{(DRP)}(JVP) + \beta_{BRO}^{(DRP)}(BRO) + \beta_{SRA}^{(DRP)}(SRA) \quad [5.57]$$

Model 1 establishes that about 61.0% of the perceived impact of skills and experience of the design company, was mitigated by the decisions to use JVPs and the relationship is negative. Model 2 showed that 72.0% of the perceived impact of diffused responsibilities among design consultants/teams was mitigated by the interactive relationships between assets, number of employees and the use of SRAs. The results from the models support Hypothesis 4e and established that the perceived impact of design-related risks in the ACM was mitigated through the interactive relationships between the resources in SACCs and decisions made enter the ACM.

Table 5.37: Regression analysis on mitigating the perceived impact of design-related risks

	Design-related risks	
Resources and entry decisions	Skills and experience of the design company	Diffused responsibilities among design consultants/team
	Model 1	**Model 2**
Revenue	0.321	-0.234
Assets	0.109	**-0.742*****
Number of employees	-0.087	**0.569*****
Years of international experience	-0.169	0.360
Joint venture company	0.320	0.533
Joint venture project	**-1.613***	-0.119
Branch office	1.317	-0.010
Strategic alliance	-0.217	**0.430****
R	0.779	0.848
R^2	**0.606**	**0.719**
F change	0.962	**4.469*****

*p < 0.10; **p < 0.05; ***p < 0.01

5.6.5.6 Mitigating the perceived impact of construction-related risks

Table 5.38 presents the results of the construction-related risks mitigation models tested. This was achieved by testing Hypothesis 4e which states that *resources have direct and significant relationships with entry decisions which mitigates the perceived impact of construction-related risks.* The coefficients of the models are presented below:

$$\boldsymbol{y}_{VRS} = \beta_0^{(VRS)} + \beta_{RVN}^{(VRS)}(RVN) + \beta_{AST}^{(VRS)}(AST) + \beta_{EPY}^{VRS}(EPY) + \beta_{EXP}^{(VRS)}(EXP) + \beta_{JVC}^{(VRS)}(JVC) + \beta_{JVP}^{(VRS)}(JVP) + \beta_{BRO}^{(VRS)}(BRO) + \beta_{SRA}^{(VRS)}(SRA) \quad [5.58]$$

$$\boldsymbol{y}_{DLP} = \beta_0^{(DLP)} + \beta_{RVN}^{(DLP)}(RVN) + \beta_{AST}^{(DLP)}(AST) + \beta_{EPY}^{(DLP)}(EPY) + \beta_{EXP}^{(DLP)}(EXP) + \beta_{JVC}^{(DLP)}(JVC) + \beta_{JVP}^{(DLP)}(JVP) + \beta_{BRO}^{(DLP)}(BRO) + \beta_{SRA}^{(DLP)}(SRA) \quad [5.59]$$

Model 1 shows that about 52.0% of the perceived impacts of variations/reworks/changes in scope of work was mitigated through interactive relationships between revenue and a BRO. The relationship is positive, meaning that mitigation of the perceived impact of variations/reworks/changes in scope of work increases as revenue and decisions to use a BRO also increase, and vice versa. Also, Model 3 also revealed that about 42.0% of the perceived impact of delays in payment and cash flow were mitigated by revenue. These models support Hypothesis 4f and established that the interactive relationships between resources the resources of SACCs and entry decisions made, mitigates the perceived impact of construction-related risks in the ACM.

Table 5.38: Regression analysis on mitigating the perceived impact of construction-related risks

Resources and entry decisions	**Construction-related risks**		
	Variations/reworks/changes in scope of works	Site/construction logistics/planning /management	Delay in progress payment and cash flow
	Model 1	**Model 2**	**Model 3**
Revenue	0**.535****	0.204	0**.403***
Assets	0.053	-0.611	0.288
Number of employees	-0.040	0.159	-0.256
Years of international experience	0.021	0.014	-0.277
Joint venture company	-0.574	0.331	-0.608
Joint venture project	0.454	1.331	0.494
Branch office	0**.507***	-0.817	0.293
Strategic alliance	0.014	-0.095	0.402
R	0.720	0.789	0.647
R^2	0**.518**	0**.622**	0**.418**
F change	1.882	1.027	1.258

*p < 0.10; **p < 0.05; ***p < 0.01

Based on the results obtained, Hypothesis 4 is accepted, because the six risks mitigation models tested show that the perceived impacts of the six categories of the significant risks were mitigated by the interactive relationships between the resources in SACCs and decisions made

to enter ACM. The perceived impacts of political risks was not mitigated by a relationship between resources in SACCs and decisions made to enter the ACM. However, the predictive powers of most of the models is high. Moreover, the perceived impact of the variables of other classes of risks (social, economic/financial, procurement-related, design-related and construction-related) was mitigated by interactive mediating relationships between the resources of SACCs and decisions made to enter the ACM. The predictive power of the risk mitigation models range from about 42.0% to 100.0%.

In conclusion, some of the research questions were answered; these include research questions 3, 5 and 6. The hypotheses tested were accepted; there are 4 main research hypotheses. Six sub-hypotheses were developed and tested for each of the Research Questions 3 and 5 and for Research Objectives 3 and 5, while eight sub-hypotheses were developed and tested to answer Research Questions 6, totalling 20 sub-hypotheses. The study found that out of the six sub-hypotheses tested to answer Research Objective 3; five hypotheses supported that relationships exist between the resources of SACC and significant risks encountered in the ACM except the economic/financial risks. From all the six sub-hypotheses tested to answer Research Objective 5, the study established that significant relationships exist between the perceived impacts of the significant risks and entry decisions made by SACC into ACM. Furthermore, from all the 8 sub-hypotheses tested to answer Research Objective 6, the study found that significant interactive mediating relationships exist between resources of SACC and entry decisions made which mitigated the perceived impact of risks in ACM, but the interactions could fail to mitigate the perceived impact of political risks in the markets.

5.7 SUMMARY

This chapter outlined the results of quantitative data analyzed in this study. These results to answer research questions and test research hypotheses, were obtained by using both descriptive and inferential statistics. The information obtained from the background profile assessment of the companies surveyed and their respective respondents, show that resources of a substantial number of SACCs are sufficient for foreign entry and operation. The construction services that SACCs have exported and are exporting into the ACM include general building, transport, water, power and waste water system. They operate mostly in Southern African countries like Mozambique, Botswana and Zambia, but they also doe work in East African countries like Tanzania and Kenya, and West Africa countries like Nigeria and Senegal. SACCs have encountered all categories of risks and a significant number of these risks

impacted on their decisions to enter the ACM, with political risks having the highest impact. The most effective entry mode used by SACCs to access the ACM is a JVP, followed by an SRA, a JVC and a BRO.

The suitability of the variables of the research constructs was determined by testing sample adequacy and appropriateness; data collected were shown to be adequate and significant. In addition, factor rotation was conducted to understand the underlying attributes of the variables employed in hypotheses testing and this provided guidelines in the selection of the right variables. The results of tests conducted on the variables selected reveal that a significant number of resources and capabilities, risks encountered and entry modes used, were found to meet the underlying selection criteria and were correlated. The results of hypotheses tested show that the resources of SACCs influence their perceived impacts of all categories of risks in the ACM, and the perceived impact of all the significant risks influences decisions made to enter the ACM. In addition, the resources of SACCs and decisions made to enter the ACM, relate and their interactive relationships mitigate the perceived impact of all categories of risks encountered in the ACM.

CHAPTER SIX–QUALITATIVE DATA ANALYSIS AND RESULTS

6.1 INTRODUCTION

This chapter presents results obtained from the analysis of the qualitative data collected. These data include the background profile of cases selected for interviews and analyses of their annual and financial reports. The presentation of data collected from multiple sources was structured according to the research constructs (resources, risks and entry decisions). The implications of applying qualitative data to the conceptual model developed were outlined. Convergences and divergences between the quantitative and qualitative data were drawn, as well as how data in this strand support the risk-based entry decision model proposed in this study.

6.2 ANALYSIS OF CASES: SEMI-STRUCTURED INTERVIEW

The selected cases for the qualitative data collection were four large-sized SACCs with significant experience, and registered on Grades 8 and 9 with the cidb. The first part of qualitative data were collected through semi-structured interviews conducted with either chief executive officers or senior managers in the selected companies (see Appendix E). Background details of the interviewees were presented earlier in Chapter Four (Section 4.7.2.2 and Table 4.8), and are further described in subsequent sections in this chapter covering the year of establishment, cidb grading, specializations, regions of operation, number of employee, and profile of the interviewees. Responses obtained in the semi-structured interviews were analyzed using NVivo software and extracts of significant risks, resources and capabilities, and entry modes used, were outlined from multiple sources. Earlier philosophical research employed a similar approach (Ling & Hoi, 2006; Awodele, 2012; Oyewobi, 2014).

6.2.1 Background information about the cases and interviewees

As presented in Table 4.8, the cases were leading construction companies in South Africa and have been in existence for more than four decades, except for company B which was only established in 1984. They all specialize in civil engineering and general building. Companies A and B are privately owned, limited companies while companies C and D are publicly owned companies. Company D has more than 14 000 employees, while the number of employees in both companies A and C are above 12 000. Statistics on number of employees in company B were incomplete. All the companies were and are active in the ACM with a higher presence in

SADC. Companies A, C and D also operate in countries outside Africa such as Abu Dhabi, Qatar, Eastern Europe and certain Indian Ocean islands. The five top–management personnel interviewed in these companies were a commercial director, two business development managers and two CEOs. For the purpose of presenting the results obtained, the interviewees from company A were labelled as R1 and R2, while those from companies B, C and D were described as R3, R4 and R5 respectively.

6.3 RESULTS FROM CROSS–CASE ANALYSIS

The results obtained from interviews conducted on the four cases were presented in tabular form and compared (refer to Table 6.1). The results are presented according to the three main themes that answered the Research Questions 1, 3 and 4 which addressed Research Objectives 1, 3 and 4 respectively. The three main themes – risks, entry modes; and resources – are fundamental issues that emanated from the background to the research problem (refer to Section 1.2) which formed the research aim and objectives (refer to Section 1.5). Moreover, in Chapter 3 these themes were developed into conceptual model, which were addressed in the quantitative analysis in Chapter 5. Comparisons were made between the results obtained from different themes, to ascertain areas of convergence, or discrepancies or both among the cases (Creswell & Plano Clark, 2011). There are also sub-themes under each of the main themes. The structures of the comparisons among the cases are outlined below:

i. **Risks** are comprised of country and project risks
    a. Country risks: consist of political, social, and economic and financial risks.
    b. Project risks: comprise of procurement-related, design-related and construction-related risks.
ii. ***Entry modes:*** include JVC, JVP, branch office/company and strategic alliances.
iii. ***Resources:*** include revenue, assets, number of employees and international experience.

6.3.1 Country risk

The results of country risks obtained cover political, social, and economic and financial risks. The selected narrations that support significance of these risks are presented in the subsequent sub-sections.

6.3.1.1 Political risk

Table 6.1 presents the results of the significant political risks encountered by SACCs when entering or conducting businesses in the ACM. The common themes among the cases include problem with the legislative framework/legal system, difficulty of doing business, political instability, restriction on the repatriation of funds/royalties/profits, corruption and cross-border delays in moving resources.

Some of the narrations from respondents supported common themes on the significant political risks in the markets and extracts of these were made. R1, while explaining the situation on political risks in the ACM stated that:

> *The biggest challenge in those countries is just the legislative risks, bonds and taking vehicles across the border.*

The opinion of R1 on the legislative system is further supported by the experience of R3, who explained the situation in Angola:

> *The legal situation in Angola is different from home country law because their legal is based on Anglo-Saxon system. It is easier to work in those counties colonized by the English than the Anglo-Saxon states because the dynamics are different in French or Portuguese colonized states within African states"*

R2, while comparing the legislative conditions in other African countries with those in South Africa, stated that:

> *I don't think those countries are quite regulated as we are and I think Mozambique gets a 10% or a 15% legislative constraints. The limitations might include the number of people you can bring in from outside countries like Mozambique. Namibia also has a very protective border and if you want to bring skills from outside, you have to recruit first locally, and prove that the skills are not available in the country.*

Table 6.1: Summary of theme and sub-theme of the findings on the risks encountered, the entry modes used and the resources, according to the respondents interviewed for the different cases.

	Companies			
Significant risks	**A**	**B**	**C**	**D**
Country risks				
Political	Market regulation and protection; legislative framework; cross-pollination; delays in cross-border; difficulty in doing business; local government requirements; political uncertainty; unstable government; corruption; excessive government intervention in business; discrimination against foreign companies; unsatisfactory administrative system; lack of institutional capacity; restrictions in repatriation of royalties or profits	Legal system and compliance; bribery and corruption; family relationships/nepotistism; difficulty in doing business; ease of cross-border movement of resources; bureaucracy	Delay in cross-border; bribery and corruption; difficulty in doing business; local content policies; restriction on repatriation of royalties	Restrictions in cross-border; political uncertainty; political issues in the country
Social	Social demands (school fees/bursaries); employment control; issuing of work permits; house rent; import and custom permit; personal relationships; safety requirements; terrorism or insurgencies; skills shortage; local content policies; attitude towards works; social benefit requirements; social mobility; staff turnover; loss of personnel; inadequate access to infrastructure; crime rate; theft; societal differences (nationality, colonialism, language, religious and cultural differences); geographical remoteness; outbreak of diseases/epidemics/bubonic plague	Geographical differences mixed-race; racial problems; poverty; language differences; working relationship; skill shortage; labour laws and requirements; insecurity/kidnapping	Terrorism/insurgencies; insecurities and high crime rate; societal differences	Insurgencies (bomb blasts); kidnappings, social safety and security
Economic and financial	Fluctuation in exchange rate; availability of market information; repatriation of profits; payment risk; client's ability to make payment; threat of non-payment	Payment default; no guarantee of payment; punitive tax system and agreement; payment terms/cash flow; exchange rate; repatriation of funds/profits	Payment default risks; exchange rate fluctuation; repatriation of funds; cash flow issues	Payment guarantee issues; loss of profits; payment uncertainty; financial stability; clients' ability to make payment

Significant risks	A	B	C	D
Project risks				
Procurement-related	Local content policies; tender laws; transformation rules; sources of funding/funders; competitors over-pricing of tender; cross-border allowance; medical cover	Pricing mechanism; procurement policies and rules; contractual procedures; engineering conditions; tendering procedures; environmental impact assessment; delay in award of contract; conditions of contract	Tender process; contractual procedure; feasibility studies; size of project; level of competition; tender market	Tendering and bidding process; negotiation process; procurement model
Design-related	N/A	N/A	N/A	Design perspective; architect perspective
Construction-related	N/A	Logistics; cross-border of resources; local dynamics; rainfall; window of construction	Cash flow issue; type of guarantee	Availability of resources (materials, plant and labour); sub-contracting
Entry modes	Joint venture; local companies/partners; branch office/company; a construction license; representative/an entity; full-time presence; strategic alliance with clients/developers; solicited support; networking; wholly-owned subsidiary; strategic map with colour codes (showing the threats in each country); strategic determination of means of access (air or sea); risk assessment framework	Joint venture; local partner/indigenous partners; local participation; partnership; wholly owned subsidiary; branch office/company; payment structure/advanced payment	Strategic alliance/merger and acquisition; regional office; fully established company; local presence; wholly owned subsidiary; unsolicited/solicited proposal; facilitators; ambassadors; local partner/local contractor; local developer; businessmen; entrepreneur	Strategic partnership with developers, consultants, clients and clients' partners; branch office; wholly owned subsidiary; local partner; home-based sub-contractors
Resources	N/A	Reasonable balance sheet; revenues/profits; overhead costs	Capacity and resources; competent staff; finance; methods of operation	Company assets (plants and equipments); human resources/employees

R3 also described the difficulty of doing cross-border business as one of the key political risks within the ACM:

> *Taking equipment across border is a major challenge in cross-border within African countries. Namibia requires a company to provide government with bond for equipment to cross-border. A company might need to buy equipment in Angola if wants to work there and probably leave them when contract is completed.*

R4 and R5 equally confirmed that foreign government systems are an issue in crossing border in Africa. R5 narrated that:

> *The knowledge of home country provide company with some bail out when there is difficulty in a contract at home. These are rare and might take longer time to come-by in overseas operation. In Ghana, a businessman said to us, don't work with government. Everyone (we) had one or two bad experience due to this kind of risk in Africa. Presently, Africa has become a place where the rest of the world is looking and the level of uncertainties in political system is huge.*

R2 described the words of a Nigerian minister at a tender meeting corruption issues in a tender meeting who stated that the following regarding corruption:

> *You South African contractors that are present here – do you think we are all drug lords and we will steal your money. We are not like that and we are desperate to have you guys here.*

R3 supported the comment on corruption by R2 when on corruption in Nigeria and Angola, he stated that:

> *Nigeria is a fantastic place – where a state government is trying to clean up its house to get rid of corruption but corruption is still massive. In Angola, somebody will say they will get contract for you because they have relationships with president's family. In my opinion, any contract that is based on a family relationship or nepotistic order than a clear-cut tender or a proper negotiation process is a corruption. If there is a fall out in that relationship where there is no contractual basis, the risk of payment is very high.*

R1 was described the challenges of the repatriation of profits and royalties and stated that:

Restriction in repatriation of royalties and profits obviously are quite important and a very key stage in cross-border operation and it does crop up.

6.3.1.2 Social risk

The results in Table 6.1 further present the common themes on the significant social risks encountered by SACCs in the ACM. These include geographical and societal differences — language, nationality, religious and culture; terrorism and insurgencies; crime rate; outbreak of diseases; local content policies — nationalization and border restrictions; and lack of social infrastructure — schools and health facilities. The respondents made some comments that support these risks in the markets.

R1 advised any South African company desiring to engage cross-border should:

...be prepared to fulfil social demands like payment of school fees/bursaries which varies from one country to another.

While explaining further on social challenges encountered in the ACM, R2 claimed that:

Company needs to ensure it gets the correct custom permit and considers employment control in those countries. Most jobs are localized and the number of expatriates you can bring from outside are limited (like 15%). It is also important to consider where to get a safe accommodation for personnel which sometimes take longer time.

R2 described the situation on social security and safety policies in Namibia and declared that:

There was an eye witness of a Chinese contractor who was using bamboo scaffoldings with ramp during a construction of a high-rise storey building in Namibia. The guys were working with double-wheelbarrows and running on bamboo when carrying bricks and concrete.

R3 gave an account of social security in Nigeria based on the experience of a relative:

My sister works occasionally in Nigeria and mentioned that although guided around with security men, but in one of her experience she described how she went for a run in the streets.

R2 gave a personal opinion on the recent insurgencies in West African states:

Impact of terrorism is simply high.

Supporting the opinion of R2, R5 opined on the insurgencies in Nigeria:

You can't exclude Nigeria if you want to operate in Africa. I had a previous experience on a project with international client in Abuja. It is hard to work there and suddenly there was a bomb blast and there was a kidnapping of 150 kids.

R1 recounted that the experience of his company was that there is lack of social infrastructure and insecurity in most of the African states:

Doing business is difficult in those countries because there are inadequate access to infrastructure and we often solve some of these problems by digging borehole to get water and procure generator for power supply. The crime rate/activities like theft is very high.

R2 and R3 explained the circumstances involving geographical and societal differences in some African states and the challenges faced while working in Guinea and Nigeria.

On a job we priced in Guinea, flying directly to Guinea is quite challenging and we have to fly to Paris first and then back to Guinea because it is easier and cheaper. The geographical remoteness is as much as a challenge as language and method of doing business.

In Nigeria, to establish a business is very complicated and challenging and we spent four years to get business established there and still trying to study the market.

Other social considerations for a country like Guinea are on how to get there, is it by sea or plane since you can't drive there. How would you get accommodation for your team, who does the cooking, are there clinics, are you providing mobile health facilities and do you have full-time paramedics on sites.

R3, while supporting societal differences in African states, said the following on nationalization and racism:

> *Differences in colour is a very serious social issue in Angola and the Angolans are very hostile to the white guys which is not a big issue back home in South Africa where we are multicultural, with many races (white, African, black, coloured and Indian).*

Further comments on societal differences were made by R2, based on experience in Mozambique:

> *Language remains one of the big barriers in Mozambique because the country stills operates Old Portuguese law which is very difficult. Officials at every point speak Portuguese which creates lots of breakdown in communication. To secure work permit and open a bank account is difficult – doing business there is very difficult.*

R3 also gave a supportive account of the language barrier in Cameroon and stated that:

> *Language barrier is even more difficult in French-speaking countries like Cameroon where the Cameroonians speak half French and half English. Speaking different languages create platform for more difficulties that might not be envisaged. This makes language to be a big barrier.*

Based on his company's experience when an epidemic broke out in Guinea, R2 related:

> *Whenever there is an outbreak of bubonic in Guinea and suddenly borders will be closed and flights will be cancelled.*

6.3.1.3 Economic and financial risk

The results on the economic and financial risks encountered by SACCs interviewed, are presented in Table 6.1. The common themes include payment risks, exchange rate fluctuations, payment guarantees and uncertainties, loss of profit and difficulty in repatriating funds, cash flow and payment term, and tax system. Some of the respondents narrated that they support the significance of these risks in the markets.

R2, referring to financial constraints encountered in cross-border markets:

> *In cross-border markets, projects will be faced with the risk of price and/or forex fluctuation, exchange rate which is quite tough in dollar-based contract where you need to do conversion from one currency to another. This reduces profit.*

On the level of economic information available about foreign market forecasts as significant risks, R2 explained:

> *There is lack of markets information in those countries and where information about those markets are to be used, they must be accurate and detailed. Some companies are trying to develop such information about the markets and are employed in most cases to do that.*

In describing the challenges faced on exchange rate and non-payment by clients in African markets, R3:

> *The challenges in Africa are not about how to build infrastructure like roads but the biggest risk is the exchange risk. A company will need to ask before crossing border when first payment is likely going to be paid because payment in most African states takes 90 to 120 days. Sometimes you might work for four or five months before being paid. Some markets give advanced payment or mobilization fees and in most case is based on negotiation that you will provide guarantees as a contractor.*

R3 shared his company's experience of the tax systems in Mozambique and Namibia:

> *On a project done for a private client in Mozambique, when we found out that it was too expensive based on extra factor which is up to 15% on tax and we were not paid. We decided to move out because there is valued-added tax that took all profit and our left-over couldn't cove the overheads. That was a loss.*
>
> *In Namibia, the country still operates old general sales tax or value added tax and if you are taking goods or resources across border, you might have to pay general sales tax in Namibia and value added tax at home country.*

R3 compared the tax systems of the Southern African Development Community to those of other African countries and stated that:

> *There is a bilateral tax agreement or double tax treaty between South Africa and Zambia and Mozambique where you don't have to pay tax twice but the situation in other African states is different where multiple tax systems might be applicable.*
>
> *In Angola, we can take machines in there but they are most likely going to stay there and in Swaziland, South African companies could take machines in and out and there is a particular tax that has to be paid.*

R5 further described payment challenges in African markets and stated that:

> *In Africa and even globally, you have to be careful of which countries you operate as a company because failure to be paid on a job might take away all the profits made in the good years in that particular market might be gone. The first issue is to know if you are going to be paid in that market. For us getting paid is the most important risk and the financial strength of whosoever clients you are dealing with in overseas markets is very important.*

6.3.2 Project risks

The project risks identified through the interviews conducted, were classified into procurement-related, design-related and construction-related risks. The results obtained are presented in the subsequent sections.

6.3.2.1 Procurement-related risks

The procurement-related risks that emerged include tendering and contractual procedures, bidding and negotiation processes, procurement policies and models, conditions of contract, the level of competition, pricing mechanisms and sources of funding. The significance of these risks in the ACM was narrated by the respondents.

On the influence of local content requirements on procurement policies in Mozambique, R1 and R2 explained that:

Consideration for local content policies in Mozambique is high. Mozambique gets localization requirements and charter on enterprise and supply issues. On some project and depending on who is the funder, local content policies give preference of up to 8% for the local markets participation.

R2 expressed how competitive the bidding procedures and requirements in African markets are:

Competitors in African markets are mostly from Asia and I believe they often overvalue projects where a project worth 20 million rand/USD is quoted as 50 million rand/USD. Their clever tricks are catching up with them in recent times.

His company's experience of the uncertainties surrounding the procurement process and payment in African markets was shared by R3:

In terms of procurement policies, countries like Namibia, Zambia and Mozambique are closed although easy to move in and out. But we always get scared during tendering as we go up the North Africa. We have priced in West African countries like Ghana, Gabon and Nigeria which are closer home, but we still get nervous. This is because we still think it is far from home and we don't understand the rules surrounding procurement.

Bidding process in Namibia, Botswana and Zambia are similar to our home experience but situation in Mozambique is a bit tougher. We receive lot of people from West African states but procurement system to us is a bit difficult. For example on a project in Namibia, we tendered and asked for extension of validity but they didn't grant it with more than 90 days waiting time. All the competitors were Chinese contractors who came with different tender figures, some were half our price while others doubled our price. We later had a fight on the tender complexity and we were awarded the contract but they refused to mobilize and we couldn't start project. The award was like a year after tender and the tender price was still the same after a whole period of 18 months. We gave an escalation in prices (about 10% of our turnover) but we still don't know if we are going to be paid. Payment conditions in the conditions of contract we provided is that we should be paid from day one of the project and first 5 months is gone and we haven't been paid the first month.

R4 also shared his company's experience of procurement in African states and said narrated that:

> *We have done power plant in Nigeria and signed new one in Ghana. We have actually entered into those projects through negotiated tendering and they are mostly turn-key projects where you design, procure and probably finance. Bringing in finance is what Chinese contractors often do through home governments' support, now they are in Kenya for geothermal power projects and everywhere all over African markets. To us, one of the major challenges is the development cost where you spend almost two years chasing a project which might not materialize. We sometimes walk away because of development cost.*
>
> *Aside development cost, another major challenge is to provide clients with guarantee on project and that is what most African states request, should in case project fails. That always takes up to 10% of contract value which is massive. What gives us leverage presently in African states is that we have gotten out of tender market to development market because to be honest we are scared of tender market because the competition game is very keen and obscure.*

Similar views on the procurement challenges confronting companies within African states were shared by R5:

> *Our experience on procurement processes are mixed, sometime we tender and it might be negotiation. In most cases, the process is through tendering but you negotiate where you have relationship either with clients or a local contractor in the markets. Negotiation gives some level of certainty on the project and eliminate early risks on project. This is why we will like to negotiate in the markets. So it's a risk mitigation that you will turn to a negotiated solution with a client.*
>
> *The competition is keen on African projects. For example, the liquefied natural gas in Mozambique which is one of the biggest capital projects ever in Africa is experiencing a high level competition due to the presence of the multinational construction companies (Vetel) from America.*

6.3.2.2 Design-related risks

From the interviews it transpired that design-related risks were connected to the action or the inaction of the design team. The significance of these risks in the ACM was narrated by the respondents.

Based on experience of design-related risks, R5 recounted:

> *Our experience in Ghana on design risks shows that there are uncertainties that surround and emanate from design processes and design team respectively.*

R3 shared a similar experience of design risks in African markets:

> *Failure to understand the chain of contract might pose great threats in the markets and this has to start from design through to design approval, design advertising and to site inspection. Hurdles at each of the stages must be identified. For example in Namibia, the design on a project was completed 18 months before tender and award and that doesn't represent an efficient process.*

6.3.2.3 Construction-related risks

The construction-related risks that emerged from interviews include the availability of resources, cash flow issues, the movement of resources across border, logistical problems, the construction window dictated by weather and the types of guarantee. The significance of these risks was supported by some of the respondents during the interviews.

Experience of construction-related risks encountered within African states was shared by R5:

> *"Whenever we go out to work in African states, we often take our plant but find labour and some resources (stone and aggregate) there and this makes civil side easier in Africa. But we often have worries towards building projects where you might need to procure/outsource air conditioning and sprinkler, electrics and shop-fronts because the project requirements in that respect might not be available in the host country market. This poses threats in many ways and that makes our building experience in African states to be limited.*
>
> *Once we get a project negotiated for civil side, the next major challenge is to establish where to get materials like stone, cement and can we get them locally or have to be*

procured outside the host country market. Each country has different entry modes which poses different degree of threats.

R3 explored the possible constraints that are likely to emanate prior to and during construction projects in African states:

The problem might not be more with actual construction because that is why we are there but how to get the required resources for project and associated logistics is a big issue. On a project in Luanda at Kenya, our guys there are struggling on how to get cement and generator to work in one of what is said to be the fastest growing cities in Africa. We have to export cement from South Africa to the market.

Window of construction also differs across African states. In Cameroon, the highest rainfall is sometimes like 7000 which is seven metres of rain in some areas. You probably going to have a window of half of a year for construction in Cameroon and heavy rainfall for the remaining half. Different countries have different peculiarities.

6.3.3 Entry modes in the markets

The views of the respondents on the topic of entry decision models are given in Table 6.1. These results show that the entry modes most widely used by SACCs to access the ACM were joint ventures, branch offices, strategic alliances and representative offices. Other entry modes used but not found in the literature are solicited/unsolicited support and the use of facilitators like ambassadors, professional consultants, businessmen, entrepreneurs and home-based developers. The respondents provided narratives that support how these entry modes assisted SACCs to mitigate the perceived impact of risk in the ACM.

R1 and R2 established that regardless of the magnitude of risks in a particular market, the correct choice for an entry mode is a mitigating tool for any firm entering the international market. Narratives supporting these opinions were provided:

Currently, crossing borders within Africa is challenging but what we do is that we joint venture with local guys in countries like Mozambique. This is because the local partner provides us with local advantages.

Mostly in SADC countries, we open a branch office in each country or operate based on construction license or as a registered entity. For example in Angola, Lesotho, Tanzania, Kenya, Sierra Leone and Nigeria we operate as a registered entity. But in Swaziland, Mozambique, Namibia, Botswana, and Zambia we have a full-time presence.

Sometimes we follow clients to work in some countries like Congo, Sierra Leone. Some of them usually come to us as South African contractors. Most times we screen those clients vigorously to understand whether they are going to be clients that pay, their sources of payment and frequency of payment. We have also had a case of a South African based contractor who secured contracts in Botswana and came to us about 2 or 3 times and we entered those countries through their networks. Leveraging on those partners networks provides huge edge to us in some of the markets.

In a similar experience in Mozambique in the middle of 90s, we partnered with a local contractor and we later bought the company and it is now a wholly-owned subsidiary of South Africa's company.

R1 shared his company's experience on the significance of making how it becomes significant to make strategic decisions when accessing African markets in order to mitigate the perceived impact of risks:

Our decisions are always strategic. There is a map on our corridor that provide us information about risks in a particular country or region. It shows where risks is high or low and this is done by using different colour codes. That is first point of consideration in the process of making a strategic entry decision into a particular market. We often reject any red coded country meaning that level of threats there is huge.

How a company can strategically mitigate the perceived impact of risks in African construction markets was explained by R3:

Risk is best managed in those countries if you can joint venture with local guy who can make life easier for the foreign firms. Such partnerships increase knowledge and trust about any markets. Different partnership requirements exist in different countries and

this is up to 50% in North Africa. Among reasons to joint venture with local partners are to protect our balance sheet and resources (plant and people). We have been to Cameroon and Namibia, we partner with local guys. The share in partnership sometimes depends on type of funders like World Bank and IMF who will give consideration to local content policies. The joint ventures we have in those countries increase our confidence to go there and tender for project because we have existing relationships with local partners.

Going up North of Africa, we have to register a company in form of branch office. We had registered a company name in Gabon. The strategy in African states are that we register branch head office in each of the countries or hold shares in the registered companies there. The arrangements reduce risk on tax payment, exchange rate, registration, labour legislation and banking requirements. These possibilities also encourage expatriate companies to start thinking as locals and this makes operations to become better.

In most of our partnerships and for example in Namibia, on our civil projects we take our core guys like foremen, key supervisors and key charge-hands and the rest of labour requirements are locals. This is more cost effective and the locals are trained to upgrade their skills. In a joint venture with a Namibian partner and to protect us the contract conditions, we opened bank account in the joint names of the partners.

The entry modes often adopted to mitigate the impact of payment risk in African markets was further shared by R3:

We always put guarantee structures in place against uncertainties surrounding payment and this often will be in forms of advance payment or mobilization fee. This helps us to have cash in the country and minimize risks from inflation, exchange and tax rates if funds to be used on projects have to come from home country.

Similar company experience of managing risk in the market was recounted by R4:

Our strategy to cross-border is usually to joint venture or buy a local company. Sometimes company policy were tending towards going to the markets based on projects but we are moving towards establishing regional office. I keep on advising the group that 90% of the issues in overseas markets could be addressed by our presence

in the markets. This is evident on a project in Zimbabwe where different private clients started approaching us for contracts and this becomes possible because we are a fully registered company in Zimbabwe.

Sometimes we make unsolicited proposals to the markets based on demands. For example if Uganda would accept our unsolicited proposal to build a dam or power plant, we would be glad to put in unsolicited proposal once legislations/formal approval on such projects are in place. We have likewise received solicited proposals based on what government wants probably because the project is prime and urgent.

We have accessed some of the markets through facilitators here in South Africa. Most confirmed to have relationships with government officials or relations of the politicians or their associates. They fly to every countries to establish relationships and come back to say, I have met with the president or president's relations and I have gotten you a project. By our experience, we know this is risky and not contractual and what we do is to do a filtering but sometimes their offers appear to be amazing. We got a concession in Democratic Republic of Congo (DRC) in recent time but in most cases it is a waste of time.

Similar entry strategy is through South African ambassadors. Although this also poses threats as some ambassadors are not active or have personal agendas or someone to promote. To be honest, joint venture with local partner is most realistic for African markets. We also do this with local investors and businessmen in construction sectors who want to grow business but lack the kind of capabilities we are bringing as multinational companies. They always believe they will learn and grow in partnerships and ventures.

As a policy, we are envisaging a Group in Ghana, a Group in Kenya and a Group in Uganda. I guess the end result would be a Ghanaian MD running that particular market and the likes.

R5 also narrated how the company has mitigated the impact of risks in African markets through a suitable strategic entry decision:

It is evident that all African markets including South Africa got challenges in term of easiness in entry and doing business. Ghana appears to be safer than our home country and our eyes are on Nigeria as the largest economy in the continent but great caution is required in accessing any of the markets. We have followed developers and found that there is lesser risks using that approach. The developers are either our clients or their partners, consultants and that partnership or joint venture reduces the amount of risks.

Sometimes getting a partner might pose risks because some partners turn out to be what you do not expect and let you down. We have a partner like Brewery in Nigeria at the moment and same with Westport in Ghana who is a developer and some South African developers who are working across border within Africa. We also set up a branch office in Ghana and follow the rules by paying tax like local companies.

6.3.4 Resources

Table 6.1 also presents results on resources and capabilities that are required for MNCCs to achieve success in foreign markets. The significant resources and capabilities identified by SACCs include revenue, assets and number of employees. The respondents supplied some narratives in support of how significant these resources are for cross-border operations in the ACM.

The significance of resources was highlighted by R3, who drew attention to the balance sheet:

Any company going into the markets without having a reasonable balance sheet are only risking working in African markets and how reasonable the balance sheets are is relative to individual company.

R4 gave support to the opinion of R3 on why capacity becomes significant in cross-border construction:

It is catastrophic going across border without having capacity. Confusions are going to set in when a company is trying to develop capacity with project, as this ought to be developed before thinking to cross-border. Sometimes games may go well by putting qualified local partners on significant positions on project. Because the resources

demand by most local partners in those African countries are not as much as ours from South Africa and this provides us more opportunities in the markets.

R4 also dispensed strategic advice to SACCs intending to cross borders into other African markets when he said:

You'd better be sure that you can play in your home country before you go and operate across border. Assets requirements in the markets is enormous, in our road and earthworks projects we take plant and equipment along and even in the building works, any key equipment we can't get in the markets we will take them with us. For example like tower crane, we can get it in Zambia, Mozambique and Ghana but in most other places we bring them along.

Hence, the results obtained from interviews conducted provide answers to Research Objectives 1, 3 and 4 and established that there are significant risks in the ACM; that SACCs made strategic entry decisions to mitigate the perceived impact of risks in the ACM; and that substantial resources needed by large SACCs to operate in foreign markets and that particularly in the case of the ACM, these resources are revenues, assets, number of employees and sufficient knowledge of international markets.

6.4 ASSESSMENT OF CONTEXTUAL DOCUMENTS OF THE COMPANIES

In order to further explore the experience of each of the four large–sized construction companies selected as cases, their annual and financial reports for the past 10 years (2005–2015) were examined to seek answers to Research Questions 1, 3 and 4 and address Research Objectives 1, 3 and 4. Information obtained from the review were the year the companies were established, areas of specializations, registration grades on the cidb Register, geographical presence, risks encountered in foreign markets and strategic entry modes used to access the ACM (Table 6.2.). The resources (revenue, assets, and number of employees) of the companies were also examined (Section 6.5). The data obtained from the archived information are presented in Table 6.2, agree with the themes that emerged in the cross-case analysis (Table 6.1) and findings from the quantitative data (Chapter 5).

6.5 RESOURCES OF THE CASES FROM DOCUMENT ANALYSIS

Aside from the data summarized in Table 6.2 that were obtained from the analysis of the contextual documents of the selected cases, the resources (revenues, assets, and number of

employees) of the cases were examined. Table 5.1 (Section 5.2.1) had earlier presented the results obtained of the resources of SACCs surveyed. However, further examination on how the cases behaved over a period of ten years was made. The results presented in Table 6.3 show that the revenues of company D, C and A are high respectively over the years investigated. The revenue of company B was below a billion rand although its values in recent years were not available.

For companies A, C and D whose data were available for recent years, the values of their revenues ranged from 2.6 to 25.8 billion rand. For ten years period, the average revenue for company A was 7.4 billion rand; and 9.63 and 14.2 billion rand for companies C and D respectively. These values are equivalent to US$ 539.065 million, US$ 726.244 million and US$ 1.068 billion for companies A, C and D respectively. These are higher when compared with the total revenue of the top 250 international contractors in 2014 as ranked ENR list (Reina and Tulacz, 2015). However, company D has the strongest financial base followed by companies C, A and B.

The results in Table 6.4 show that the assets in companies D, C and A were high over the period investigated. For companies A, C and D whose data for recent years were available, the values of their assets range from 2.3 to 13.4 billion rand. In a period of ten years the average values of the assets for company A, C and D were 5.6, 7.8 and 8.3 billion rand respectively. These values are equivalent to US$ 418.929 million, US$ 590.724 million and US$ 626,244 billion for companies A, C and D respectively. Company D has the highest assets base followed by C and A respectively.

Results of the number of employees (Table 6.5) in these companies show that only data from company C was complete (except for 2013), while data for other companies were either incomplete or not available. An overall assessment shows that the resources (revenues and assets) in companies D, C and A are in order, and are sufficient and adequate for decisions to enter foreign markets and operate in these markets, while number of employees in company C were sufficient based on information available.

Table 6.2: Summary of contextual data obtained from the documents of the selected cases examined

Company	History	Specialization /past projects	cidb Grading	Geographical presence	Risks encountered	Entry modes
A	Established in 1971; listed on JSE in 2007	Structure; infrastructure; roads & earthworks; building; mining; oil & gas; water; sanitation; industrial plants; transport; mechanical & electrical	9CE; 9GB	SADC; Zambia; Sierra Leone; Zimbabwe; Dubai; Abu Dhabi; Qatar; Oman	Delays in contract award; contract cancellation; excessive rainfall; availability of local workforce; staff skills and training	Subsidiaries; JV companies; JV projects; mergers & acquisitions
B	Established in 1984		8GB; 9CE; 9GB	N/A	N/A	N/A
C	Established in 1974 and listed on JSE in 1978	Building; roads; oil & gas; power; airport; civil; manufacturing; mining; industrial; concession; port; maintenance	9CE; 9GB	SADC; Ghana; Malawi; Mali; Mauritius; Nigeria; Swaziland; Zambia; Cameroon; Gabon; Congo; Congo DR; Uganda; Kenya; Libya; Egypt; Morocco; Bangladesh;	Foreign currency; interest rates; safety; HIV/AIDS; claims/disputes; policy changes; double/multiple taxation; cash flows; social changes; regulatory risks; skills shortages; insurance; health and safety; legal and statutory risks; taxation; supply chain/logistics, construction risks; inaccurate estimating; plant & equipment; registration; licensing requirements; labour regulations & legislations; social security; medical aids; employee skills; loss of profits; profit repatriation; compliance risk; pre-contract awards; political uncertainty; red tape/legislative bottlenecks; inflation; funding arrangements; competition; weather conditions; shortage of resources; scope changes; technology issues; personnel qualifications; conditions and terms of contract; bureaucracy;	JV projects; JV companies; subsidiaries; associates; concessions

				Hungary; India; Saudi Arabia; Iraq	corruption; availability of sub-contractors; environmental regulations; contract delays; malaria; regulation challenges/requirements	
D	Established in 1970 and listed on JSE in 1994	Building; civil engineering; industrial; energy; mining; roads; railways; water; oil & gas; concessions	9CE; 9GB	SADC; Zambia; DRC; Sierra Leone; Guinea; Tanzania; Ghana; Australia; Middle East; Eastern Europe; Indian Oceans Islands	volatile rand; shortage of skilled staff; industrial actions; political instability; contracting with unreliable parties; project risk/site management; health & safety; quality & environmental issues; non-compliance with laws & regulations; skills challenges; markets conditions; construction materials; labour; skills retention; increased competition; funding obligations; poor safety records; legal compliance; rainfall intensity; coastal system/increase in sea level; cash flows; credit risk; interest rates; market risk; currency risk; fair values; arbitration	Turnkey projects; engineer procurements; construct projects; partnering; Concession management; PPPs; JV companies; JV projects; mergers & acquisitions; subsidiaries; partnerships; strategic partnerships

Table 6.3: Revenues of the selected cases (2005-2014)

	Companies (billion rand)			
Year	**A**	**B**	**C**	**D**
2005	-	-	4,939	4,765
2006	-	58	5,865	5,795
2007	-	82	7,689	8,128
2008	2,570	128	8,900	10,784
2009	6,317	226	12,090	14,769
2010	7,417	264	11,338	15,201
2011	8,998	-	9,207	14,767
2012	8,068	-	9,805	17,893
2013	9,057	-	11,131	23,773
2014	9,498	-	15,340	25,777
Average	**7,418**	**151.6**	**9,630**	**14,165**

1 US$ = 13.26 ZAR (Accessed October 12, 2015)

Table 6.4: Total assets of the selected cases (2005-2014)

	Companies (billion rand)			
Year	**A**	**B**	**C**	**D**
2005	-	-	2,867	2,291
2006	-	217	4,904	3,008
2007	-	318	6,888	4,248
2008	4,371	398	9,250	7,958
2009	5,024	645	10,373	9,608
2010	5,027	596	9,950	9,358
2011	5,604	-	7,771	9,492
2012	5,991	-	7,589	11,342
2013	6,571	-	8,804	12,337
2014	6,298	-	9,933	13,398
Average	**5,555**	**434.8**	**7,833**	**8,304**

1 US$ = 13.26 ZAR (Accessed October 12, 2015)

Table 6.5: Number of employees of the selected cases (2005-2014)

	Companies (thousand)			
Year	A	B	C	D
2005	-	-	10565	7217
2006	-	-	10234	-
2007	-	-	13928	-
2008	-	-	13453	-
2009	-	-	14050	-
2010	-	-	10287	-
2011	-	-	11440	4892
2012	-	-	10414	-
2013	-	-	-	11916
2014	11421	-	14485	-
Average	**11421**	**-**	**12095**	**8009**

The results obtained from the document analysis also answers the Research Objectives 1, 3 and 4 and established that SACCS have sufficient experience in the construction business, enabling them to contribute to the delivery of infrastructure projects in selected regions of Africa. It was also established that SACCs encountered some significant risks in the ACM and had made strategic entry decisions to mitigate the perceived impact of risks in the markets. The resources of SACCs operating in the ACM were examined and found to be sufficient for operation in foreign markets.

6.6 IMPLICATIONS OF THE QUALITATIVE ANALYSIS ON THE CONCEPTUAL MODEL

The results from the qualitative strands provide practical and in-depth knowledge of SACCs operating in the ACM. To a large degree the findings agree with the theoretical foundation upon which the conceptual model is developed (Chapter 3). The practical experience of each of the selected cases with regard to the ACM, agreed with quantitative results and provided additional information that is probably specific to the markets. The significant risks encountered by SACCs and entry modes used to access the ACM in the quantitative strand, were similar to the experience of each of the selected cases. This shows that a risk-based entry decision model developed through quantitative data and based on the perceived opinions of the study population, agrees with the functioning of the market processes as experienced by construction industry experts.

6.7 CONVERGENCE AND DIVERGENCE BETWEEN THE QUANTITATIVE AND QUALITATIVE RESULTS

In order to establish the level of convergence and divergence among the two sets of data, a comparison was made between the findings obtained based on the research constructs (risks perception, entry decisions and resources). The findings on significant risks from both strands of data significantly agreed, meaning that SACCs operating in the ACM encountered those risks, and that they impact on their ease of entry and successful operation in the markets. Yet, the qualitative findings provided some divergences that were not accommodated in the quantitative data. This is an advantage that a convergence mixed–method research design will provide because data were collected concurrently from multiple sources.

However, significant political risks encountered in the ACM and identified in this study, but not commonly occurring in the literature or listed in the quantitative strand, include cross-

pollination and nepotism. Other social risks identified were social demands (payment of school fees and bursaries), family relationships, geographical differences, multiracial, geographical remoteness, outbreaks of diseases (malaria, bubonic plague and HIV and AIDS), availability of medical facilities, environmental regulations and protection, window of construction (excessive rainfall intensity) and coastal system or increase in sea level. The additional economic and financial risks identified were payment guarantees, sources of funding, and funding obligations. Other significant procurement-related risks were environmental impact assessments, feasibility studies, the nature of tender market and contract cancellation. Significant design and construction-related risks include historical features and window of construction (period of rainfall).

The second construct of the risk-based entry decision model is the entry modes employed by SACCs when assessing the ACM. The findings from both strands agreed, which implies that SACCs established partnership and joint ventures with local partners, opened branch companies and made other strategic alliances in order to mitigate the perceived impact of the significant risks in the ACM. Other strategic entry modes used by SACCs, but not identified in the quantitative strand, include: construction licenses; strategic alliances with clients, developers, consultants and the clients' partners; solicited support; unsolicited proposals, contractual arrangements like concessions, public private partnerships; facilitators like ambassadors, and businessmen and entrepreneurs. These entry modes are all forms of strategic alliance.

6.8 SUMMARY

The findings from the qualitative data indicate that there are significant risks that influence the ease of entry of SACCs into the ACM. However, SACCs have adopted different entry modes to mitigate the perceived impact of risks encountered in the markets. These findings were established through the development of themes and sub-themes and this was followed by a cross–cases analysis of the data collected from the selected cases using multiple sources (interviews, annual and financial reports). The findings established that the variables of the constructs of a risk-based entry decision model developed adequately converged with the result from the qualitative data. Yet, there was little divergence in risks encountered and entry modes used to mitigate the perceived impact of these risks in the markets, but they were adequately covered by other variables of quantitative strand that were used in the risk-based entry decision model developed.

Further assessment indicates that the financial and human resources of the cases interviewed and whose reports were assessed were adequate over a period of 10 years. The results obtained from the qualitative data showed that the risk-based entry decision model developed was adequately supported by the experience of SACCs operating in the ACM. This means that the model represents how the perceived impact of risks that was informed by the level of resources and capabilities in SACCs influenced decisions to enter the ACM. Similarly, significant interactive relationships between the resources and entry decisions made, mitigated the perceived impact of risks and enhanced ease of entry into construction markets in Africa.

CHAPTER SEVEN–VALIDATION OF CONCEPTUAL MODEL

7.1 INTRODUCTION

This chapter presents the results of the validation of the conceptual model for a risk-based entry decision (Chapter 3). The model was validated using the PLS-SEM technique. The results of the model were assessed using four main categories, namely the measurement or outer model which examined the relationships between the latent variables and manifest variables also called observed indicators or measured variables. The second stage was the assessment of the structural or inner model which established the significance of the links between latent factors and was followed by the development of the structural equation of the paths. In conclusion, the path coefficients of the model were estimated, which determined the predictive power of the model.

7.2 THE DEVELOPMENT OF THE MODEL

In order to develop a strategic risk-based entry decision model into the ACM, the study employed a mixed–methods approach in data collection and analysis. The research variables were established through a review of the extant literature on the ICM, and a conceptual model was developed (Chapter 3). Data were collected and analyzed using appropriate research methods (Chapter 4) and the results were presented in Chapters 5 and 6 of this study. The results of the quantitative analysis (Chapter 5) revealed the significant risks in the ACM and entry modes that were appropriate in mitigating the perceived risks. A series of hypotheses tested, showed that the resources of SACCs influence their perception of the significant risks in the ACM and the perceived impact of risks influence entry decisions made into the markets. Significant relationships which mitigate the perceived impact of risks in the ACM, also exist between the resources of SACCs and entry decisions made.

This was followed by an analysis of the qualitative data collected through semi-structured interviews conducted with the top management of four large-sized construction companies in South Africa, as well as the assessment of contextual documents from their companies; these senior managers all had significant international experience in the ACM. The results from both strands of data significantly converged, but there were slight divergences of the significant risks encountered and the entry modes used. However, quantitative data were used to validate the conceptual model.

7.3 MODEL ANALYSIS AND FITTING USING PLS-SEM

The fitness of this model was tested using the PLS-SEM technique. PLS-SEM tested the strength of the independent variables in predicting the dependent variables. It also established the relationships that exist among the manifest variables and how these relationships influence latent variables. The model developed was validated and fitted using three quality criteria: the measurement model, the structural model and structural regression equations. Details about a risk-based entry decision model developed were reported based on the PLS-SEM quality criteria.

7.3.1 Model validation: assessment of the measurement model results

The study employed SmartPLS (version 2.0 M3) software in conducting the PLS-SEM analysis. Prior to conducting the analysis, all structural relationships among the constructs were developed into conceptual models, and tested by hypotheses that had been previously outlined, and with indicators highlighting each of the constructs. The measurement model was assessed using a PLS algorithm which sets the inner weighting (Chin, 2010) and 300 iterations with item loadings, and discriminant validity. The essence of the measurement model was to establish the behaviour and reliability of the manifest. The reliability testing were used to measure the psychometric traits of the items (Chin, 2010; Henseler, Ringle & Sinkovics, 2009; Elbanna, Child & Dayan, 2013). In order to establish the internal consistency reliability of the model, average variance extracted (AVE) and composite reliability of the model were assessed (Table 7.1).

The results obtained were robust because the AVE for each construct exceeded 0.5 (ranges 0.54 to 0.98) which aligned with set guidelines (Fornell & Larcker, 1981; Al-Gahtani, Hubona & Wang, 2007); the only exception was CAP with an AVE value of 0.42. The results of composite reliabilities were highly satisfactory, compared to the threshold value of 0.70 as recommended by Nunnally (1978); the only exception was CAP with reliability value of 0.55. The results of the test conducted to determine the discriminant validity of the model and inter-correlation among constructs are reported in Table 7.1. The results indicate that all elements in the diagonal matrix measured high above off-diagonal elements in their corresponding roles and columns; the diagonal values are the square roots of the AVE (Al-Gahtani et al., 2007). Chin (2010) stated that a discriminant validity of above 50% variance is acceptable.

Table 7.1: Discriminant validity measures and inter-correlations among constructs

	AVE	Composite Reliability	CAP	CRR	DRR	EFR	EM	PR	PRR	SR
CAP	0.42	0.55	**1.00**							
CRR	0.54	0.77	0.00	**1.00**						
DRR	0.58	0.73	-0.02	0.53	**1.00**					
EFR	0.98	0.99	0.37	0.07	0.11	**1.00**				
EM	0.76	0.92	-0.01	0.55	0.49	0.20	**1.00**			
PR	0.88	0.96	0.39	0.12	0.05	0.96	0.24	**1.00**		
PRR	0.54	0.69	0.03	0.19	0.23	-0.01	0.22	-0.02	**1.00**	
SR	0.98	0.99	0.36	0.03	0.04	0.98	0.18	0.96	-0.05	**1.00**

CAP-capabilities; CRR-construction-related risk, DRR-design-related risk; EFR-economic and financial risk; EM-entry mode; PR-political risk; PRR-procurement-related risk; SR-social risk.

Table 7.2 presents the number of indicators of each of the constructs included in the model and the descriptive statistics (average mean score) of the indicators. Convergent validity was also tested by extracting factor and cross loadings of all indicators to their latent constructs (Table 7.3). The loadings and cross-loadings of the factors range from 0.56 to 0.99 which is quite high; excepting EXP (years of international experience) which has an inverse loading (-0.4154). The results were satisfactory based on Fornell and Larcker's (1981) view that a loading value of 0.70 for each indicator is adequate, the results were satisfactory. Chu et al. (2004) recommend that small and insignificant factor loadings of latent variables are to be removed. The present study considered a factor loading of 0.50 (Hulland, 1999) as the benchmark and any indicator with lower value was excluded (Chin, 2010). The result showed that a significant number of indicators had high factor loadings and all constructs shared more variance with their respective indicators. In terms or reliability and validity, this makes the model acceptable in predicting the relationships between the constructs of the model.

Table 7.2: Descriptive statistics of the constructs

Construct	Number of indicators	Average mean score
Capabilities (CAP)	4	2.72
Entry modes (EM)	4	3.57
Construction-related risk (CRR)	3	3.11
Design-related risk (DRR)	2	3.27
Economic/financial risks (EFR)	2	4.11
Political risks (PR)	3	3.64
Procurement-related risks (PRR)	2	3.32
Social risks (SR)	2	3.51
Total	**22**	

Table 7.3: Factor loadings and cross loadings for measurement (outer) model

	CAP	EM	PR	SR	EFR	PRR	DRR	CRR
AST	0.70							
EPY	0.77							
EXP	-0.42							
RVN	0.64							
JVC		0.95						
JVP		0.57						
BRO		0.95						
SRA		0.95						
CLR			0.96					
RRF			0.97					
RT			0.89					
SCD				0.99				
CRR				0.99				
PR					0.99			
DPY					0.99			
CPD						0.87		
ACC						0.56		
DRP							0.85	
SKE							0.66	
VRS								0.53
DLP								0.84
SCL								0.79

AST: assets; EPY: number of employees; EXP: years of international experience; RVN: revenue; BRO: branch office/company; JVC: joint venture company; JVP: joint venture project; SRA: Strategic alliance; CLR: changes in host government's laws, regulations and policies; RRF: restrictions on repatriation of funds; RT: red tape/legislative bottleneck; SCD: social disorder/instabilities (strikes, riots, labour unrests, wars/insurgencies, outbreaks of epidemics); CRR: crime rate/social instability; PR: payment risk; DPY: delays in payment/shortage in payment; CPD: contractual procedures; ACC: ambiguity in contractual conditions/requirements; DRP: diffused responsibilities among design consultants/team; SKE: skills and experience of the designer company; VRS: variation/rework/change in scope of work; DLP: delay in progress payment and cash flow; SCL: site/construction logistics/planning/management

7.3.2 Model validation: assessment of the structural model results

This section presents the result of structural model obtained from a PLS bootstrapping analysis with 100 cases and 200 samples (i.e. 300 resamples) in the iteration. The results of measurement model show that the psychometric attributes of the model are suitable (Tables 7.1 and 7.3). The essence of the structural model is to demonstrate how endogenous latent variables are linked together. The result of structural model obtained and shown in Figure 7.1 agrees significantly with the conceptual model (Chapter 3). According to Chin (2010), the predictive strength of a structural model should be evaluated by the R^2 values of the endogenous constructs. The standardized path coefficients (R^2) of a structural model should be

at least 0.2, and preferably greater than 0.3 according to Chin (1998), while from other studies a recommended value of 0.10 is advocated (Falk & Miller, 1992; Elbanna et al., 2013).

The R^2 for most of the endogenous constructs of the structural model were acceptable (Figure 7.1). The major expectations from the structural model in this study are the paths that are associated with the constructs of risk perceptions and entry decisions. The next significant stage in structural model is testing the statistical significance of the PLS-SEM paths. To achieve this, the bootstrapping technique of the Smart PLS package was used to process 300 resampling in order to determine the t-statistics value which measures the level of significance of the paths. The results obtained are presented in Table 7.4 and further modelled in Figure 7.2; the majority of the path coefficients were significant. Nandakumar (2008) advised that a path coefficient is significant if its t-value is greater than 1.96 ($p \leq 0.05$), but when the t-value is greater than 2.576 it is critical ($p \leq 0.01$). Only 2 paths met this condition probably due to the sample size in the present research. However, the study explored the t-values of 1.645 ($p \leq 0.1$) and 1.282 ($p \leq 0.2$) in order to increase the significance of the model.

Table 7.4: PLS path modelling results with the path coefficients

Resources, risks and entry modes	**Original Sample (O)**	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**Standard Error (STERR)**	**t-Statistics (|O/STERR|)**
Capabilities → construction-related risks	0.01	0.04	0.12	0.12	0.04
Capabilities → design-related risks	-0.02	0.01	0.13	0.13	0.14
Capabilities → economic/financial risks	0.37	0.27	0.27	0.27	1.36
Capabilities → political risks	0.39	0.29	0.27	0.27	1.41
Capabilities → procurement-related risks	0.03	-0.02	0.16	0.16	0.17
Capabilities → social risk	0.36	0.26	0.27	0.27	1.35
Capabilities → entry modes	-0.09	-0.05	0.11	0.11	0.86
Construction-related risks → entry modes	0.34	0.34	0.10	0.10	3.52
Design-related risks → entry modes	0.30	0.30	0.10	0.10	2.98
Economic/financial risks → entry modes	-0.47	1.17	12.48	12.48	0.04
Political risks → entry modes	0.49	0.56	0.35	0.35	1.39
Procurement-related risks → entry modes	0.11	0.11	0.09	0.09	1.23
Social risks → entry modes	0.19	-1.52	12.47	12.49	0.02

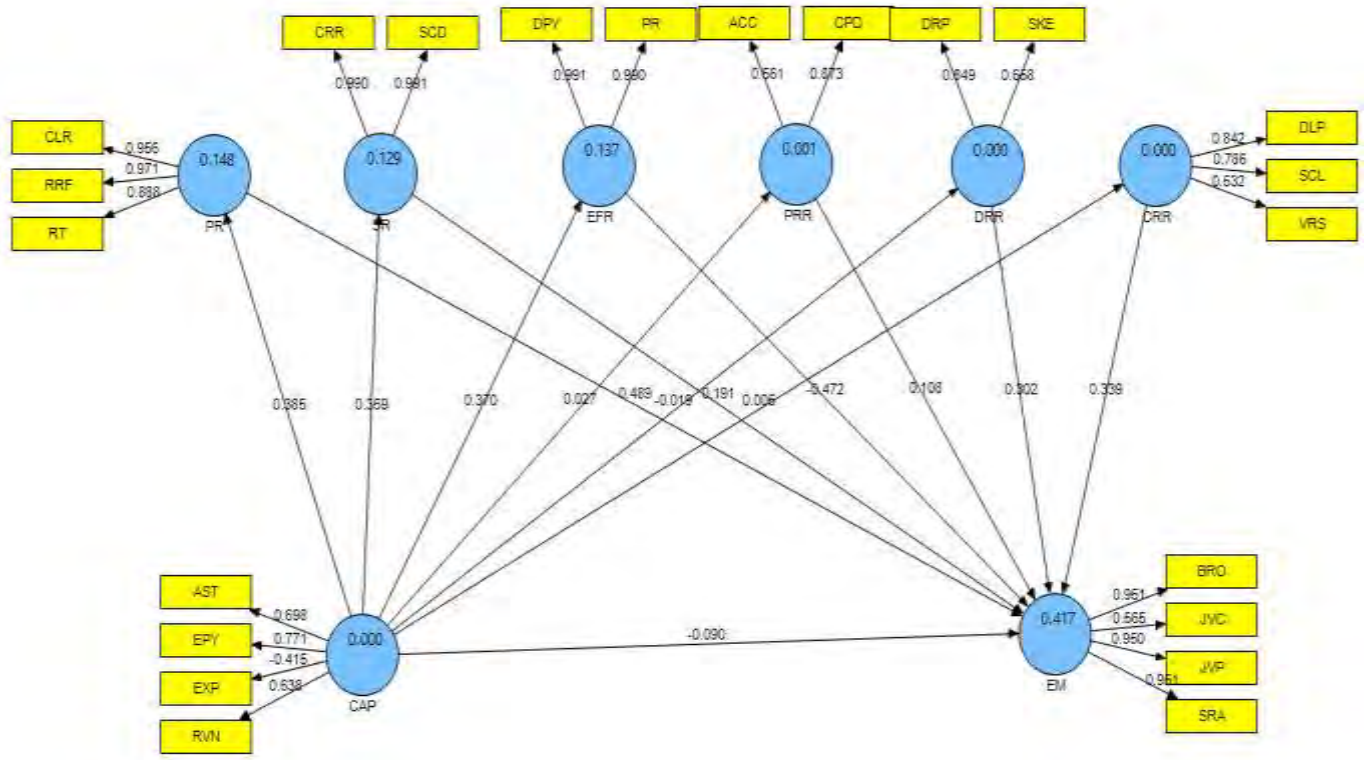

Figure 7.1: Structural model with path coefficients and R^2 values

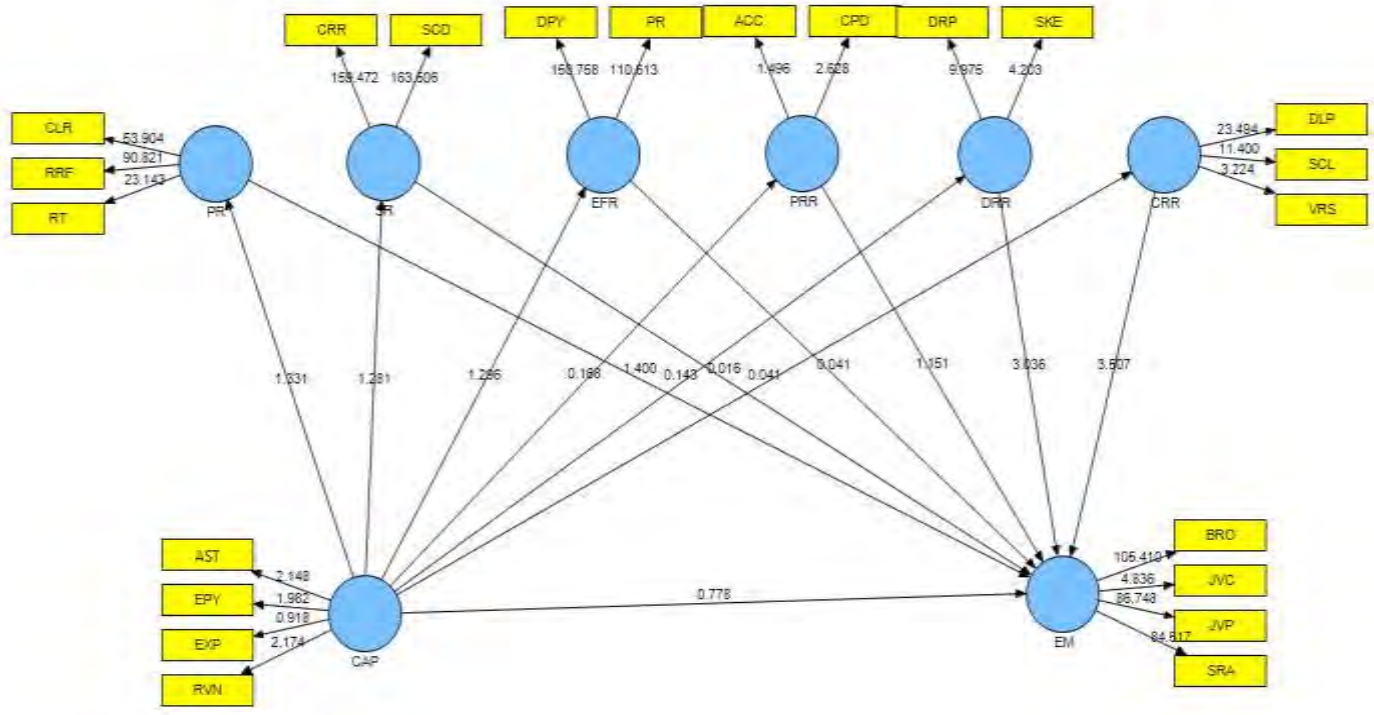

Figure 7.2: Structural model with 't' statistical values

7.3.3 Model validation: development of the structural equations

Figures 7.1 and 7.2 present the results of the structural model which describes how endogenous latent variables of the model are connected. Figure 7.3 was developed, based on underpinning theoretical concepts, to show how latent constructs are related and classified into either endogenous or exogenous (independent) variables. Wong (2013) described exogenous variables as those with path arrows pointing outwards and no path arrows leading to it, while endogenous are variables that have one path leading to it and represent effects of other exogenous variables. The exogenous variables in the structural model are the resources, while entry modes are the endogenous variables. Risks showed binary behaviour in the chain relationships between resources, risks perception and entry decisions. This is because the conceptual model aimed to generate risks perception and entry decision models and risks which were exogenous earlier, became endogenous in the former.

The results are presented in Figure 7.3 and all relationships in the path are considered linear, causal and additive since PLS-SEM is based on an ordinary least squares (OLS) regression (Hair et al., 2012). The causal model is represented using structural equations that show the direct causal relationships among the constructs. In this model, there is one exogenous variable (namely an entry mode), one endogenous variable (namely resources), and the six risks behaved either as exogenous or endogenous variables in the chain relationships among the research constructs. The standardized coefficients of the constructs (either exogenous or endogenous) were estimated in the PLS-SEM analysis. The causal relationships that were hypothesized among the research constructs (Chapter 3), tested (Chapter 5) and modelled in this chapter, relate with the path equations presented below:

Capabilities dimension = capabilities + 0 (exogenous) [7.1]

Political risks perception = PPO (capabilities) + Ɛ [7.2]

Social risks perception = PSA (capabilities) + Ɛ [7.3]

Economic/financial risks perception =PEA (capabilities) + Ɛ [7.4]

Procurement-related risks perception = PPE (capabilities) + Ɛ [7.5]

Design-related risks = PDA (capabilities) + Ɛ [7.6]

Construction-related risks = PCE (capabilities) + Ɛ [7.7]

Capabilities = PLA (entry mode) + Ɛ [7.8]

Entry mode = EPA (political risk perception) + Ɛ [7.9]

Entry mode = ESA (social risk perception) + Ɛ [7.10]

Entry mode = EEP (economic/financial risk perception) + Ɛ [7.11]

Entry mode = EPE (procurement-related risk perception) + Ɛ [7.12]

Entry mode = EDA (design-related risk perception) + Ɛ [7.13]

Entry mode = ECA (construction-related risk perception) + Ɛ [7.14]

Entry model = EMP (capabilities)
+ EMA (political risks perception)
+ EMD (social risks perception)
+ EMC (economic/financial risks perception)
+ EMS (procurement-related risks perception)
+ EML (design-related risks perception)
+ EMQ (construction-related risks perception) [7.15]

NOTE: Symbol Ɛ represents the error term in the relationships and unexplained variations in the predictions within the path model. The PPO, PSA, PEA, PPE, PDA, PCE, PLA, EPA, ESA, EEP, EPE, EDA, ECA, EMP, EMA, EMD, EMC, EMS, EML and EMQ represent the path coefficients in the causal relationships as shown in Figure 7.3, which is the causal structural model on a risk-based entry decision model into the ACM.

Capabilities → Construction related-risks - PCE

Capabilities → Design-related risks - PDA

Capabilities → Economic/financial risks - PEA

Capabilities → Political risks - PPO

Capabilities → Procurement-related risks - PPE

Capabilities → Social risks - PSA

Capabilities → Entry modes - PLA

Construction related-risks → Entry modes - ECA

Design-related risks → Entry modes - EDA

Economic/financial risks → Entry modes - EEP

Political risks → Entry modes - EPA

Procurement-related risks → Entry modes - EPE

Social risks → Entry modes - ESA

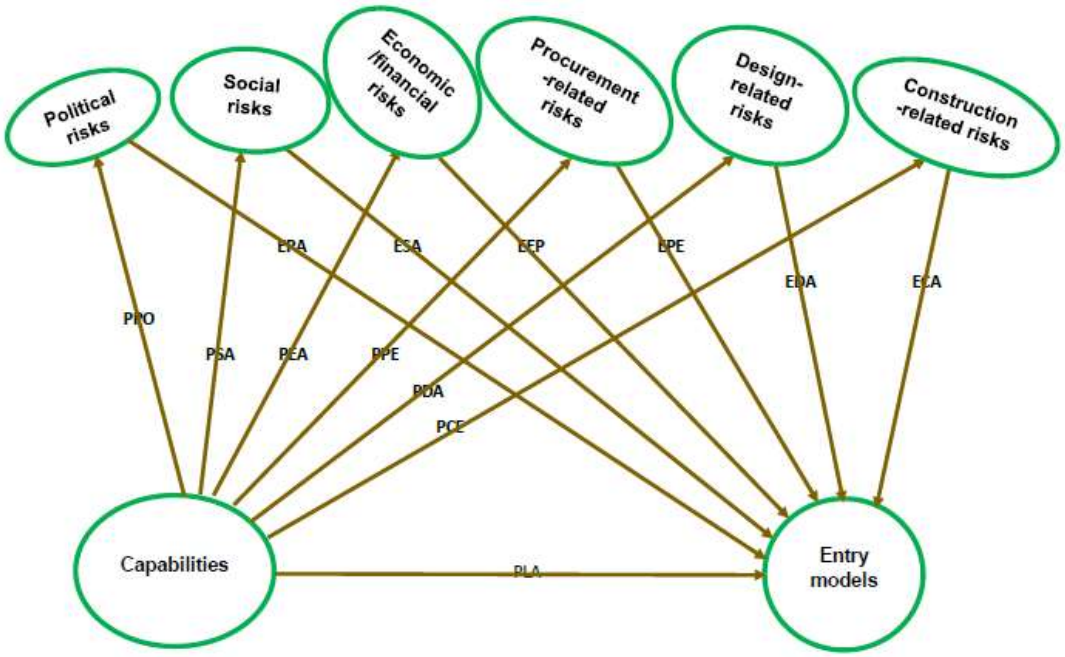

Figure 7.3: Causal structural model explaining a risk-based entry decision

7.3.4 Model evaluation

The evaluation of a risk-based entry model conceptualized and tested using PLS-SEM analytical tool, showed that the model predicts that resources influence risk perception, and the perceived impact of risks influences entry decisions made. These are evident in the results of measurement model, which established that the model's internal consistency reliabilities (psychometric traits) and discriminant validity are robust. The values of factor loadings and cross-loadings among variables were reasonably high. Similarly, the result of the structural model showed that R^2 values were very high and certain numbers of the path coefficients (t-statistics) were significant (Table 7.5). Although the PLS-SEM like other SEM techniques lays little emphasis on distribution assumptions, there are limitations in relying absolutely on inferential statistics (regression model) alone (Hair et al., 2012). The shortcomings in MLR are what PLS-SEM model dealt with through resampling techniques in PLS algorithm and bootstrapping analysis (Chin, 2010).

Table 7.5: Summary of statistics on R^2 validation and significance of path coefficients

Path	R^2	Hypotheses validation	Path coefficient	t-value	Path significance	p-value
CAP – PR	0.15	H1a: validated	0.39	1.33	Significant	0.2
CAP – SR	0.13	H1b: validated	0.37	1.28	Significant	0.2
CAP – EFR	0.14	H1c: validated	0.37	1.29	Significant	0.2
CAP – PRR	0.00	H1d: not validated	0.03	0.19	Insignificant	-
CAP – DRR	0.00	H1e: not validated	-0.02	0.14	Insignificant	-
CAP – CRR	0.00	H1f: not validated	0.01	0.04	Insignificant	-
PR – EM	0.42	H1a: validated	0.49	1.40	Significant	0.2
SR – EM	0.42	H1b: validated	0.19	0.02	Insignificant	-
EFR – EM	0.42	H1c: validated	-0.47	0.04	Insignificant	-
PRR – EM	0.42	H1d: validated	0.11	1.15	Significant	0.2
DRR – EM	0.42	H1e: validated	0.30	3.04	Significant	0.01
CRR – EM	0.42	H1f: validated	0.34	3.50	Significant	0.001
CAP – EM	0.42	H1g: validated	-0.09	0.78	Insignificant	-

There exist global criteria or indices for evaluating the fitness of a model. These include comparative fit indices (CFI), root mean square error approximation (RMSEA) or Tucker-Lewis fit indices (TFI) (Oyewobi, 2014) and goodness of fit (GoF index) (Tenenhaus, Vinzi, Chatelin & Lauro, 2005). The study employed a GoF index which is the geometric mean of the average communality index and the average R^2 value (Tenenhaus *et al*., 2005). Previous studies found GoF values of 0.374 (Chinomona & Pooe, 2013) and 0.36 (Wetzels, Odekerken-Schroder & Van Oppen, 2009), and those models were considered acceptable. Akter, D'Ambra and Ray (2011) further classified GoF into small, medium and larger with values of 0.1, 0.25 and 0.36 respectively. The GoF value in this study was 0.139 which was computed from the results given in Table 7.1, and the model was considered fit, based on the guidelines provided by Akter et al. (2011).

7.4 DISCUSSION OF FINDINGS FROM THE MODEL RESULTS

The study tested the direct and indirect relationships among the research constructs using the PLS-SEM analytical technique. The results were presented in Table 7.5 which measured the predictive power of the measurement and structural models and how significant the coefficients of the paths in the model were. The result of the R^2 values from risks perception models of the PLS-SEM analysis showed that 14.8%, 12.9% and 13.7% of the perceived impacts of political, social and economic or financial risks respectively, in the ACM were influenced by revenue, assets, number of employees and years of international experience of an SACC. This implies that:

- about 15% of the perceived impact of red tape/legislative bottlenecks, restrictions on repatriation of funds and changes in the host country laws, regulations and policies,
- about 13% of the perceived impacts of crime rate/social insecurity and social disorder/instabilities,
- about and 14% of the perceived impacts of payment risk and delay in payment/shortage in payment,

were influenced by revenue, assets, number of employees and years of international experience of an SACC.

The results further showed that hypotheses H_{1a}, H_{1b} and H_{1c} are supported with positive significant relationships ($p < 0.2$), while hypotheses H_{1d}, H_{1e} and H_{1f} are not supported, but are significant. The R^2 values in the model were moderate when compared with the position of Elbanna et al. (2013) who confirmed that R^2 values of 10% are acceptable. The results established that the resources and capabilities in SACCs influenced their perception of the impact of significant political, social and economic/financial risks in the ACM.

The results from the structural model indicate that some of the links tested were not significant and these include relationships between resources and procurement-related, design-related and construction-related risks; and the perceived impact of social and economic/financial risks and entry decisions. The link between resources and entry modes also was not significant. These indicate that the predictive power of the insignificant risk perceptions and entry decision models are weak because R^2 was below the recommended value of 10% (Elbanna et al., 2013). Overall, a risk-based entry decision model developed, has an R^2 of 0.42. This means that 42% of the entry decisions made by SACCs were influenced by the perceived impact of risk in the ACM. Other factors not considered in the PLS-SEM analysis could contribute to other entry decisions made by SACCs into the ACM.

7.4.1 PLS-SEM model application

A risk-based entry decision model in this study was developed towards understanding whether the perceived impact of risks influenced decisions made by SACCs to enter the ACM. Moreover, understanding was further established on how interactions between resources and entry decisions made, mitigate the perceived impact of risks on ease of entry into the markets. These relationships among the research variables were tested using both the quantitative (Chapter 5) and qualitative (Chapter 6) data obtained from multiple sources. The PLS model

has been affirmed as a reliable predictive tool for construction sector indicators (Xiong, Skitmore & Xia, 2015). This places a risk-based entry decision model developed as a strategic tool, at the disposal of construction companies aiming to internationalize, especially those wanting to enter the ACM.

The model developed, will assist SACCs to identify the resources needed for foreign markets operations and also how each of these resources behaves with uncertainties in the ACM. Secondly, the model provides SACCs with an understanding of the significant risks in the markets and whether level of resources at the company influence its perception of the risks. The model could also help to establish what entry mode would be suitable for a particular market, based on the resources of the company and magnitude of the risks perceived in that market. In conclusion, SACCs through cross-validation of constructs, can establish the best entry mode for a particular foreign market. The application of a risk-based entry decision model developed will assist an SACC in making a strategic decision to select the best mode of entry into the ACM.

7.5 SUMMARY

A risk-based conceptual model hypothesized and developed in Chapter 3 was validated using the PLS-SEM analytical technique which examined whether there are statistically significant relationships among research constructs in the model. The results of the causal links in the structural model supported the research propositions that the perceived impact of risks influence entry decisions. The model tested had an overall prediction power of 42% with an acceptable GoF value. The risk-based entry decision model had adequate strength to predict the influence of the perceived impacts of risks on entry decision made into the ACM. An interactive relationship between resources and a strategic entry decision would mitigate the perceived impact of risks in the markets.

Table 7.6: Summary of statistics on hypotheses predicted, validated and PLS-SEM causal links tested

Path label	Model path relationships	t-statistics	Hypothetical statements	Hypotheses validation
PPO	Capabilities → political risks	S	*Hypothesis 1a: Capabilities have a direct and significant relationship with political risks*	validated
PSA	Capabilities → social risks	S	*Hypothesis 1b: Capabilities have a direct and significant relationship with social risks*	Validated
PEA	Capabilities → economic/financial risks	S	*Hypothesis 1c: Capabilities have a direct and significant relationship with economic/financial risks*	Validated
PPE	Capabilities → procurement-related risks	NS	*Hypothesis 1d: Capabilities have a direct and significant relationship with procurement-related risks*	Not validated
PDA	Capabilities → design-related risks	NS	*Hypothesis 1e: Capabilities have a direct and significant relationship with design-related risks*	Not validated
PCE	Capabilities → construction-related risks	NS	*Hypothesis 1f: Capabilities have a direct and significant relationship with construction-related risks*	Not validated
EPA	Political risks → entry modes	S	*Hypothesis 2a: Perception of political risks has a direct and significant relationship with entry decisions*	Validated
ESA	Social risks → entry modes	NS	*Hypothesis 2b: Perception of social risks has a direct and significant relationship with entry decisions*	Validated
EEP	Economic/financial risks → entry modes	NS	*Hypothesis 2c: Perception of economic/financial risks has a direct and significant relationship with entry decisions*	Validated
EPE	Procurement-related risks → entry modes	S	*Hypothesis 2d: Perception of procurement-related risks has a direct and significant relationship with entry decisions*	Validated
EDA	Design-related risks → entry modes	S	*Hypothesis 2e: Perception of design-related risks has a direct and significant relationship with entry decisions*	Validated
ECA	Construction-related risks → entry modes	S	*Hypothesis 2f: Perception of construction-related risks has a direct and significant relationship with entry decisions*	Validated
PLA	Capabilities → entry modes	NS	*Hypothesis 3a: There is a direct and significant relationship between capabilities and entry decisions*	Validated
NL	Entry modes → capabilities	NT	*Hypothesis 3b: There is a direct and significant relationship between entry decisions and capabilities*	Validated in MLR
NL	Political risks mitigation: capabilities ↔ entry modes	NT	*Hypothesis 4a: There is a significant positive interaction between capabilities and entry decisions which mitigates impact of the perceived political risks*	Validated in MLR
NL	Social risks mitigation: capabilities ↔ entry modes	NT	*Hypothesis 4a: There is a significant positive interaction between capabilities and entry decisions which mitigates impact of the perceived social risks*	Validated in MLR
NL	Economic/financial risks mitigation: capabilities ↔ entry modes	NT	*Hypothesis 4a: There is a significant positive interaction between capabilities and entry decisions which mitigates impact of the perceived economic/financial risks*	Validated in MLR
NL	Procurement-related risks mitigation: capabilities ↔ entry modes	NT	*Hypothesis 4a: There is a significant positive interaction between capabilities and entry decisions which mitigates impact of the perceived procurement-related risks*	Validated in MLR
NL	Design-related risks mitigation: capabilities ↔ entry modes	NT	*Hypothesis 4a: There is a significant positive interaction between capabilities and entry decisions which mitigates impact of the perceived design-related risks*	Validated in MLR
NL	Construction-related risks mitigation: capabilities ↔ entry modes	NT	*Hypothesis 4a: There is a significant positive interaction between capabilities and entry decisions which mitigates impact of the perceived construction-related risks*	Validated in MLR

NL: no label; S: significant; NS: not significant; NV: not validated; NT: not tested; MLR: multiple linear regression

CHAPTER EIGHT–DISCUSSION OF FINDINGS

8.1 INTRODUCTION

This chapter presents a discussion on findings of this study. This was done by relating the findings to the existing body of knowledge of the ICM. The outline of this discussion on the findings correspond sequentially with the research questions posed in Section 1.4 of the thesis.

8.2 BACKGROUND PROFILE OF THE COMPANIES AND RESPONDENTS

The findings obtained through questionnaire survey show that more than half of the SACCs surveyed had considerable years of work experience in construction business. More than one-third of the companies have 100 employees and above on their payrolls. A large number of these companies conduct one form of construction service in cross-border. One-third of these companies have annual revenues that are well above 1 billion rand, while the annual revenues of more than one-tenth are greater than 5 billion rand. The assets of more than one-fifth of the companies are greater than 1 billion rand. Overall assessment showed that the resources of the majority of the companies surveyed are adequate for cross-border entry decisions and operation. These findings are in line with a similar study by Ling et al. (2006) which established that considerable numbers of international architectural, engineering and construction (AEC) firms in China had more than 20 years of experience in the construction business, engaged more than 100 employees, and majority having an annual revenue more than US$ 50 million (about 4 million rand). A similar study conducted on Malaysian construction firms by Ahmad and Kitchen (2008) established that more than one-fifth of the firms surveyed had more than 20 years in construction businesses. This shows that the SACC can compete for projects among their counterparts in international markets.

This study further proved that more than half of the personnel in the SACCs who responded to the survey were in managerial and decision making positions. This is supported by Abdul-Rahman et al. (2012) who conducted a study on international AEC firms in Malaysia which operate in Gulf and found that more than one-fifth of the responding officers were in managerial positions. A similar study by Long and Hoi (2006) on the risks faced by Singapore firms when undertaking construction projects in India engaged those in higher managerial and decisions making positions who also had substantial experience about the markets. The study by Mat Isa et al. (2014) further agreed with the findings. This indicates that SACC have

adequate manpower and human resources to enter and probably execute projects adequately in cross-border market.

8.3 CONSTRUCTION SERVICES EXPORTED AND SELECTED COUNTRIES OF OPERATION

The findings obtained showed that the kind of construction services that SACCs had exported in the past, or were currently exporting, related to general building and civil engineering works (transportation, water, power and wastewater projects). Although the majority of the companies were, or are mainly active in the SADC, there are a few of SACCs that also do work in East and West Africa. These findings agreed with their area of specializations on the cidb registration grades. Similar studies (Awil and Abdul-Aziz, 2001; El-Higzi, 2002) agree that important construction services in overseas markets are building and civil engineering projects. El-Higzi (2002) identified building and civil engineering projects (petroleum, transportation, industrial, power, sewer/waste and manufacturing) as construction services undertaken by Australian construction companies in global markets. Awil and Abdul-Aziz (2001) equally established that civil engineering and building were the construction projects being executed by Malaysian contractors in overseas markets, and that a quite a number of these companies initially operated mostly in Asian sub-regions, before venturing into other global regions (Africa, Europe and Middle East).

Abdul-Rahman et al. (2012) found that the construction services offered by Malaysian AEC firms in Gulf are different forms of building project and infrastructural facilities. In another study Ling et al. (2005) on entry strategies used by AEC firms in China to access overseas markets, found that building projects and civil infrastructure (manufacturing, transportation and petroleum) are the most common services being offered. Eybpoosh et al. (2011) findings which are not all that different, established that building and other infrastructure projects were the typical most important services offered by Turkish contractors in the ICM. This indicates that SACC are executing building and civil engineering projects in the ACM and have leverage to compete with MNCC from outside the continent who are operating in Africa markets.

8.4 SIGNIFICANT RISKS IN AFRICAN CONSTRUCTION MARKETS

Risks in the ACM were described under six major categories, namely political, social, economic and financial, procurement-related, design-related and construction-related risks.

The results from both the quantitative and qualitative data analyzed agreed that the risks discussed below have a significant impact on the ease of entry into the ACM.

8.4.1 Significant political risks

The political risks encountered in the ACM which have a significant impact on entry decisions, are associated with the legal and legislative system, changes in government, host government policies, and public system and administrative procedures in the host country. These political risks that are found to be common in the ACM are similar to what were found in other global construction markets, such as the USA, Europe and Asia (China, Malaysia, India and Singapore). Supporting the legal and legislative system as a substantial risk in the ACM, previous studies confirmed that firms will be at high risk of violating contract conditions in countries where legal systems are unreliable due to unpredictable changes in laws and regulations (Aon, 2013; Games, 2011). Similar studies (Aliber, 1975; Zhuang et al., 1998; Robock, 1971; Xiaopeng and Pheng, 2013) agreed that changes in government are significant risk in the ICM. Aon (2013) and Du Toit (2013) further established that as a result of political instability and changes in government, decisions made by a new government affects the operations and profitability of a firm in ICM. Other political risks encountered by SACCs in the ACM, but not found in the literature include cross-pollination and nepotism.

8.4.2 Significant social risks

Social risks that were encountered by SACCs and that have significant impacts on their entry decision into the ACM are social instability and insecurity, discriminative acts and lack of social infrastructure in the host country. These risks are similar to the findings of studies conducted in other regions of the global construction market (Zhi, 1995; Shen et al., 2001; Low and Shi, 2001; Campbell, 2002; Fang et al., 2004; Zhang, 2011). Zhang (2011) described these social risks as uncertainties companies are likely to face if they intend to operate in global construction markets. Also, Low and Shi (2001) acknowledged that a lack of understanding of the effects of these social risks may lead to misunderstandings among stakeholders in the ICM. Earlier researches from other regions also support social instability and insecurity as a common risk in the ICM and established that social risks are becoming more refined in recent times due to socio-cultural challenges like terrorism, wars, xenophobic events, the outbreak of epidemics and insurgencies, all of which are characterizing global systems (Hastak & Shaked, 2000; Han & Diekmann, 2001; Baloi & Price, 2003; Chua, Wang and Tan, 2003; Dikmen & Birgonul, 2006; Walewski et al., 2006; Han et al., 2007; Walke, et al., 2010; Eybpoosh et al., 2011; Kerur

& Marshall, 2012). Inadequacy in social infrastructure (housing, health and transport facilities) in the host country and political violence identified as material social risks in the ACM, was in line with existing literature (Games, 2011; Kuo, 2012a; Shen, 2013; Du Toit, 2013). Moreover, other social risks encountered by SACCs in the ACM, but not found in the literature include social demands (payment of school fees/bursaries), family relationships, geographical differences, mixed-population, geographical remoteness, outbreaks of diseases (malaria, bubonic plague and HIV/AIDS), the availability of medical facilities and environmental regulations and protection.

8.4.3 Significant economic/financial risks

The economic and financial risks encountered by SACC and that have significant impact on their decisions to enter the ACM are uncertainties surrounding payment, macro-economic variables (exchange rates, inflation and taxes), profit repatriation and the availability of credit facilities in the host country. These findings agree with those of earlier studies which found economic and financial risks similarly affecting operations in other regions of global construction market (Zhi, 1995; Hastak & Shaked, 2000; Birgonul & Dikmen, 2006; Han & Diekmann, 2001; Baloi & Price, 2003; Han et al., 2007; Eybpoosh et al., 2011; Al-Sabah, 2012; Abdul-Rahman, 2012). Supporting uncertainties surrounding payment and macro-economic variables (exchange, inflation and taxes) as significant economic risks, Kapila and Hendrickson (2001) established that project financing and funds management are complicated in the ICM because currencies, tax regimes, Supporting the uncertainties surrounding payment and macro-economic variables (exchange rates, inflation and taxes) as significant economic risks, Kapila and Hendrickson (2001) established that project financing and funding management are complicated in the ICM because of currencies, tax regimes, regulations and policies guiding the transfer of capital funds and business financing rules differing between countries. Eybpoosh et al. (2011) also argued that instability of the local currency, balance of payments and trade deficits, and high inflation are inevitable in a market where there is lack of economic development, like African markets.

This links satisfactory to the findings of Ling and Hoi (2006) who established that difficulty in the repatriation of profits heightens economic loss to firms operating in foreign construction markets. This is because, projects are taxed twice; first on profit earned and second on the remittance of the funds to the home country, reducing the profitability of projects. Other

economic and financial risks encountered in the ACM, but not found in the literature include payment guarantees, sources of funding and funders, and funding obligations.

8.4.4 Significant procurement-related risks

The procurement-related risks that have significant impacts on decisions by SACCs to enter the ACM, are contractual procedure and procurement policies in the host country. Similar procurement-related risks were identified by earlier studies in other global regions (Baloi & Price, 2003; Dikmen et al., 2007; Abdul-Raham et al., 2012; Rezakhani, 2012; Park et al., 2014). Giving support to the fact that contractual procedures and procurement policies are significant risks in the ACM, Baloi and Price (2003) established that in global construction markets the level of competition is very keen and procurement methods have changed over years. They argued further that MNCCs usually experienced unfair treatment in foreign construction markets. Dikmen et al. (2007), in another study established that firms cannot have smooth foreign operations where there is ambiguity in the payment system within the organization of the client.

Furthermore, on uncertainties around contractual procedures as a significant risk in the ACM, Abdul-Raham et al. (2012) also confirmed that this could arise where the obligations and responsibilities of project owners and consultants are not clearly defined at the preliminary stage of any project. Likewise, Rezakhani (2012) argued that unenforceable conditions/clauses/polices, delays in claims settlement and adverse relations, are aspects resorting under procurement-related risks. Other procurement-related risks found in this study, and that are unique to the ACM but not found in other regions of the global construction market, include environmental impact assessment, feasibility studies, nature of tender market and contract cancellation.

8.4.5 Significant design-related risks

The design-related risks that have significant impacts on decisions made by SACC to enter the ACM, were identified in this study as obligations and competency of the design team, design scope and accuracy, and site conditions of overseas projects. Studies on international construction projects found these risks to be significant (Chapman, 2001; Baloi and Price, 2003; Zou et al., 2007; Park et al., 2014). Chapman (2001) gave his opinion on the obligations of the design team, stating that failure in design occurs when the obligations and responsibilities of parties of design team are not clearly defined at an early stage of the design. Lack of basic

experience and knowledge on the part of the design team to identify uncertainties that may arise within the design scope of a particular project, is a serious problem on international construction projects.

The findings of this study on the design scope and accuracy is also aligned to the findings of previous studies. Baloi and Price (2003) established that risks are most likely to arise during design because international construction projects are usually complex and on a scale, and this might create ambiguity in the project scope. Zou et al. (2007) and Park et al. (2014) who determined that uncertainties around design could arise when there are changes in design, or when errors occur during design process. Such errors according to Abdul-Raham et al. (2012) may arise from rushed design, unproven engineering techniques, failure in surveys and awarding the design to unqualified/non-registered designers.

8.4.6 Significant construction-related risks

The construction-related risks that have substantial impacts on decisions made by SACCs to enter the ACM which emerged in this study are unforeseen natural occurrences, changes in the scope of a project, project management and planning, site conditions and uncertainties surrounding payments and cash flows in overseas projects. Findings from similar studies on other global regions (Baloi & Price, 2003; Zou et al., 2007; Belligoli, 2012; Park et al., 2014) agreed significantly with these findings. An unforeseen event identified in a study by Belligoli (2012), were emergency situations and looting of resources on construction sites. Changes in the scope of a project are described as variations/reworks in overseas projects (Abdul-Raham et al., 2012). Zou et al. (2007) equally identified unforeseen uncertainties in project management and planning to include the management ability of contractors and sub-contractors, competency of labour and professionals, the safety management system, waste disposal and pollution control mechanisms.

On site conditions, Baloi and Price (2003) established that firms might encounter adverse site conditions/uncertainties on foreign construction projects where geological and weather conditions have not been properly investigated, site is inaccessible and there are unethical practices (like fraudulent actions and stealing). Park et al. (2014) also described instability in the financial strength and capabilities of the clients in overseas construction as significant risks. Other construction-related risks encountered by SACCs that are unique to the ACM, are history

in the past and memory, window of construction (period of rainfall) and coastal system/increase in sea level.

8.4.7 Overall significant risks in the African construction market

The findings of this study established that the significant risks in the ACM are:

- legal risks and legislative systems, changes in government, host government policies and public system/administrative procedures in the host country;
- social instability and insecurity, discriminative acts and lack of social infrastructure in the host country;
- uncertainties surrounding payments, macro-economic variables (exchange rates, inflation and taxes), profits repatriation and availability of credit facilities in the host country;
- contractual procedure and procurement policies in the host country;
- design team's obligations and competency, design scope and accuracy, and site conditions in overseas projects;
- unforeseen natural occurrences, changes in scope of a project, project management and planning, site conditions and uncertainties surrounding payment and cash flow in overseas projects.

An overall perception of all classes of risk shows that political risks have a more significant impact on decisions made by SACCs to enter the ACM, than the other classes of risk.

8.5 SIGNIFICANT ENTRY MODES USED IN ACCESSING AFRICAN CONSTRUCTION MARKETS

Entry modes widely employed by SACCs found in this study are variants of JVs and forming strategic alliances with local partners in foreign markets. A number of studies on modes of entry into global construction markets (Walker & Johannes, 2003; Chen, 2005; Ling et al., 2005; Ozorhon et al., 2007; Abdul-Aziz et al., 2013) conveyed substantial agreement that these modes have the potential to mitigate the perceived impact of risks in global construction markets. Ozorhon et al. (2007) and Gama (2011) support the findings that, a JV is significant because it is a strategic alliance which provides the partners with opportunities to combine their resources and competencies in order to better reduce the magnitude of the impact of risks and barriers, than might the case for individual firms. Gama (2011) further established that forming strategic alliances with local partners will increase the international experience of MNCCs and enhance access to foreign resources. Others significant entry modes used by SACCs which emerged in this study but not found in the literature, are solicited and unsolicited support and use of facilitators.

8.6 RESOURCES WITH SIGNIFICANT INFLUENCE ON RISKS PERCEPTION

The study established that the revenues of SACCs influence their perception of restrictions on repatriation of funds and variations/reworks/change in scope of work. Also, the number of employees influences the perception of changes in the laws, regulations and policies of the host country, crime rate/social insecurity and diffused responsibilities among design team. Furthermore, the years of international experience influences perception of an SACC of the restriction on the repatriation of funds to South Africa. It can be deduced from these findings that number of employees, revenue and years of international experience, of SACCs influences their perception of impact of political, social, procurement, design and construction-related risks in the ACM. This means that as revenues of SACCs increase, their perception of the restrictions on the repatriation of funds to South Africa, decreases, while their perception of variations/reworks/change in scope of works will increase. Similarly, as the number of employees in SACCs increase their perception of changes in the host country laws, regulations and policies and crime rate and social insecurity, decreases, while their perception of diffused responsibilities among design teams, increases. In addition, as the number of years of international experience of SACCs increases, their perception of the restriction on the repatriation of funds and contractual procedures increase.

There is a scarcity of research in the ICM which examines how resources and capabilities in MNCCs influence their perception of risk in overseas markets. A number of studies on international business established that the experience of MNFs is similar to that of SACCs, and that level of resources and capabilities in MNFs influence their propensity to export their services, regardless of the number of risks in overseas markets (Vernon, 1985; Cavusgil and Nevin, 1987; Miller, 1992; Brouthers, 1995; Luo, 2003; Zsidisin, 2003; Forlani et al., 2008; Filatotchev et al., 2009; Sadaghiani et al., 2011; Serra et al., 2012). Furthermore, studies on IC also confirmed that firms need to acquire a certain level of resources and capabilities before competing for opportunities in overseas construction markets. These studies also found that track record and specialist expertise are significant resources for a company entering overseas markets, and that resources and capabilities in MNCCs are fundamental requirements for firms' decisions to internationalize (Gunhan and Arditi, 2005; Dikmen et al., 2007; Jaring, 2009).

8.7 RISKS WITH SIGNIFICANT INFLUENCE ON ENTRY DECISIONS

The decisions made by SACCs to use variants of JVs (company and project) as entry modes into the ACM, were found in this study to be influenced by their perceived impact of legislative bottlenecks/red tape, crime rate/social insecurity, payment risk, contractual procedures, diffused responsibilities among design team and delays in payment and cash flow. On the other hand, decisions to open branch offices in the ACM were influenced by the perceived impact of contractual procedures and variations/reworks/changes in scope of works. Decisions to form strategic alliances with local partners in the ACM were influenced by the perceived impact of legislative bottlenecks/red tape, crime rate/social insecurity, skills and experience of the design company, diffused responsibilities among the design team and site/construction logistics/planning/management. As the perceived impacts of these significant risks increase, the decisions to enter the ACM with these modes of entry also increase.

Therefore, risks found to have a significant influence on decisions made by SACCs to enter the ACM, are legislative bottlenecks/red tape, restrictions on the repatriation of funds, crime rate/social insecurity, social disorder/instabilities and payment risk. Other risks include contractual procedures, diffused responsibilities among design team, skills and experience of the design company, delays in payments and cash flows, variations/reworks/changes in scope of works and site/construction logistics/planning/management.

Research studies on the ICM to examine which risks influence entry decisions made by MNCCs when entering overseas markets, are limited. However, international business literature sufficiently agrees that the magnitude and types of risk in overseas markets influence the propensity of MNFs to export and decide on suitable modes of entry for particular overseas markets (Brouthers, 1995; Brouthers, 1993; Ahmed et al., 2002; Forlani et al., 2008). The views of MNFs show that perceived impact of risks in overseas markets differ and risk perceptions influence decisions made on choice of entry modes to access overseas markets. They also confirm that companies tend to select entry modes with high resource commitments and control, when the impact of risks is perceived to be high. Conversely, they select entry modes with low resource commitments and control when the impact of risks is perceived to be low. Studies on the ICM also argued that strategic entry decisions are significant for overseas operations because the wrong choice of markets has an adverse impact on performance of firms in overseas markets (Chen & Orr, 2009; Chen & Chang, 2011; Li et al., 2013; Delfino, 2014).

8.8 SIGNIFICANT INTERACTIVE RELATIONSHIPS BETWEEN RESOURCES AND/CAPABILITIES AND ENTRY DECISIONS

The study determined that the revenue of SACCs relates well to their decisions to open a branch office or register a company in the ACM, while supply of assets in these companies relate with the decisions to form joint venture with partners in the markets. The experience of SACCs also relates to the decisions to form strategic alliances in the ACM. However, decisions to employ variants of JVs and BROs as entry modes into the ACM, increase as the supply of assets of SACCs increases. As the international experience of SACCs increases, decisions to form strategic alliances with local partners in the ACM also increase. This shows that significant relationships exist between the resources and capabilities of SACCs, and decisions made to enter the ACM. Little research has been done on the ICM which examines the type of relationships that exist between resources in MNCCs, and entry decisions made into overseas markets. A significant number of studies on international business have established that risk can be mitigated through interaction between the resources of MNFs, and decisions made to enter overseas markets (El-Higzi, 1999; Verwaal & Donkers, 2002; Tallman & Fladmoe-Lindquist, 2002; Quer et al., 2007; Sadaghiani et al., 2011; Mat Isa and Preece, 2014). Moreover, the amount of resources to be deployed into overseas markets also depends on the choice of entry modes and vice versa (Petersen and Pedersen, 1999; Peinado and Barber, 2006; Forlani *et al.*, 2007; Li *et al.*, 2013). In addition, Chen and Messner (2011) argued that each choice of entry mode requires a specific level of resources, and that the level of resources a firm is willing to commit into a particular overseas market determines the choice of entry mode.

8.9 SIGNIFICANT INTERACTIVE MEDIATING RELATIONSHIPS BETWEEN RESOURCES AND ENTRY DECISIONS IN RISKS MITIGATION

It emerged from the study that interactive mediating relationships exist between revenue of SACC and their experience in foreign markets. Decisions to make use of joint ventures with local partners in the ACM, mitigates the perceived impact of social disorder/instabilities such as strikes, riots, labour unrests and outbreaks of diseases, in the ACM. Decisions of SACCs to employ variants of JVs as entry modes into the ACM also mitigates the perceived impact of uncertainties around payments, contractual procedures, and the skills and experience of the design company in foreign markets. The amount of assets and number of employees also relate to mitigate the perceived impact of diffused responsibilities among design consultants/team. Furthermore, it was found that the revenue of SACCs and decisions to open a branch office in

the ACM, interact to mitigate the perceived impact of variations/reworks/changes in scope of works in the ACM.

Hence, the significant risks that are mitigated through interactive relationships between resources and capabilities in SACCs, and decisions made to enter the ACM, are social disorders/instabilities, payment risks, ambiguity in contractual conditions, contractual procedures, skills and experience of the designer company, diffused responsibilities among design consultants/team, variations/reworks/changes in the scope of works, and delays in payment and cash flows. As the resources of SACCs increase and strategic entry decisions are made, the perceived impact of the significant number of these risks would decrease. There is a dearth of research into the ICM that examine the significance of interactive relationships between resources and capabilities, and entry decisions made in mitigating the perceived impact of risk in foreign markets. Despite this dearth of research, literature on international business significantly concurred that it is possible to mitigate the impact of risk in cross-border markets, when companies put their resources to maximum use and entry decisions are strategically made (Hill et al., 1990; Cavusgil and Zou, 1994; Osland et al., 2001; Forlani et al., 2008; Cui and Jiang, 2009; Sadaghiani et al., 2011; Chen and Messner, 2011).

8.10 THE PREDICTIVE POWER OF THE PLS-SEM MODEL

A PLS-SEM analytical technique was employed to establish the relationships among the variables of resources and capabilities of SACCs, risks encountered and modes of entry employed. This in essence is to predict the probability that the perceived impact of risks that is motivated by the supply of resources of SACCs, influences decisions made to enter the ACM. The predictive power of the PLS-SEM model was measured by the R^2 values.

It was found;

- that 15% of the perceived impact of red tape/legislative bottlenecks, restrictions on repatriation of funds and changes in host government's laws, regulations and policies;
- that 13% of the perceived impact of social disorders/instabilities and crime rate/social insecurity, and;
- that 14% of the perceived impact of payment risk and delays in payment/shortages in payments,

influenced 42 % of the decisions made by SACCs to make use of joint ventures, to open branch companies and to form strategic alliance with local partners in ACM. This finding is subject to the other influencing factors or predictors remaining constant.

The model developed shows that the revenues, the assets, the number of employees and the years of international experience of SACCs influenced their perception of:

- red tape/legislative bottlenecks, restrictions on the repatriation of funds and changes in host government's laws, regulations and policies;
- social disorders/instabilities and crime rate/social insecurity; and
- payment risks and delays in payment/shortages in payments,

in the ACM. The perceived impact of these risks, influenced decisions to adopt variants of joint ventures, open branch companies and form strategic alliances with local partners, in ACM.

Although limited studies on the ICM employed the PLS-SEM technique in making strategic predictions about markets entry, Eybpoosh et al. (2011) presented a typical model on how risk behaviour in the ICM is modelled through the application of the PLS-SEM technique. Dikmen et al. (2011) also used structural equation modelling (SEM) to trace risk paths in international construction projects. A recent philosophical study by Oyewobi (2014) made use of the PLS-SEM technique in predicting the performance of large-sized construction companies in South Africa, and the model established that about 37% of the variations in organizational performance are explained by organizational characteristics, strategy, business environment, and resources and capabilities. Hence, findings in the present study, that the perceived impact of risk that is based on supply of resources and capabilities of SACCs influences entry decisions made by these SACCs to enter the ACM, are aligned to the findings of previous studies.

8.11 SUMMARY

This chapter presented a discussion on the findings of the present study by relating the results to the existing body of knowledge. In the main the findings of this study are in agreement with the existing body of knowledge on the ICM and they are in accord with international business literature. The study compared the background profile of SACCs, types of service being provided in foreign markets and countries in which the SACCs operate. The study established that the resources and capabilities of SACCs are appropriate when compared with their multinational counterparts from China, Malaysia, Singapore, Australia and Turkey. The significant risks encountered by SACCs were found to be in line with the existing knowledge

of the ICM, and entry modes used were also supported by the results obtained from the literature reviewed. The research propositions that resources in SACCs influence their perception of risk in the ACM, and whether the perceived impact of risks influence entry decisions made, were equally supported. The fact that resources and entry decisions made, interact to mitigate the perceived impact of risk, obtained substantial support from the previous studies on the ICM.

CHAPTER NINE–SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

9.1 INTRODUCTION

This research examined how risk perception influences entry decisions. In particular it examined whether the resources of SACCs interact with decisions made to enter the ACM, and whether this interaction mitigates the perceived impact of risk in the ACM. Proving this mitigation effect would enhance entry into the ACM for SACCs. The central research question posed was: "*What resources of South African construction companies assist in helping them to adequately perceive the impact of risk encountered in the African construction market and what contributions were made by the perceived impact of risk to the decision to enter this market?"*

Answering this question involved series of processes that included the identification of gaps in studies of the ICM; this was effected through a review of the literature on the significant resources for operations in the ICM operations as well as the risks and the entry modes into the market. Through a review of the literature, the research concepts were established and key constructs for the study were selected; these concepts assisted in formulating the research questions and hypotheses to guide the direction of the study. A series of hypotheses were tested to establish how the perceived impact of risks in the ICM influences decisions made by SACC to enter the ACM. A conceptual model was developed to determine how the research propositions are supported.

A mixed-methods research approach was employed in data collection and analysis, that is, both a quantitative approach (a questionnaire survey) and a qualitative approach (semi-structured interviews and cases analyses) were used in sourcing answers to the research problem. Data collected were analyzed descriptive as well as inferential statistics, while a PLS-SEM technique was employed to predict a risk-based entry decision into the ACM. This chapter presents a summary of the findings obtained in the research, and also highlights the key contributions made to the body of knowledge. The practical implications and limitations of the research are and areas for further research indicated.

9.2 AIM AND OBJECTIVES OF THE STUDY

The aim of this research was to examine the resources of SACCs and to establish whether these resources influence company perception of the risks encountered in the ACM, and whether the perceived impact of the risks encountered influences decisions made to enter into the markets. This was with a view to enhance ease of entry of SACCs and increase their presence in the ACM. This will invariable provide the SACCs with chances of undertaking more construction projects in the markets. In order to achieve this, the following specific objectives were identified to:

1. Identify the specific risks likely to be encountered by an SACC operating in the ACM.
2. Investigate how an SACC perceives the impact of risk encountered, on ease of entry into the ACM.
3. Establish a relationship between the resources of a typical SACC and the risks encountered, and the significance of this relationship on the ease of entering the ACM.
4. Identify the specific entry decisions made by an SACC when entering the ACM.
5. Establish relationship between the perceived impact of the significant risks encountered by an SACC and entry decisions made into the ACM.
6. Investigate whether the resources of an SACC and entry decisions made, relate to mitigate the perceived impact of the significant risks and therefore enhance ease of entry into the ACM.
7. Develop a risk-based entry decision model into the ACM using the partial least squares structural equation modelling method.

9.3 SUMMARY OF RESEARCH FINDINGS

This section presents the findings that emanated from the empirical study based on the research objectives.

9.3.1 Objective 1:

Research Objective 1: ***To identify the specific risks likely to be encountered by an South African Construction Company operating in the African Construction Market.***

From the study it was found that the political risks encountered by SACCs in the ACM, are red tape/legislative bottlenecks, instability/changes in government, bureaucracy/administrative delays and delays in the public decision making process. Others risks include restrictions on

repatriation of funds, bribery and corruption, changes in the laws, regulations and policies of the host country, and tariff barriers/difficulty in doing business. Political risks that are uncommon in other regions of the global construction market, but are specific to the ACM, were identified in the study as cross-pollination and nepotism.

Similarly, social risks encountered in the ACM were found to include the threat of terrorism/insurgencies, crime rate/social insecurity, discriminative acts/treatments/attitudes towards expatriates/foreign firms, and social disorder/instability such as strikes, riots, labour unrest and outbreaks of disease. Other social risks encountered in the ACM, which are not found in other regions, comprise social demands (payment of school fees/bursaries), geographical remoteness, multicultural, excessive rainfall and coastal systems/increase in sea level.

Economic/financial risks encountered in the ACM include payment risks such as delays in payment/shortages in payment, volatility in exchange rates, restrictions in the repatriation of profits/funds, fluctuation in inflation rates and lack of access to credit/finance. Other economic/financial risks that are unique to the ACM were identified as guarantees of payment, types of funder and funding obligations.

Moreover, it emerged from the study that procurement-related risks encountered by SACCs in the ACM, are uncertainties emanating from contractual procedures, estimating processes, ambiguity in contractual conditions/requirements, procurement policies in the host country and biases in bidding process. Environmental impact assessment (EIA) was also found to be a unique risk encountered by SACCs in the ACM.

Design-related risks encountered, are diffused responsibilities among the design team, incomplete design briefs/information or ambiguity in design scope/detailing, frequent changes to designs/drawings, design errors/incorrect drawings/design flaws and inappropriate skills and experience of the designers.

Risks emanating from acts of God are heavy floods, landslides, earthquakes, hurricanes and wind storm; are considered construction-related risks. Geological conditions, site/construction logistics/planning/management, site topographic conditions (rivers, mountains, buries service pipes), variations/reworks/changes in scope of work, access to construction resources, and

delays in progress payments and cash flows are also construction-related risks which can be encountered in the ACM. Other design and construction-related risks that were observed to be unique to the ACM, are histories and memories, and window of construction (period of rainfall).

9.3.2 Objective 2:

Research Objective 2: ***To investigate how an South African construction company perceives the impact of risk encountered, on ease of entry into the African construction market.***

The study established that the political risks that have a significant impact on the ease of entry of SACCs into the ACM, are changes in the laws, regulations and policies in the host country; red tape/legislative bottlenecks, instability/changes in government, bribery and corruption, bureaucracy/administrative delays and restrictions on the repatriation of funds.

Arising from the social landscape in the ACM, the significant risks encountered by SACCs are terrorism/insurgencies, crime rate/social insecurity, discriminative acts/treatments/attitudes towards expatriates/foreign firms, local protectionism, dispute management system and social disorder/instability.

Moreover, economic and financial risks with significant impacts on ease of entry of SACCs into the ACM, are uncertainties around payment like delays in payments/shortages in payment, volatility in foreign exchange rates, restriction in the repatriation of profits/funds, volatility in tax rates, fluctuations in the inflation rate and access to credit/finance.

Risks emanating from the procurement process, which have a significant influence on the ease of entry of SACCs into the ACM were found in the study to be ambiguity in the contractual conditions, non-refundable bidding cost, the requirements of local authorities/agencies, number of bidders, the procurement policies in the host country, contractual procedures and uncertainties in the estimating processes.

Further, uncertainties associated with design and which have a significant impact on the ease of entry of SACCs into the ACM, consist of diffused responsibilities among design team, site

characteristics and physical conditions, incomplete design briefs/information or ambiguity in design scope/detailing, and inadequate skills and experience of the designers.

During the construction process, the risks posing a significant impact on the entry of SACCs into the ACM were found to include variations/reworks/change in scope of work, access to construction resources, site/construction logistics/planning/management and delays in progress payments and cash flows. From the experience of SACCs in the ACM, it was established that the risks that had significant impact on the ease of entry, are red tape/legislative bottlenecks, threats of terrorism, payment risks, ambiguity in contractual conditions/requirements, diffused responsibilities among design team, acts of God and variations/reworks/change in scope of work.

9.3.3 Objective 3:

Research Objective 3: ***To establish a relationship between the resources of a typical South African construction company and the risks encountered, and the significance of this relationship on the ease of entering the African construction market.***

In the study it was determined that there are significant relationships between the revenue of the SACCs and both red tape/legislative bottlenecks, and variations/reworks/changes in scope of works, which are significant risks encountered in the ACM. Also, the number of employees of in an SACC relates to changes in the laws, regulations and policies of the host country; crime rate/social insecurity and diffused responsibilities among design team. It was further found that there are significant relationships between the years of international experience of SACCs in overseas markets, and restrictions on the repatriation of funds, and contractual procedures. Hence,

- the revenue of SACCs influenced their perceptions of red tape/legislative bottlenecks and variations/reworks/changes in scope of works;
- the number of employees of SACCs influenced their perception of changes in the laws, regulations and policies of the host country, crime rate/social insecurity and diffused responsibilities among design team;
- the years of international experience of SACC also influenced their perception of restriction on repatriation of funds and contractual procedures in the ACM.

In addition, the resources and capabilities of SACCs which that are significant for cross-border operations in the ACM, were found to consist of the revenue, the number of employees and the level of international experience.

9.3.4 Objective 4:

Research Objective 4: ***To identify the specific entry decisions made by an South African construction company when entering the African construction market.***

Entry decisions made by SACC when expanding into the ACM were identified as joint ventures (as companies or on projects) with local partners in those markets opening a branch office or registering a local company, and forming a strategic alliance with local partners. During the operations of SACCs in the ACM, Other modes of entry engaged by SACCs in the ACM identified in this study, include obtaining a construction license from the foreign government, contractual arrangements such as a concession and a PPP, the commissioning of a facilitator (developers, ambassadors, businessmen/entrepreneurs, consultants and clients or their partners), and solicited/unsolicited proposals from the foreign governments. However, SACCs arranged joint ventures with local partners, opened branch offices or companies and formed strategic alliances with local partners during their operations in the ACM.

9.3.5 Objective 5:

Research Objective 5: ***To establish relationship between the perceived impact of the significant risks encountered by an South African construction company and entry decisions made into the African construction market.***

The study established that there are significant relationships between the perceived impacts of contractual procedures, diffused responsibilities among the design team and delays in payments and cash flows, in the ACM, and decisions made by SACCs to use a JVC as an entry mode into the markets.

Also, the perceived impact of significant risks such as red tape/legislative bottlenecks, crime rate/social insecurities, payment risks, contractual procedures, diffused responsibilities among the design team, delays in payments and cash flows relate to the decisions made by SACCs to adopt a JVP as an entry mode into the ACM.

Similarly, significant relationships exist between the perceived impact of contractual procedures, variations/reworks/changes in scope of works, in the ACM, and decisions of SACCs to employ a BRO as an entry mode into the ACM.

There are also significant relationships between the perceived impacts of crime rate/social insecurities, social disorder/instabilities, the skills and experience of the designers, diffused responsibilities among design team, and delays in payments and cash flows, and decisions to employ an SRA as an entry mode into the ACM.

Hence, the perceived impact of the significant risks were found to influence the decisions made by SACCs to use variants of a JV, a branch office or company, and a strategic alliance with local partners in the ACM.

Nevertheless, the risks that have a significant influence on entry decisions made by SACCs into the ACM, were found to include red tape/legislative bottlenecks, crime rate/social insecurities, social disorder/instabilities and payment risk. Others risks found, included contractual procedures, skills and experience of the designers, diffused responsibilities among design team, delays in payments and cash flows, and variations/reworks/changes in scope of works

9.3.6 Objective 6:

Research Objective 6: ***To investigate whether the resources of an South African construction company and entry decisions made, relate to mitigate the perceived impact of the significant risks and therefore enhance ease of entry into the African construction market.***

In the study it was found that the revenue and experience of SACCs, and decisions made to use a JVC as an entry mode, interact to mitigate the perceived impact of social disorders/instabilities, in the ACM. Decisions made by SACCs to employ variants of JVs as entry modes and form strategic alliances with local partners, also mitigate the perceived impact of uncertainties surrounding payment,, contractual procedures, skills and experience of the designers, and ambiguity in contractual conditions/procedures, in the ACM. The assets and the number of employees of SACCs, and decisions to form strategic alliances with local partners, mitigate the perceived impact of diffused responsibilities among design team. The study also established that the revenue and the opening of a branch company also mitigates the perceived

impact of variations/reworks/changes in scope of works, and delays in progress payments and cash flows in the ACM.

9.3.7 Objective 7:

Research Objective 7: ***To develop a risk-based entry decision model into the African construction market using the partial least squares structural equation modelling (PLS-SEM) method.***

The study established that about 15% of the revenue, assets, number of employees and years of experience of SACCs influence their perceptions of red tape/legislative bottlenecks, restrictions on repatriation of funds and changes in the laws, regulations and policies of the host country. Besides, about 13% of the revenue, assets, number of employees and years of experience of SACCs influence their perceptions of crime rate/social insecurity and social disorder/instabilities such as strikes, riots, labour unrest and outbreaks of diseases. Furthermore, about 14% of the revenue, assets, number of employees and years of experience of SACCs influence their perceptions of payment risks and delays in payments/shortage in payments.

However, about 42% of the perceived impact of:

- red tape/legislative bottlenecks, restrictions on repatriation of funds, and changes in the laws, regulations and policies of the host country;
- ambiguity in contractual conditions/requirements and contractual procedures; skills and experience of the designers, and diffused responsibilities among design team;
- variations/reworks/changes in scope of works, site/construction logistics/planning/management, and delays in progress payments and cash flows,

influenced the decisions made by SACC to employ joint ventures, open branch offices and to form strategic alliances with the local partners in the ACM.

9.3.8 Hypothesis of the study

There are four main research hypotheses which were framed to answer RQs 3, 5 and 6, and to meet ROs 3, 5 and 6.

Hypothesis 1 which answers RQ 3 and meets RO 3 states that: *resources have direct and significant relationships with the perception of the significant risks encountered.* Five out of

six sub-hypotheses tested to answer Hypothesis 1 were accepted. Based on the test of Hypothesis 1, it can be deduced that the resources of South African construction companies influence how they perceived the impact of risk in the African construction market.

Hypothesis 2 which answers RQ 5 and meets RO 5 also states that: *the perceived impact of risk has direct and significant relationships with the entry decision.* All the six sub-hypotheses tested were accepted. Based on the test of Hypothesis 2, it can be deduced that the perceived impact of risk influence entry decisions made by South African construction companies into the African construction market.

There are two main hypotheses which answer RQ 6 and meets RO 6. Hypothesis 3a states that: *resources have direct and significant relationships with entry decisions,* while Hypothesis 3b states that: a*n entry decision has a direct and significant relationship with resources.* The two sub-Hypotheses tested under hypothesis 3 were accepted. Based on the test of hypothesis 3, it can be deduced that significant interactions exist between the resources and capabilities of South African construction companies and the entry decisions made into the African construction market.

Hypothesis 4 states that: r*esources have direct and significant relationships with the entry decisions, which mitigates the perceived impact of the six classes of risk.* Five out of the six sub-hypotheses were accepted. Based on the test of Hypothesis 4, it can be deduced that the resources of South African construction companies relate with entry decisions made to mitigate the perceived impacts of the risks encountered in the markets. Hence, hypotheses tested considerably answered the research questions and objectives.

9.4 CONCLUSION

Based on the empirical results obtained through the mixed methods approach used in data collection and analysis in this study, the following conclusions were drawn:

- The SACCs listed on the cidb Register of Contractors on Grades 8 and 9 in South Africa, have sufficient revenue, assets, number of employees and years of international experience, to operate in the ACM.
- SACCs are playing significant roles in the delivery of infrastructure projects in the SADC, with substantial contributions in the East and West African sub-regions.

- Some specific risks have been encountered by SACCs in the ACM, which have a significant impact on entry decisions made into the markets; however, the impact of political risks was perceived to be highly significant on entry decisions made.
- The findings also suggest that the resources of SACCs influence their perception of risks in the ACM and the perceived impact of the significant risks influenced entry decisions made into the markets.
- Further, SACCs had made strategic entry decisions in order to mitigate the perceived impact of the significant risks encountered in the ACM.
- There are also significant interactive relationships between the resources of SACCs and the entry decisions made, which mitigate the perceived impact of the significant risks in the ACM. This therefore enhances entry decisions made by SACC into the ACM.

It can also be inferred from the findings that when making strategic entry, it is possible to mitigate the perceived impact of the significant risks in the ACM, when the resources of SACCs are adequate. However, the interaction between the resources of SACCs and decisions made to enter the ACM, did not mitigate the perceived impact of the significant political risks encountered.

The study further concludes that, strategic entry decisions that would mitigate the perceived impact of risks are possible in the ACM, when the impact of the significant risks are adequately perceived, based on the amount of resources held by the SACCs. By making a strategic, risk-based entry decision, an SACC will be able to enter and execute projects in the ACM in a more efficient manner with positive outcomes.

9.5 CONTRIBUTION TO KNOWLEDGE AND PRACTICAL APPLICATION OF THE RESEARCH

The gap identified in international construction literature was that the ACM is oligopolistic, and that there is a dearth of studies that provide a holistic view of the nature of the prevailing risks in the markets. The integrated risk-based entry model developed in this study makes significant contributions to the body of knowledge on international construction in general and the ACM in particular. Among these contributions are, that the present study provides MNCCs in South Africa and those from rest of the world, with an all-inclusive checklist of the significant risks for MNCCs who anticipate involvement in foreign operations and who want to make a strategic or risk-based entry decisions when accessing the ACM.

A review of literature conducted on international business, revealed a more strategic process on mitigating the perceived impact of risks in overseas markets. The result of the review established that resources of multinational firms influence their perception of risks in overseas markets and that the perceived impact of risks influences entry decisions. In addition, resources, and entry decisions made, interact to mitigate the perceived impact of risks in foreign markets. There is little knowledge on these propositions in construction literature. Based on the theoretical concepts and hypothetical propositions, these gaps were addressed.

Since it is imperative for SACCs to make strategic entry decisions that would mitigate risks and enhance entry decisions, a predictive model developed, informs SACCs of the extent to which the perceived impact of risks that are based on level of resources of SACCs, influence entry decisions when all other influencing factors are held constant. In all, the study provides a new methodological approach to risk assessment and mitigation in the ICM, through the use of the PLS-SEM technique which measures the level at which the perceived impact of risk influences entry decisions made into the ACM. This will assist SACCs in making strategic entry decisions. In this regard, the study made a significant contribution to the knowledge in ICM, by developing a risk-based entry model that would enhance the entry of MNCCs into ICM.

For practical application purposes, the output of this research can be used in making strategic entry decision into the ICM where the environments is full of uncertainties. This study demonstrates the need for SACCs to undertake strategic investigations on the available entry modes into cross-border markets as essential instruments for market entry. They should also determine how their resources and capabilities relate to risk perception and entry decisions. A risk-based entry decision model provides decision makers in SACCs with a clearer approach to foreign market assessments and selection. It also provides knowledge on the perceived level of the impact of risks in unknown markets, and how these risks influence entry decision based on the resources and capabilities of the firms.

Decision makers in SACCs are also empowered by the model to decode which resources, and entry modes will mitigate the magnitude of risk in the markets. The results emanating from the research, further provide regulators and agencies in charge of construction policies in South Africa, such as the cidb, with information on how factors predicting successful entry into the ACM relate and behave. Most importantly, the study provides appropriate bodies or agencies

with information on the key constraints to the export of construction services and how SACCs could be best assisted and supported in foreign operations, in order to mitigate the perceived impact of risks.

9.6 RECOMMENDATIONS FOR STAKEHOLDERS

Based on the findings emanating from this study and the practical implications outlined in the previous section, the following recommendations were made to enlighten regulators and policy-makers in the South African construction sector and provide necessary support to contractors listed on Grades 8 and 9 of the cidb Register of Contractors with intentions of exploring contracting services within the ACM. This would assist them to make strategic entry decision that would mitigate the perceived impacts of risks in the markets:

Policy makers and government agencies in charge of construction policies in South Africa should endeavour to:

- provide the SACCs with intentions to enter cross-border markets in the ACM, with the necessary guidance beforehand.
- provide the SACCs with intentions to enter cross-border markets in the ACM, with the assistance needed, and ensure that they have sufficient resources prior to entering these markets.
- assist the SACCs with intentions to enter cross-border markets, to identify the significant risks in different regions and states within the ACM.
- develop suitable entry models for the SACCs with intentions to enter cross-border markets, which would lessen the perceived impact of the risks identified in the various regions or states within the ACM.

Strategic managers and decision makers within the SACCs that want to operate in African states, should attempt to:

- examine and establish that the resources within the companies are sufficient for operations within the ACM in order to achieve success in cross-border operations. Among such significant resources that should be considered are revenue, number of employees in the companies and years of international experience.
- identify the significant risks in the ACM that could lead to loss of resources in the markets.

- ensure that the decisions of companies to enter and conduct business in the ACM are based on an adequate perception of the impact of risk identified in the market.
- examine and establish the extent at which the mediating behaviours of interactions between the resources of SACCs and decisions made to enter the market could mitigate the perceived impact of risk in the ACM.
- undertake strategic investigations in order to establish which of the entry modes is suitable for each of the markets, based on the perceived impact of risk.
- Ensure that overall, decisions on entry into the ACM are strategically made. This can be done by employing strategic assessment tools and mapping tools applicable to the different markets. Also, an in-house model similar to the risk-based model like the one developed in this study could also be employed by SACCs when making decisions to enter the ACM.

9.7 RESEARCH LIMITATIONS

This research and the results reported in this thesis are not without limitations. Empirical evidence on influence of international risks and the resources of a company making decisions to enter the ACM, are presented in the study. The findings and answers to research questions were sought using mixed methods of data collection and analysis. The generalization and application of the findings obtained, should be applied with caution, because certain constraints are associated with the research process, including the study population and sample size (76 responses and 4 case studies).

There were 231 units of active construction companies listed on Grades 8 and 9 of the cidb Register of Contractors which formed the study population for this study. For case studies, four large-sized construction companies in South Africa active in the ACM were selected because of their experience of the markets relevant to this study. The selection of the cases was done using non-probabilistic sampling, which may limit the generalization of the qualitative (case studies) results. The sampling procedure has little or no influence on validity of results obtained through the cases. Moreover, the study focused on the experience of SACCs in the ACM, and the results obtained were based on the markets in which these companies had experience. This gap creates the need for an in-depth investigation in the future, on the experience of individual companies within individual countries in Africa.

A multiple construct approach was employed because in predicting a risk-based entry model, propositions were made through a set of theories. Research techniques used, were developed based, on theoretical foundations obtained from the literature. However, this does not guarantee that the instrument and data collected through it, were absolutely correct. The findings reported in this research are as accurate as responses provided by the respondents. Similarly, measures of the resources of the companies surveyed were limited to revenue, assets, number of employees and years of international experience. This does not guarantee that these variables are the only measures of the resources of MNCCs in South Africa, which should be considered in order to make strategic decisions when entering into the ACM. Other factors may also have contributed to entry decisions made by the companies surveyed.

Risk assessments were made in terms of the degree to which the risks were encountered and how MNCCs in South Africa perceived the impact of the significant risks, on their ease of entry; the measurement of risks is therefore not quantitative. Entry modes were assessed in terms of actual practice and level of effectiveness in mitigating the perceived impact of risks. Due to their variability, some risks appeared in more than one category. Responses to the perceived impact of risks were made into continuous variables in all stages of analysis. Accuracy of data analysis was assessed by employing statistical tools for analyzing the multiple sources of data.

In conclusion, caution should be exercised when generalizing the findings and conclusions drawn. Although the findings are significant and theoretically supported by existing literature, regard should be taken of the population, sample size and the number of constructs considered in the model developed. It is imperative that future studies investigate the experience of MNCCs from other countries, within and outside Africa, regarding the influence of international risks and the resources of MNCCs, on the entry decisions made into the international construction market. As a study that provides an all-inclusive profile of risks within the ACM and that provides a predictive multivariate technique for making strategic entry decisions, this study provides a basis for future research on strategic entry decisions into the ICM.

9.8 FUTURE RESEARCH

In line with findings of this study and limitations outlined above, there are potential areas for future research in international construction and strategic management; these areas include the following:

- An investigation of the experience of the MNCCs from outside Africa on influence of international risks and resources of these companies, on decisions made to enter the ACM, should be done.
- The motives of international construction companies from outside Africa, for operating in African markets, should be explored.
- Other factors that contribute to, or influence decisions made by the MNCCs to enter the African markets, should be investigated.
- This study developed an entry decision model based on the perceived impact of risk and the level of resources available. Research with main focus on project performance in the ACM, based on entry model used should also be undertaken.
- A case study of the experience of a company in a particular country or region of the Africa construction market could be undertaken to provide more detailed information about the markets.
- Also, more detailed investigation of entry modes used to access the ACM, should be explored.

9.9 SUMMARY OF THE CHAPTER

This chapter presents a summary of the findings of a study that developed a risk-based entry decision model for accessing the ACM. It established that there are significant risks in the ACM, and that the level of resources and capabilities of SACCs with cross-border experience, influence their perception of risks in the ACM, and the perceived impact of risks influences entry decisions made to foreign markets. The contributions this study made to the body of knowledge on the ICM include a risk profile for the ACM and the provision of a predictive analytical tool (PLS-SEM) for making strategic entry decisions when going into overseas markets. The practical implications of the study and its recommendations are available to the policy makers in government agencies, and strategic managers and decisions makers in MNCCs in South Africa. However, since this study focused on MNCCs in South Africa and entry into the ACM, further, future studies could expand the scope of this study to be more generally applicable to construction companies entering any foreign market.

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APPENDIX A – Introductory letter and consent form

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Department of Construction Economic & Management
Faculty of Engineering and the Built Environment.
University of Cape Town. Rondebosch, Cape Town,
South Africa.

December, 2014

Dear Madam/Sir,

Examining the Influence of International Risks and Construction Company Capabilities on Entry Decision into African Construction Markets

This questionnaire is part of an ongoing PhD (Construction Economics and Management) research project. The research aims to gain a better understanding of the influence of international risks on the decisions that construction companies make before exporting their services into other African markets/countries (i.e. outside South Africa). In the current phase of the research, we are focusing on three components: the capabilities of the construction company itself; the international risks that influence entry decision; and modes of entry used to access African construction markets. The questionnaire thus aims to identify the specific risks that may influence the export of construction services into African markets/countries (other than South Africa). It also looks at the modes of entry that construction companies use in accessing African markets.

The information provided by you will be treated with strictest confidence. The questionnaire can be completed within about 30 minutes. You are free to add further comments that will assist the research through the email address provided. Should you have any questions or require further information, please do not hesistate to contact me on 061-163-7526 or email me at oddsun001@myuct.ac.za.

The survey is to be completed online through the link provided in this mail. It would be appreciated if it can be completed and submitted/returned within the next 2 weeks in order to proceed to the next stage of this research.

Thank you for your participation and assistance.

Mr. Sunday Odediran
(PhD Candidate/Principal Researcher)

Dr. Abimbola Windapo
(Supervisor)

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

CONSTRUCTION ECONOMICS AND MANAGEMENT DEPARTMENT

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CONSENT FORM

Title of the research project:

Examining the Influence of International Risks and Construction Company Capabilities on Entry Decision into African Construction Markets

Name and position of the researcher:

Sunday Julius ODEDIRAN, PhD candidate, Department of Construction Economics and Management, University of Cape Town

Please respond to the following:

1. I have read Mr. Odediran's covering letter and understand what kind of information he is seeking from me.	YES
2. I agree to answer the questions posed in this study, and provide accurate information to the best of my ability.	YES
3. I understand that my participation is voluntary and that I am free to withdraw at any time without offering reasons.	YES
4. I agree to take part in this study.	YES

Name of the participant (on behalf of the company):……..

Signed: Date…….……

NOTE: All the information provided by you on behalf of the company will be treated as strictly confidential. The result will be presented in aggregate format and no individual disclosure will be made.

APPENDIX B – Questionnaire

SECTION A: GENERAL INFORMATION ABOUT THE COMPANY

Previous researches have shown that certain aspects of a firm's capabilities are particularly relevant for its success in international business. Of these, the current research is looking at company revenues, financial worth of company assets, number of years of international experience and total number of permanent employees in the company.

Please provide the following information about the capabilities of your company:

1. What was your company's total revenue in the last financial year (in Rands): .....
2. What percentage of the total revenue stated above was international revenue? …….....%.

3. What is the worth of your company's total assets in the last financial year (in Rands): …….....
4. For how many years has your company been active in African construction markets (outside South Africa)? …….....
5. What is the total number of permanent employees in your company? …….....
6. What is your company grade on the cidb register?

   (a) Grade 8 ☐

   (b) Grade 9 ☐

7. What is the exporting status of the company within African construction markets (excluding South Africa):

   1. Established exporter ☐

   2. Continuing exporter ☐

   3. New exporter ☐

   4. Non-exporter ☐

Questions 8 provides the list of the scope of construction services/works in international markets.

Please and kindly click appropriately, how frequent your company submits tender(s) for and/or execute the following construction services/works within African markets (other than South Africa).

The frequency rating scale is as follow:

Rating	1	2	3	4	5
Rating/year	>7 years/Never	Every 7 years	Every 5 years	Every 3 years	Yearly/annually

8. Construction Services in International Construction Markets

Construction Services	**1**	**2**	**3**	**4**	**5**
General Building					
Manufacturing					
Industrial					
Petroleum					
Water					
Power					
Transportation					
Hazardous waste					
Sewer waste					
Telecommunication					

Question 9 provides a list of the selected countries across five African regions (excluding South Africa).

i. Please indicate by clicking on the country (ies) your company had submitted tenders and/or executed construction services/projects.
ii. Also, rank how often your company submits tenders/executes construction services/projects within those countries indicated.

The frequency rating scale is as follow:

Rating	1	2	3	4	5
Rating/year	>7 years(never)	Every 7 years	Every 5 years	Every 3 years	Yearly/ongoing

9. Selected Countries across African Regions

Region	**Country**	**Tick**	**5**	**4**	**3**	**2**	**1**
North	Morocco						
	Tunisia						
	Egypt						
Southern	Mozambique						
	Zambia						

	Angola						
	Botswana						
	Malawi						
West	Nigeria						
	Sierra Lone						
	Ghana						
	Senegal						
East	Kenya						
	Tanzania						
	Ethiopia						
	South Sudan						
Central	Cameroon						
	Equatorial Guinea						
	Congo DR						
Please specify other country(ies) in Africa not listed							

SECTION B: IDENTIFICATION AND IMPACT OF INTERNATIONAL RISKS IN AFRICAN CONSTRUCTION MARKETS

International construction markets can entail more risks than local markets. These risks can be categorized into:

i. Country risks
ii. Project risks

NOTES

i. Kindly select a particular country (excluding South Africa) from those you have indicated above where your company had submitted tender(s) and/or was awarded a construction service/project.
ii. Type in the name of the country…….
iii. Answer the questions under this section based on your company's experience of risks encountered in that particular market/country selected.

COUNTRY RISK

The country risks are generally related to the political situation of the country; the social conditions and cultural practices within the country; and the state of the country's economy. In other words, there are political, socio-cultural, and economic/financial risks.

1. (a). Kindly click appropriately to indicate how often your company encountered country risks when "submitting tender" and/or "executing" construction services/projects in the selected country/market.

   (b). Also, rate the impact of country risks encountered on ease of entry i.e. access to the market and its opportunities.

   The rating scale is indicated below:

Encountered	Never	Rarely	Moderately	Often	Very often
Rating	1	2	3	4	5
Impact	No	Low	Moderate	High	Extreme
Rating	1	2	3	4	5

CODE	**POLITICAL RISK FACTORS**	**FREQUENCY OF ENCOUNTER**					**IMPACT ON EASE OF ENTRY**				
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
PR1	Instability/change in government										
PR2	Bureaucracy/administrative delay										
PR3	Changes in host government's laws, regulations and policies										
PR4	Unwritten/ambiguous laws, regulations and policies										
PR5	Restrictions on repatriation of funds to home country										
PR6	Bribery and corruption										
PR7	Legislative bottleneck/red tape										
PR8	Adverse legal rulings/inconsistent judicial/legal system										
PR9	Host government local content policies and political will towards project										
PR10	Political god-fatherism/dictatorship										
PR11	Tariff barriers/difficulty in doing business										
PR12	Delays in public decision-making process										

PR13	Cross-border delays in the movement of resources (human, materials, machineries/ equipment)										
PR14	Delay/denial in issuance of license/permits to expatriates firms										
PR15	Institutional capacity in government agencies										

Q1a PRF	Evaluate your company's overall perception of political risk impact on ease of entry into construction market in the selected country/market	**OVERALL RISK IMPACT LEVEL ON EASE OF ENTRY**				
		1	**2**	**3**	**4**	**5**

CODE	**SOCIO-CULTURAL RISK FACTORS**	**FREQUENCY OF ENCOUNTER**					**IMPACT ON EASE OF ENTRY**				
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
SCR1	Threats of terrorism/insurgencies										
SCR2	Societal differences (languages, religion, cultures and customs)										
SCR3	Ethical requirements and practices										
SCR4	Social disorders/instabilities (strikes, riots, labour unrests, wars, outbreak of epidemics)										
SCR5	Crime rate/social insecurity										
SCR6	Restrictive labour laws/markets										
SCR7	Local protectionism/local consideration										
SCR8	Dispute management system/arbitration										
SCR9	Changes in social systems/norms										
SCR10	Inadequate social infrastructure/facilities (power,										

	communication, road, health care, educational etc.)										
SCR11	Discriminative acts/treatments/attitudes/ towards expatriates/foreign firms										

Q1b SCRF	Evaluate your company's overall perception of socio-cultural risk impact on ease of entry into construction market in the selected country/market	**OVERALL RISK IMPACT LEVEL ON EASE OF ENTRY** **1 2 3 4 5**				

CODE	**ECONOMIC/FINANCIAL RISK FACTORS**	**FREQUENCY OF ENCOUNTER**					**IMPACT ON EASE OF ENTRY**				
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
EFF1	Payment risk										
EFF2	Fluctuation in inflation rate/rising inflation										
EFF3	Volatility in foreign exchange rates										
EFF4	Volatility in interest rate										
EFF5	Inadequacy in project funding										
EFF6	Multiple/double tax system/payment										
EFF7	Volatility in tax rates										
EFF8	Excessive price control										
EFF9	Restrictions in the repatriation of profits/royalties to home country										
EFF10	Economic stagnation/growth rate										
EFF11	Difficulty in capital returns										
EFF12	Delays in payment/shortage in payment										
EFF13	Access to credit/finance										
EFF14	Availability of economic information for market forecast										

Q1c EFRF	Evaluate your company's overall perception of economic/ financial risk impact on ease of entry into construction market in the selected country/market	**OVERALL RISK IMPACT LEVEL ON EASE OF ENTRY** **1 2 3 4 5**

PROJECT RISK

Project-level risks are related to the steps taken before actual construction activities and practical processes undertaken during the construction of a project in an overseas markets. These risks generally fall into the categories of procurement, design and construction related risks.

(a). Kindly click appropriately to indicate how often your company encountered project risks when "submitting tender" and/or "executing" construction services/projects in the selected country/market.

(b). Also, rate the impact of project risks encountered on ease of entry i.e. access to the market and its opportunities.

The rating scale is indicated below:

Encountered	Never	Rarely	Moderately	Often	Very often
Rating	1	2	3	4	5
Impact	No	Low	Moderate	High	Extreme
Rating	1	2	3	4	5

CODE	PROCUREMENT-RELATED FACTORS	FREQUENCY OF ENCOUNTER					IMPACT ON EASE OF ENTRY				
		1	2	3	4	5	1	2	3	4	5
PR1	Biases in bidding process										
PR2	Procurement policies in the host country										
PR3	Number of bidders										
PR4	Uncertainties in the estimating processes										
PR5	Contractual procedure										
PR6	Ambiguity in contractual conditions/ requirements										
PR7	Contract type										
PR8	Contract size										
PR9	Bidding requirements										
PR10	Land use acts and control										
PR11	Construction/building regulations and acts										
PR12	Local authorities/agencies' requirements										
PR13	Non-refundable bidding cost										

Q1d PRRF	Evaluate your company's overall perception of procurement-related risk impact on ease of entry into construction market in the selected country/market	OVERALL RISK IMPACT LEVEL ON EASE OF ENTRY 1 2 3 4 5				

CODE	DESIGN-RELATED FACTORS	FREQUENCY OF ENCOUNTER					IMPACT ON EASE OF ENTRY				
		1	2	3	4	5	1	2	3	4	5
DF1	Frequent changes to design and/or drawings										
DF2	Design errors/incorrect drawings/design flaws										
DF3	Incomplete design brief/information and/or										

	ambiguity of design scope/detailing										
DF4	Diffused responsibilities among design consultants/team										
DF5	Sub-contracting of designs by prime consultants										
DF6	Skills and experience of the designer company										
DF7	Delay in the timing and delivery of designs										
DF8	Design process of engineering components										
DF9	Conflicts related to design documents										
DF10	Bottleneck in designs approval										
DF11	Site characteristics and physical conditions										

Q1e DRRF	Evaluate your company's overall perception of design-related risk impact on ease of entry into construction market in the selected country/market	**OVERALL RISK IMPACT LEVEL ON EASE OF ENTRY**				
		1	**2**	**3**	**4**	**5**

CODE	**CONSTRUCTION-RELATED FACTORS**	**FREQUENCY OF ENCOUNTER**					**IMPACT ON EASE OF ENTRY**				
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
CSR1	Geological conditions (mining sites, resources etc.)										
CSR2	Site topographical conditions (rivers, mountain, buried services pipes etc.)										
CSR3	Climatic/weather conditions (rainfall, heat, wind, harmattan, earthquake etc.)										
CSR4	Skills and competency of client-generated subcontractors										
CSR5	Variation/rework/change in scope of work										
CSR6	Delay in progress payment and cash flow										

CSR7	Availability of qualified professionals in the local market										
CSR8	Productivity/expertise of local labour/equipment operators										
CSR9	Access to construction resources (material and skilled labour)										
CSR10	Theft of resources (materials/machine/equipment)										
CSR11	Construction methods/technologies requirements										
CSR12	Site/construction logistics/planning										
CSR13	Delay in procurement and supply of resources (materials/components/equipment/machines)										
CSR14	Delay due to erection/installation of supports/elements										
CSR15	Acts of God (force majeure i.e. heavy flood, landslide, earthquake, hurricanes, wind, epidemic diseases, historical findings)										
CSR16	Coordination and communication among erection team and design component/element manufacturers										
CSR17	Complexity of project										

Q1f CSRRF	Evaluate your company's overall perception of construction-related risk impact on ease of entry into construction market in the selected country/market	**OVERALL RISK IMPACT LEVEL ON EASE OF ENTRY**				
		1	**2**	**3**	**4**	**5**

SECTION C: MODES OF ENTRY INTO AFRICAN CONSTRUCTION MARKETS

Construction companies can access foreign markets using a number of different modes of entry. Ten basic entry modes have been identified, as follows: sole venture company, branch office/company; sole venture project; strategic alliance; local agent; joint venture company; joint venture project; representative office; build-operate-transfer (BOT)/equity project and licensing. These entry modes are described and explained below:

Entry Mode	Definition
Strategic Alliance	A long-term inter-corporate association based on trust and a mutual respect for each participant's business needs, used to further the common interests of the members.
Local Agent	A contractual arrangement between the entrant and a local agent where the agent provides information on local market conditions, contacts, and assistance to the entrant.
Licensing	A contractual arrangement between parties in different countries on the licensee's use of limited rights or resources like patents, trademarks, trade names, technology, and managerial skills from the entrant (licensor).
Joint Venture Company	A permanent joint venture in which the entrant and other legally separate parties form a jointly owned entity in which they invest and engage in various decision-making activities.
Sole Venture Company	A permanent venture in the host country wholly owned by the entrant, where profits and responsibilities are assigned exclusively to the entrant.
Branch Office/Company	The entrant opens/maintains an office/branch in the host country and this office conducts construction business
Representative Office	An unincorporated formal presence in the host country to carry out non-commercial activities like business communications, product promotion, market research, contract administration, and negotiations on behalf of the entrant's head office.
Joint Venture Project	A temporary project specific joint venture in which profits and other responsibilities are assigned to the entrant and other parties according to a contract.
Sole Venture Project	A wholly owned project specific venture where both profits and responsibilities are assigned exclusively to the entrant.
BOT/Equity Project	A project delivery method where the entrant (sponsor) finances, builds, and operates an economic infrastructure in the host country, and then transfers the ownership back to the government at the end of the project term free of charge or at an agreed price.

Source: Adapted from Cheung and Messner (2011)

NOTES
Before answering these questions:

1. Kindly bear in mind the country/market you selected in section B and answer questions under this section based on entry mode(s) your company has used at one time or another to enter that particular country/market

2(a). Please indicate by stating the number of times your company used the listed entry modes to enter that particular country/market earlier selected in section B.

(b). Also indicate how effective the entry mode(s) used is/are in helping your company to mitigate the impact of risks encountered when entering into that country/market.

The rating scale is indicated below:

Effectiveness	Totally ineffective	Somewhat ineffective	Moderately effective	Very effective	Extremely effective
Rating	1	2	3	4	5

CODE	ENTRY MODES	NUMBER OF USAGE	EFFECTIVENESS IN RISKS MITIGATION				
			1	2	3	4	5
EM1	Strategic Alliance						
EM2	Local Agent						
EM3	Licensing						
EM4	Joint Venture Company						
EM5	Sole Venture Company						
EM6	Branch Office/Company						
EM7	Representative Office						
EM8	Joint Venture Project						
EM9	Sole Venture Project						
EM10	BOT/Equity Project						

Q1 EM	Evaluate how your company would rate the overall effectiveness of the mode(s) of entry that it has used in the country you selected, in terms of mitigating risks.	OVERALL EFFECTIVENESS OF USE OF ENTRY MODE(S) IN MITIGATING RISK				
		1	2	3	4	5

Thank you for providing information on a specific country. Finally, we would like you to respond to your companies experience in exporting construction services to African countries generally.

3(a). Bearing in mind a specific country your company had operated or intending operation. Please click appropriately to indicate how often your company has used these entry modes to enter African construction markets in general.

(b). Similarly, indicate how effective these entry modes are in mitigating risks encountered in African construction markets in general.

The rating scale is indicated below:

Usage	Never	Rarely	Moderately	Often	Very Often
Rating	1	2	3	4	5
Effectiveness	Totally ineffective	Somewhat ineffective	Neither effective nor ineffective	Very effective	Extremely effective
Rating	1	2	3	4	5

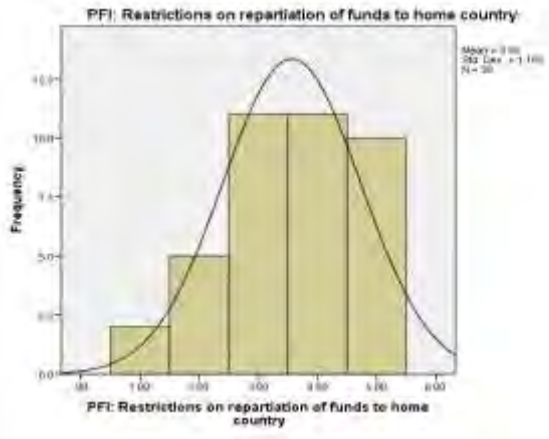
CODE	ENTRY MODES	LEVEL OF USAGE					EFFECTIVENESS IN RISKS MITIGATION				
		1	2	3	4	5	1	2	3	4	5
EM1	Strategic Alliance										
EM2	Local Agent										
EM3	Licensing										
EM4	Joint Venture Company										
EM5	Sole Venture Company										
EM6	Branch Office/Company										
EM7	Representative Office										
EM8	Joint Venture Project										
EM9	Sole Venture Project										
EM10	BOT/Equity Project										

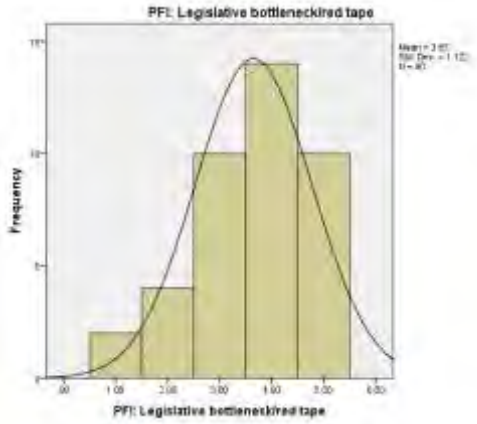
Q1 EM	Evaluate how your company would rate the overall effectiveness of the mode(s) of entry that it has used in the African construction markets, in terms of mitigating risks.	OVERALL EFFECTIVENESS OF USE OF ENTRY MODE(S) IN MITIGATING RISK 1 2 3 4 5

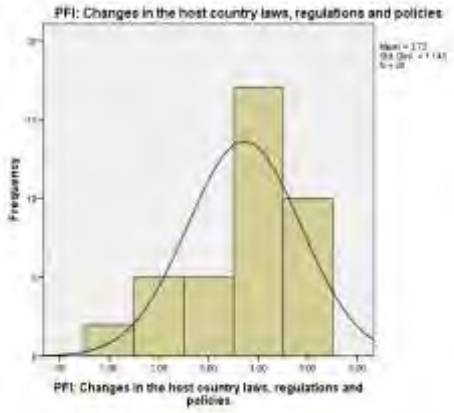
---APPEAL---

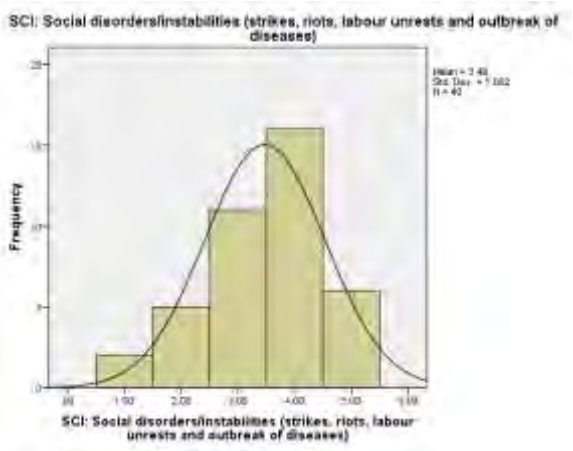
We would also appreciate if you could complete more copy(ies) of the questionnaire by selecting other country(ies) your company has submitted tenders and/or awarded construction services/projects within African construction markets (excluding South Africa).

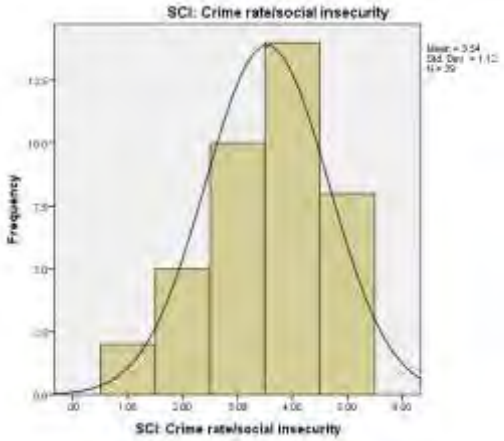
APPENDIX C – Histograms showing normality of variables

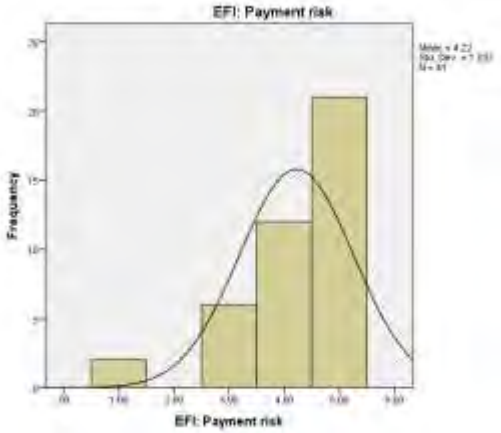


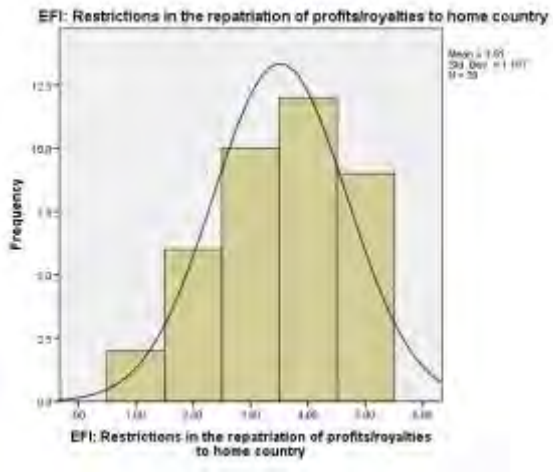


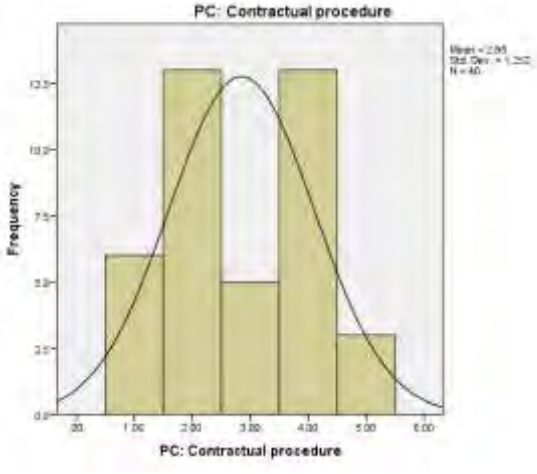


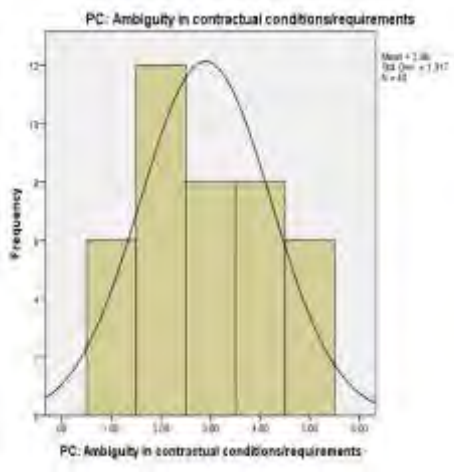


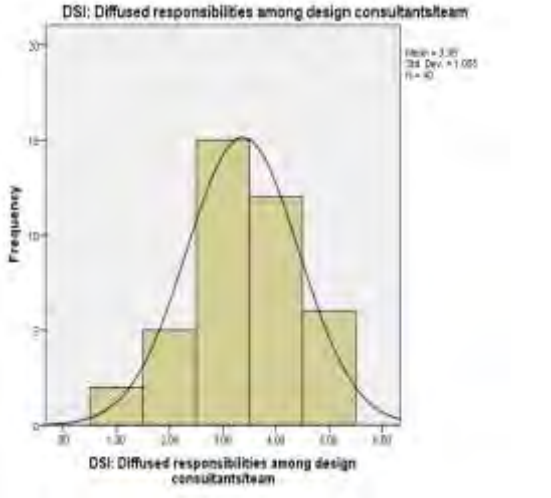


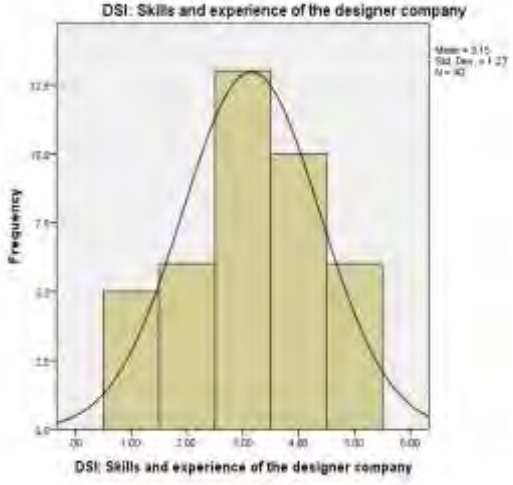


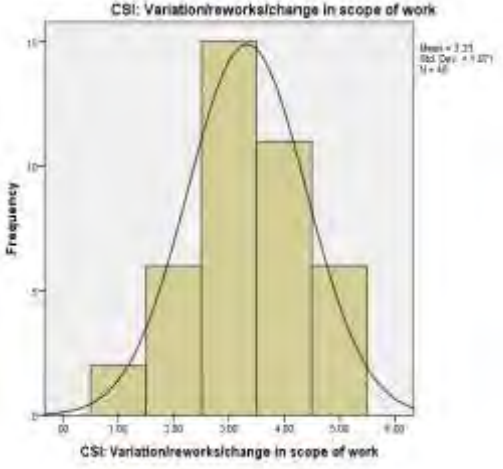

EFI: Restrictions in the repatriation of profits/royalties to home country
Frequency
EFI: Restrictions in the repatriation of profits/royalties to home country

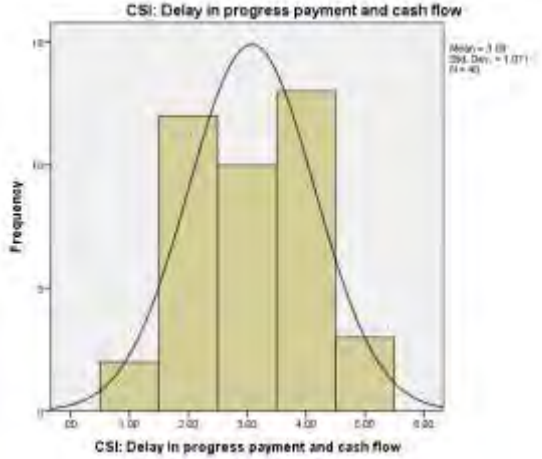

PC: Contractual procedure
Frequency
PC: Contractual procedure

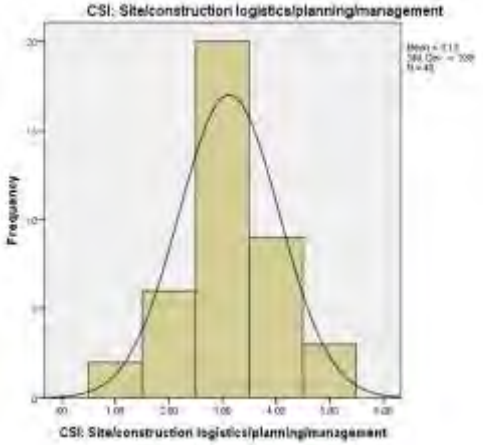

PC: Ambiguity in contractual conditions/requirements
Frequency
PC: Ambiguity in contractual conditions/requirements

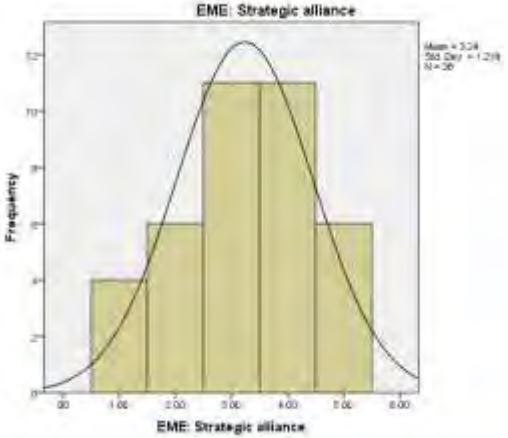

DSI: Diffused responsibilities among design consultants/team
Frequency
DSI: Diffused responsibilities among design consultants/team

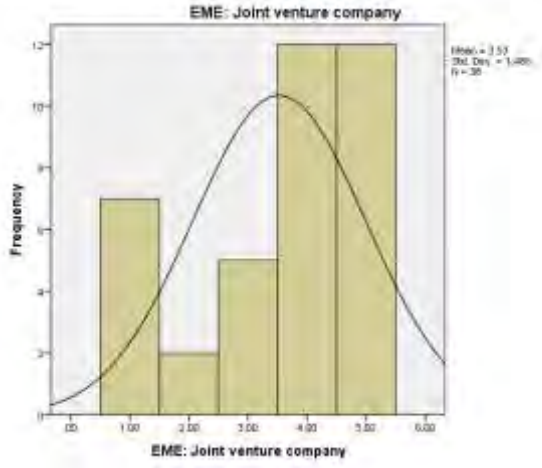

DSI: Skills and experience of the designer company
Frequency
DSI: Skills and experience of the designer company

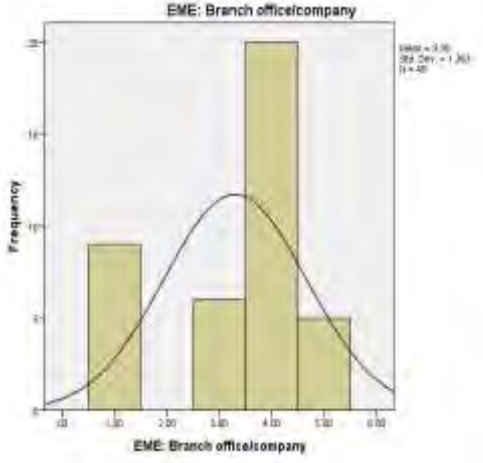

CSI: Variation/reworks/change in scope of work
Frequency
CSI: Variation/reworks/change in scope of work

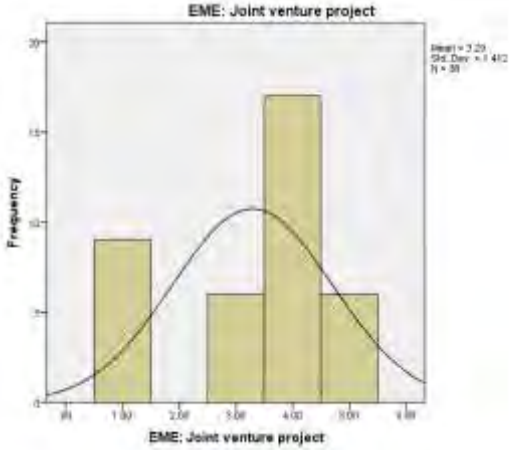

CSI: Delay in progress payment and cash flow
Frequency
CSI: Delay in progress payment and cash flow

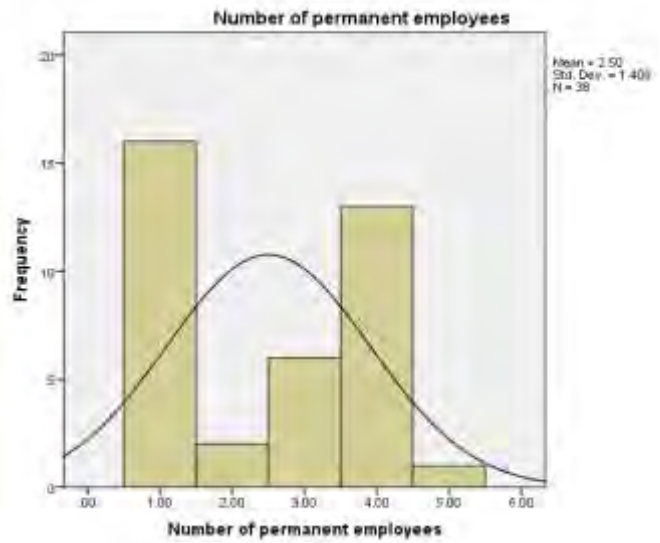

CSI: Site/construction logistics/planning/management
Frequency
CSI: Site/construction logistics/planning/management

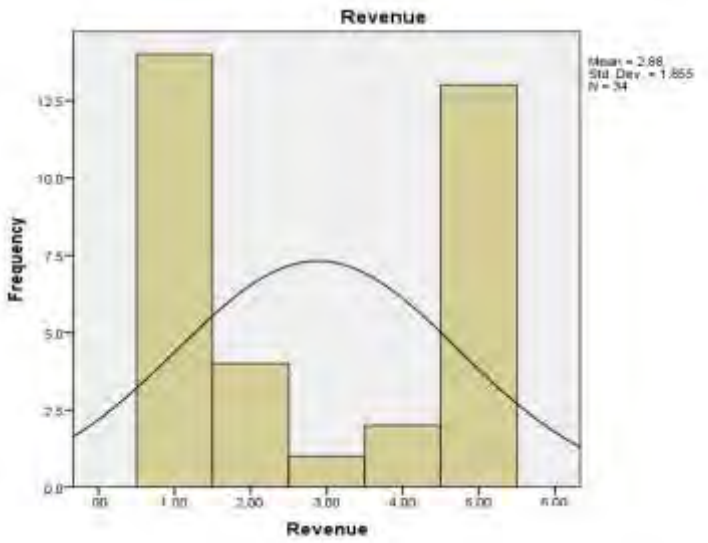

EME: Strategic alliance
Frequency
EME: Strategic alliance

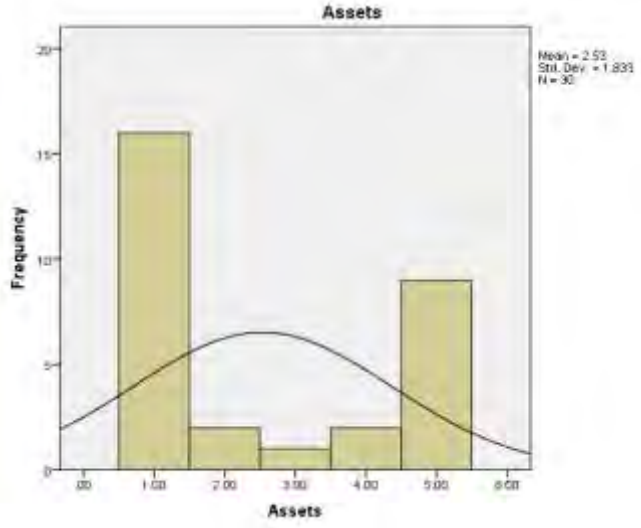

EME: Joint venture company
Frequency
EME: Joint venture company

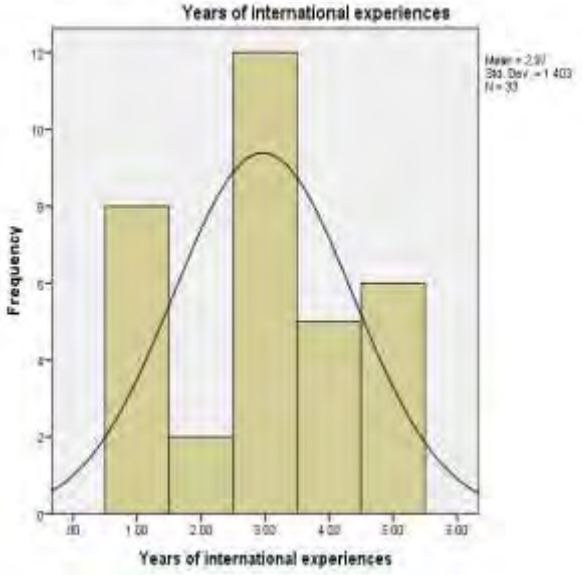

EME: Branch office/company
Frequency
EME: Branch office/company


EME: Joint venture project
Frequency
EME: Joint venture project


Number of permanent employees
Mean = 2.50
Std. Dev. = 1.409
N = 38
Frequency
Number of permanent employees


Revenue
Mean = 2.88
Std. Dev. = 1.865
N = 34
Frequency
Revenue


Assets
Mean = 2.53
Std. Dev. = 1.833
N = 30
Frequency
Assets


Years of international experiences
Mean = 2.97
Std. Dev. = 1.403
N = 33
Frequency
Years of international experiences

APPENDIX D – Selected sample of results of multiple regression analysis conducted

CAPABILITIES AND RISKS PERCEPTION

Capabilities and political risks perception

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.521[a]	.272	-.052	.68001	.272	.839	4	9	.534
a. Predictors: (Constant), Years of international experience, Number of permanent employees, Revenue, Assets									

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.548	.356		9.978	.000
	Revenue	4.443E-5	.000	.460	1.586	.147
	Assets	1.184E-5	.000	.064	.175	.865
	Number of permanent employees	2.008E-6	.000	.009	.025	.981
	Years of international experience	.010	.016	.186	.636	.541
a. Dependent Variable: PF: Legislative bottleneck/red tape						

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.802[a]	.643	.464	.58627	.643	3.595	4	8	.058
a. Predictors: (Constant), Years of international experience, Assets, Revenue, Number of permanent employees									

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.323	.375		6.197	.000
	Revenue	-8.638E-5	.000	-.765	-3.218	.012
	Assets	4.128E-5	.000	.258	1.134	.290
	Number of permanent employees	.000	.000	-.433	-1.663	.135
	Years of international experience	.077	.026	.781	2.992	.017
a. Dependent Variable: PF: Restrictions on repatriation of funds to home country						

RISKS PERCEPTION AND ENTRY DECISION

Political risks perception and entry decision

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.353[a]	.124	-.251	1.58889	.124	.331	3	7	.803
a. Predictors: (Constant), PF: Changes in the host country laws, regulations and policies, PF: Restrictions on repatriation of funds to home country, PF: Legislative bottleneck/red tape									

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.061	3.694		.287	.782
	PF: Legislative bottleneck/red tape	.014	.550	.010	.026	.980
	PF: Restrictions on repatriation of funds to home country	-.113	.662	-.064	-.171	.869
	PF: Changes in the host country laws, regulations and policies	.785	.834	.357	.942	.378
a. Dependent Variable: EM: Joint venture company						

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.393[a]	.155	.040	1.14290	.155	1.343	3	22	.286
a. Predictors: (Constant), PF: Changes in the host country laws, regulations and policies, PF: Legislative bottleneck/red tape, PF: Restrictions on repatriation of funds to home country									

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.067	1.723		1.200	.243
	PF: Legislative bottleneck/red tape	.403	.260	.306	1.551	.135
	PF: Restrictions on repatriation of funds to home country	.221	.281	.159	.786	.044
	PF: Changes in the host country laws, regulations and policies	-.399	.361	-.223	-1.104	.282
a. Dependent Variable: EM: Strategic alliance						

INTERACTIVE RELATIONSHIPS BETWEEN AND ENTRY DECISIONS

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.906[a]	.821	.741	.90874	.821	10.292	4	9	.002
a. Predictors: (Constant), EME: Strategic alliance, EME: Joint venture project, EME: Joint venture company, EME: Branch office/company									

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.497	.739		.672	.518
	EME: Joint venture company	-.092	.363	-.080	-.253	.806
	EME: Joint venture project	.409	.406	.347	1.009	.339
	EME: Branch office/company	.875	.406	.705	2.152	.060
	EME: Strategic alliance	-.188	.229	-.136	-.820	.433
a. Dependent Variable: Assets						

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.860[a]	.740	.625	.92588	.740	6.416	4	9	.010
a. Predictors: (Constant), Years of international experience, Assets, Revenue, Number of permanent employees									

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.595	1.034		.575	.579
	Revenue	.104	.213	.132	.490	.636
	Assets	.821	.243	.970	3.382	.008
	Number of permanent employees	-.278	.412	-.244	-.675	.517
	Years of international experience	.047	.213	.038	.221	.830
a. Dependent Variable: EME: Joint venture project						

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.621[a]	.386	.113	1.21699	.386	1.415	4	9	.305
a. Predictors: (Constant), Years of international experience, Assets, Revenue, Number of permanent employees									

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.017	1.360		2.954	.016
	Revenue	.175	.280	.259	.627	.546
	Assets	.058	.319	.080	.181	.860
	Number of permanent employees	-.016	.542	-.016	-.029	.978
	Years of international experience	-.531	.280	-.506	-1.899	.090
a. Dependent Variable: EME: Strategic alliance						

RISK MITIGATION THROUGH INTERACTIVE RELATIONSHIPS BETWEEN RESOURCES AND/OR CAPABILIES AND ENTRY DECISIONS

Political risk

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.900[a]	.809	-.718	1.24346	.809	.530	8	1	.793
a. Predictors: (Constant), EME: Strategic alliance, EME: Joint venture company, Years of international experience, Revenue, Number of permanent employees, EME: Branch office/company, EME: Joint venture project, Assets									

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.367	3.314		-.111	.930
	Revenue	-.349	.421	-.620	-.827	.560
	Assets	.517	.801	.890	.646	.635
	Number of permanent employees	.193	.821	.215	.234	.853
	Years of international experience	.099	.599	.101	.166	.895
	EME: Joint venture company	.613	.690	.873	.889	.538
	EME: Joint venture project	-.158	.696	-.238	-.227	.858
	EME: Branch office/company	-.773	.858	-1.090	-.901	.533
	EME: Strategic alliance	.937	.599	.954	1.564	.362
a. Dependent Variable: PF: Legislative bottleneck/red tape						

APPENDIX E – Interview protocol/guide

GREETING

Introducing the panel

Principal Researcher/Student: Mr. Sunday Odediran
Supervisor: Dr. Abimbola Windapo
Research Title: Examining the Influence of International Risks and Construction Company Capabilities on Entry Decision into African Construction Markets

GENERRAL INFORMATION ABOUT THE COMPANY AND THE RESPONDING OFFICER

Can we meet you sir/ma and/or introduce yourself?

Name (optional)…….....
Position/designation in the company…….....
Years of service in the company……
Specialization……...

Can you provide us with the following information about the company?

Name of the company (optional)……...
Revenue in the year ended audited financial report……...
International revenue (% of total revenue)……
Total asset in the year ended……..
Total number of employees in the year ended……...
Years of international experience……
Years of existence of the company…..…….
Specialization/kind of services being exported by the company…….....
Key country/regions of operation in African market…….

SECTION A: RISKS AND RISK WITH SIGNIFICANT IMPACT IN CONSTRUCTION AFRICAN MARKETS

COUNTRY RISK

Political risk

What are the political risks encountered in the African construction market?
How significant are their impact on ease of entry into African construction markets?

Socio-cultural risk

What are the social risks encountered in the African construction market?
How significant are their impact on ease of entry into African construction markets?

Economic/financial risk

What are the economic/financial risks encountered in the African construction market?
How significant are their impact on ease of entry into African construction markets?

PROJECT RISK

Procurement-Related Risk Factors

What are the procurement-related risks encountered in the African construction market?
How significant are their impact on ease of entry into African construction markets?

Design-Related Risk Factors

What are the design-related risks encountered in the African construction market?
How significant are their impact on ease of entry into African construction markets?

Construction-Related Risk Factors

What are the construction-related risks encountered in the African construction market?
How significant are their impact on ease of entry into African construction markets?

General

How can you rate impact of political risks encountered on ease of entry into African construction markets?
How can you rate impact of social risks encountered on ease of entry into African construction markets?
How can you rate impact of economic/financial risks encountered on ease of entry into African construction markets?
How can you rate impact of procurement-related risks encountered on ease of entry into African construction markets?
How can you rate impact of design-related risks encountered on ease of entry into African construction markets?
How can you rate impact of construction-related risks encountered on ease of entry into African construction markets?

SECTION B: COMPANY RESOURCES AND RISKS PERCEPTION IN AFRICAN CONSTRUCTION MARKETS

Based on your company's experience in overseas construction markets, what resources are required for company internationalization?

Are these resources and capabilities within your company influenced how impacts of risks are perceived in African construction markets and how?

SECTION C: ENTRY DECISIONS AND RISKS MITIGATION IN AFRICAN CONSTRUCTION MARKETS

What entry models had your company used to access African construction markets?
Does your company have preference for any particular type of entry models and why?
Does your company strategically choose entry models with intention to mitigate the perceived impact of risks?
How effective were the entry models used in mitigating the perceived impact of risks in African markets?
Are the perceived impacts of risks influenced entry decisions made?
Are the resources and capabilities within your company and entry decisions made assisted to mitigate the perceived impact of risks encountered in African construction markets?

Permission/Consent

Disclosure of company' name (Yes/No)……...
Disclosure of responding officer/interviewee' name (Yes/No)…….

Closure

Greetings.