

**Risk Assessment of International Joint Ventures
Construction Projects in UAE**

تقييم مخاطر المشاريع المشتركة الدولية في قطاع الإنشاءات في دولة الإمارات
العربية المتحدة

by

ABDALLAH YOUSEF BAKIR

**Dissertation submitted in fulfilment
of the requirements for the degree of
MSc PROJECT MANAGEMENT**

at

The British University in Dubai

April 2015

DECLARATION

I warrant that the content of this research is the direct result of my own work and that any use made in it of published or unpublished copyright material falls within the limits permitted by international copyright conventions.

I understand that a copy of my research will be deposited in the University Library for permanent retention.

I hereby agree that the material mentioned above for which I am author and copyright holder may be copied and distributed by The British University in Dubai for the purposes of research, private study or education and that The British University in Dubai may recover from purchasers the costs incurred in such copying and distribution, where appropriate.

I understand that The British University in Dubai may make a digital copy available in the institutional repository.

I understand that I may apply to the University to retain the right to withhold or to restrict access to my thesis for a period which shall not normally exceed four calendar years from the congregation at which the degree is conferred, the length of the period to be specified in the application, together with the precise reasons for making that application.

Signature of the student

COPYRIGHT AND INFORMATION TO USERS

The author whose copyright is declared on the title page of the work has granted to the British University in Dubai the right to lend his/her research work to users of its library and to make partial or single copies for educational and research use.

The author has also granted permission to the University to keep or make a digital copy for similar use and for the purpose of preservation of the work digitally.

Multiple copying of this work for scholarly purposes may be granted by either the author, the Registrar or the Dean only.

Copying for financial gain shall only be allowed with the author's express permission.

Any use of this work in whole or in part shall respect the moral rights of the author to be acknowledged and to reflect in good faith and without detriment the meaning of the content, and the original authorship.

Abstract

International Joint Ventures become the popular form of collaboration between contractors to overcome projects complexity in United Arab Emirates. However, contractors have to manage and control IJVs efficiently to achieve their goals and objectives. For this reason, in this research the risk management techniques were utilized to identify and to assess the risks associated with IJVs in UAE. Moreover, a broad scope of understanding the relationships between risks' factors and their impact on IJVs' performance. Through an in-depth study of previous literatures, many factors were found to impact IJVs performance. For the purpose of this study, Partner and Host country related-factor were assessed in the context with IJVs in UAE. The conceptual framework was designed to rank the risks based on level of importance. In addition, the conceptual framework was proposed to test the relationships between the risks indicators and impacts on IJVs performance. Based on the proposed conceptual framework, a survey, and semi-structured interviews were designed and conducted for primary data collection. Based on previous literatures, a total number of 42 questions were designed to identify the risk of IJV, assess their impact, and test the relationships proposed in the conceptual framework. The sample of participants for the survey was selected randomly by visiting contractors working on IJV projects in UAE. A total of 200 emails were sent through a web-based questionnaire, out of this number only 56 respondents completed the survey. On the other hand, a pre-prepared set of questions was designed for exploratory reasons and to fill the gap of the survey. The main findings of both the survey and the interview revealed that in UAE, Inter-partner conflict is ranked the highest among partner related risks. On the contrary, culture difference was ranked the lowest in the same group. On the other hand, in UAE, contractors perceived the construction risks to be the highest risk in host country related-factors. In

addition, some of the proposed relationships in the conceptual framework proved reliability while others were rejected such as ownership. Based on the findings, recommendations to the contractors were recorded to spot the light on the critical risks associated with IJVs in UAE construction industry.

Keywords: *Construction Industry, Risk Management, International Joint Venture*

المخلص

أصبحت المشاريع المشتركة الدولية الشكل الشائع للتعاون بين المقاولين للتغلب على التعقيدات المنبثقة عن المشاريع الإنشائية في دولة الإمارات العربية المتحدة. ومع ذلك، يجب على المقاولين إدارة ومراقبة المشاريع المشتركة بكفاءة لتحقيق أهدافهم وغاياتهم المرجوة من هذه الشراكات. لهذا السبب، في هذا البحث تم استخدام تقنيات إدارة المخاطر لتحديد وتقييم المخاطر المرتبطة بهذه الشراكات في المشاريع الإنشائية في دولة الإمارات العربية المتحدة. علاوة على ذلك، هناك مجال واسع لفهم العلاقات بين عوامل المخاطر وتأثيرها على أداء هذه الشراكات من خلال دراسة متعمقة للمؤلفات السابقة، وقد تم العثور على العديد من العوامل التي تؤثر على أداء المشاريع المشتركة. لغرض هذه الدراسة، تم تقييم العامل المرتبط بالشريك والدولة المضيفة في سياق الشراكات الدولية في الإمارات العربية المتحدة، كما تم تصميم الإطار النظري لتصنيف المخاطر بناءً على مستوى الأهمية. بالإضافة إلى ذلك، تم اقتراح الإطار النظري لإختبار العلاقات بين مؤشرات المخاطر والآثار على أداء الشراكات. بناءً على الإطار النظري المقترح، تم تصميم وإجراء مسح ومقابلات شبه منظمة من أجل جمع البيانات الأولية. استنادًا إلى المؤلفات السابقة، تم تصميم إجمالي عدد 42 سؤالاً لتحديد أخطار مشاريع الشراكات الدولية وتقييم تأثيرها واختبار العلاقات المقترحة في الإطار النظري. تم اختيار عينة المشاركين في الاستطلاع بشكل عشوائي من خلال زيارة المقاولين العاملين في مشاريع الشراكات الدولية في الإمارات العربية المتحدة. تم إرسال ما مجموعه 200 رسالة بريد إلكتروني من خلال استبانة على شبكة الإنترنت، من بين هذا العدد أكمل 56 شخص فقط على الاستبانة. من ناحية أخرى، تم تصميم مجموعة معدة مسبقًا من الأسئلة لأهداف استكشافية ولتعويض أي نقص ناتج عن الاستبانة. كشفت النتائج الرئيسية لكل من الاستطلاع والمقابلة أنه في الإمارات العربية المتحدة يحتل الصراع بين الشركاء المرتبة الأعلى بين المخاطر المتعلقة بالشراكات. على العكس من ذلك، تم تصنيف الاختلاف الثقافي في المرتبة الأدنى في نفس المجموعة. من ناحية أخرى، في الإمارات العربية المتحدة، رأى المقاولون أن أخطار البناء هي أعلى المخاطر في العوامل ذات الصلة بالبلد المضيف. بالإضافة إلى ذلك، أثبتت بعض العلاقات المقترحة في الإطار النظري موثوقيتها بينما تم رفض البعض الآخر مثل الملكية. بناءً على النتائج، تم تدوين التوصيات للمقاولين لتسليط الضوء على المخاطر الحرجة المرتبطة بمشاريع الشراكات في قطاع الإنشاءات في دولة الإمارات العربية المتحدة.

الكلمات المفتاحية: قطاع الإنشاءات، إدارة المخاطر، مشاريع الشراكات الدولية.

Acknowledgments

First and Foremost, my thanks always goes out to (Allah) who blessed me with the opportunity to take the MSc in Project Management program. This research would not been possible without the help of several people whose names may not all be enumerated. Though, my gratitude goes out to *Professor Abubakr Suliman* for guiding me and attending my calls, appointments, and emails throughout this research, whenever needed and without restrictions. Also, my deepest appreciation goes to the library and administration's staff at the British University in Dubai (BUiD) for the nicest and most professional assistance during the whole program. I would also like extend my appreciation to my dear colleagues at work for encouraging and supporting me. Finally, my gratitude further extended to the interviewees for granting me an adequate time for collecting data regardless of their responsibilities and busy schedule.

Table of Contents

Abstract.....	
Acknowledgments.....	
1 CHAPTER ONE – INTRODUCTION	1
1.1 Research Background	1
1.2 Research Problem	4
1.3 Research Aim and Objectives	5
1.4 Research Questions	6
1.5 Significance of the Study	6
1.6 Dissertation outline	7
1.7 Definition of the Key Terms	9
1.7.1 Risk	9
1.7.2 Risk Assessment	9
1.7.3 International Joint Venture.....	9
1.8 Conclusion to the Chapter.....	10
2 CHAPTER TWO -THEORETICAL FRAMEWORK.....	11
2.1 Study components.....	11
2.2 Assessment of risks related factors on IJV construction projects in UAE.....	16
2.2.1 Risk Identification of IJV Construction projects in UAE	17
2.2.2 Risk Analysis of IJV Construction projects in UAE.....	18
2.2.3 Risk Control of IJVs in Construction Projects.....	18
2.3 Conceptual framework:.....	19
2.4 Conclusion to the chapter.....	21
3 CHAPTER THREE – LITERATURE REVIEW	22
3.1 Overview of Risk Management in construction industries	22
3.2 Overview of IJVs in Construction Industry	24
3.3 Overview of Construction Industry in UAE and International Joint Ventures	26
3.4 Risk in Construction Industry of UAE in IJVs Construction Projects.....	27
3.4.1 Partner Fit.....	29
3.4.2 Inter-Partners’ Conflicts.....	30
3.4.3 Opportunism	30
3.4.4 Culture Distance.....	31
3.4.5 Dependence.....	31

3.4.6	Ownership Share	32
3.4.7	Agency Risk	33
3.4.8	Host Country Financial Risks	34
3.4.9	Host Country Political Risks	35
3.4.10	Host country Resource Deficiency Risks	35
3.4.11	Construction Risks	36
3.5	Impact of IJV Construction Projects risks on Contractors	36
3.6	Conclusion to the Chapter	41
4	CHAPTER FOUR - RESEARCH METHODOLOGY	43
4.1	Research Philosophy	43
4.2	Research Method	44
4.3	Research Strategy	45
4.4	Data Collection	46
4.4.1	Primary Data Collection	46
4.4.2	Secondary Data Collection	48
4.5	Sampling	48
4.6	Data Analysis Method	49
4.7	Research Ethics	50
4.8	Conclusion to the Chapter	51
5	CHAPTER FIVE- RESULTS AND FINDINGS	52
5.1	Survey Demographics	52
5.2	Risk Indicators	54
5.2.1	General Perception of IJV Risk Factors	54
5.2.2	Partner Related Indicators	56
5.2.3	Host Country Related Indicators	58
5.3	Impacts of risks associated with IJV projects	61
5.3.1	Partner related risk Impacts	61
5.3.2	Host Country Related Risk Impact	62
5.4	Discussion of Indicators and Impact Ranking	64
5.5	Relationship between indicators and impacts	65
5.5.1	Relationship between Indicators and Impacts of Partner Related Factors	67
5.5.2	Relationship between Indicators and Impacts of Host Country Factors	67
5.6	Improvement of IJV construction projects and avoidance of risks	68
5.7	Discussions and Implications (Survey)	69
5.8	Interview Analysis	71
5.8.1	Interview (A) (International Contractor)	71

5.8.2	Interview (B) (Local contractor)	75
5.9	Discussion and Implications (Interviews).....	78
5.10	Conclusion to the Chapter.....	80
6	CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS	82
6.1	Conclusions.....	82
6.2	Recommendations.....	84
6.3	Limitation of the study.....	87
6.4	Recommendations for future research	88
References.....		89
7	Appendices.....	97
7.1	Appendix (A)	98
7.1.1	Email survey invitation	98
7.1.2	Survey questionnaire.....	99
7.1.3	Interview questions	104
7.2	Appendix (B)	106
7.2.1	Survey (Raw Data).....	107

List of Figures

<i>Figure 2-1 Complex risks of IJVs as per literatures</i>	12
<i>Figure 2-2 Risk assessment cycle</i>	17
<i>Figure 2-3 Conceptual framework</i>	20
<i>Figure 5-1 Low Standard Deviation</i>	56
<i>Figure 5-2 Mean ranking for partner related indicators</i>	58
<i>Figure 5-3 Mean ranking for host country related indicators</i>	60
<i>Figure 5-4 Partner related indicators against host country related indicators</i>	60
<i>Figure 5-5 Mean Ranking for Partner related impact factors</i>	62
<i>Figure 5-6 Mean Values for host country related impacts</i>	63
<i>Figure 5-7 Partner related impacts against host country related impacts</i>	63
<i>Figure 5-8 The need for risk assessment and mitigation</i>	69

List of tables

<i>Table 2-1 Motivation of IJVs</i>	13
<i>Table 2-2 Theoretical framework of Partner's related factors</i>	14
<i>Table 2-3 Theoretical framework for Host country's related factors</i>	15
<i>Table 5-1 Demographics</i>	53
<i>Table 5-2 Demographics Statistical Indicators</i>	54
<i>Table 5-3 Perception of IJV in UAE</i>	55
<i>Table 5-4 General Perceptions Statistical Indicators</i>	56
<i>Table 5-5 Partner Related Risk Indicators</i>	56
<i>Table 5-6 Comparison of Means for Partner Related Dimensions</i>	58
<i>Table 5-7 Host Country Risk Indicators</i>	59
<i>Table 5-8 Comparison of Mean for Host Country Related Indicators</i>	59
<i>Table 5-9 Partner Related Risk Impacts</i>	61
<i>Table 5-10 Comparison of Mean Values for Partner related impact items</i>	62
<i>Table 5-11 Host Country Risk Impacts</i>	62
<i>Table 5-12 Comparison of Composite mean values for host country related impact items</i>	63
<i>Table 5-13 Indicator ranking and impacts on UAE IJV construction projects</i>	64
<i>Table 5-14 Reliability tests for partner related risk dimension</i>	65
<i>Table 5-15 Reliability test for host country related risk dimensions</i>	65
<i>Table 5-16 Partner related risk factors</i>	67
<i>Table 5-17 Host Country related risk factors</i>	67
<i>Table 5-18 Need for recommendations on assessment and mitigation of risk in IJV construction projects</i>	68
<i>Table 5-19 Risk assessment as per interview (A) and (B)</i>	79

1 CHAPTER ONE – INTRODUCTION

There has been a remarkable development in United Arab Emirates in the past few years. The vision of UAE's government requires unique capabilities which may not be available in the local market. For that reason, international experience is required and encouraged in UAE. Yet, because of projects' size, complexity, and many other factors, some international firms have been joining other local firms temporarily to work on one project or more. This research will be discussing the risks encountered in international joint ventures in construction industry in UAE from the perspective of the contractors.

1.1 Research Background

The advancement throughout the world has been growing and moving rapidly. For this reason, organizations are encouraged and convened to move toward technological improvement and compete at global level. Such development and advancement allow organizations to run their business operations fast. On the other hand, the uncertainties and threats to the business operations have also been growing at the same pace. The risk is believed to have a significant and unexpected influence on the performance. It also affects functions and operations of an organization because of the potential to create or bring unexpected situations (Hansson & Zalta, 2007). For this reason, an effective assessment and mitigation are necessary in order to prevent the organization from major threats and consequence. Moreover, it is found that risk can be occurred in any kind of business, i.e. financial industry, marketing and sales industries, healthcare industry, online businesses, transportation industry, food and beverage industry, and so on. Likewise, there is no exception to the construction industry. It means that the construction industry worldwide suffers from different kinds of risk which could either bring negative outcomes or positive opportunities. Thus, (Chan et al., 2011) found that the level

of consequence of risk i.e. positive or negative, is solely dependent on the way through which certain construction companies assess, mitigate and deal with the risk

It is found that the construction industry is more complex than other industries. Also, it is more difficult to be managed due to its requirements for exceptional skills and techniques. Therefore, the construction projects are expected to face more risks than other market sectors (Ozorhon et al., 2007). In addition, (KarimiAzariet al. , 2011) argued that in the construction industry, the risk takes place in construction projects and affects them. Such risk can be either adverse with significant influence on the entire construction project or less adverse with minor influence (KarimiAzariet et al., 2011). Quite the opposite, risk management is crucial for projects as it eliminates time and cost overruns. (Chan et al. , 2011) argued that identification of risk is very important for construction companies. Similarly, the risk management will not only protect contractors from the adverse impacts of certain risk, but also ensure the visibility and reliability of certain organization by accomplishing the projects successfully (Chan et al., 2011).

In addition to the above, it is examined that a vast use of risk assessment in construction industry has been introduced in the past. For example, (Baker et al., 1999) found that managing projects risks has become crucial as a result of technological advancement. However, it is that examined the demand for construction projects has been increasing at global and domestic levels. In addition, organizations are moving rapidly in the international construction industry in order to achieve more popularity and success in the respective area of concern. The corporate in the construction industry can expand business and penetrate the international market by using joint ventures. According to (Chan and Tse, 2003), the developing countries like UAE can acquire considerable advantage from such international collaboration or joint venturing particularly with developed countries.

In addition, it is found that Local contractors in developing countries use joint venture with international contractor from developed countries to overcome the complexity of construction projects (Chan & Tse, 2003). Thus, it is clearly illustrated that, to achieve the goal of the international joint ventures (IJVs), collaboration between contractors is essential.

In the same way, International projects might encounter higher level of risks compared to dogmatic projects. The involvement of different people belonging to different political, culture, and economic backgrounds increase risks (Chapman, 2001; Chan & Tse, 2003). On the other hand, the international collaboration is complex to manage due to the involvement of different culture, political, economic and environmental conditions. It is one of the facts that, the occurrence of a risk is highly dependent on the size and growth of a construction company. Therefore, it means that the larger the company, the higher the possibility of adverse risks. For that reason, it is observed that this area has become a significant concern for numbers of researchers. (Ogunlana et al., 2004; Jamil et al., 2008; Ozorhon et al., 2010; Abdelghany & Ezeldin, 2010; Xiaopeng & Pheng, 2013; Taroun, 2014). All these researchers argued that the risk assessment and mitigation are essential for all construction companies but particularly at international level. For this reason, it becomes more significance because of its multicultural environment.

In addition to the above, it is argued that the impact of such risks on construction projects and companies are significant, especially for contractors and construction companies (Rausand, 2013; Hansson & Zalta, 2007). Therefore, it is necessary to assess and to identify the risk associated with the IJVs construction projects so that the project can be delivered successfully. In addition, the efficiency can be increased along with profitability by implementing effective mitigation plans or approaches. On the other side, it has been depicted that the opportunities for IJVs in construction industry has been evolving rapidly. Therefore, the construction companies are moving towards international construction industry to avail such opportunities.

Based on the above findings, the aim of the study under consideration is to determine the risks of IJVs construction projects in UAE and to analysis the impact of such risks on both international and local contractors.

1.2 **Research Problem**

The study mainly focuses on the risk identification of risks of IJVs construction projects in UAE as well as to recognize the influence of such identified risks on the contractors. By reviewing several empirical studies and researches, it has been noticed that, some studies on risk assessment in the IJVs construction projects were conducted mostly in developed countries such as UK (the United Kingdom) (Bresnen & Marshall, 2000), USA (the United States of America) (Rahman & Kumaraswamy, 2002), Germany (Harhoff et al., 1998), China (Shen et al., 2001), and so on. However, there is a considerable deficiency of these studies on risk identification pertaining to constructions in developing or less developed countries. Therefore, the study under consideration focuses on the developing economies like UAE (the United Arab Emirates) so that risks faced by contractors in IJV practices in construction industries can be identified. Moreover, in the past couple of years, there has been a huge expansion in different sectors in UAE. As a result, more international contractors have been approached to work and invest in industrial, infrastructure, renewable energy, and other similar construction projects. Moreover, political stability, tax free investment, and growing economy of the UAE, found to encourage and increase international investors (El-Sayegh, 2008; Kerr et al., 2013). Besides, it is found that the construction industry of UAE has been growing rapidly in the international market; similarly the risks and uncertainties are also becoming the major threats to the industry (El-Sayegh, 2008). The construction industry of UAE has been recorded as 46 key construction projects at international level valued at USD \$625 billion (Basit, 2012). It is further expected

that the construction industry of UAE will contribute to 11.1% GDP (Growth Domestic Product) by the end of 2015 (Basit, 2012).

The growing economy and construction industry of UAE attract a number of investors to participate in developing several remarkable projects. In addition, in UAE local companies make alliance with the foreign companies and start construction projects through collaboration. However, at one point this strategic alliance would bring positive change in the growth and development of the country.

Furthermore, a lack of risk assessment observed from general practices in UAE market and especially in construction industry can cause causing a negative influence on the contractors. A report by (Kerr et al., 2013) show that the risk mitigation through effective project controls is difficult for construction companies. Therefore, it is suggested that more commercially assertive approach needed to be taken by contractors in order to address the emerging risk. In the same way, El-Sayegh (2008) found that the ranking of construction industry risk is higher in UAE and most of the risks are allocated to contractors or shared between contractors and owners of the construction project. (El-Sayegh, 2008). Hence, it can be said that the study under consideration on project risk assessment is necessary with respect to UAE construction industry and their joint venturing practices with developed nations.

1.3 Research Aim and Objectives

The aim of the undertaken research is to identify the risks of host country and partner's related factors associated with IJVs construction projects in UAE, and to assess their impact on local and foreign contractors.

. Based on this aim, the following research objectives will be considered in this study:

1. To identify the critical risks of partner and host country related factors associated with IJVs construction projects in UAE.

2. To assess the impact of the identified risks in IJVs construction projects in UAE on contractors.
3. To investigate the relationship between risks factors and their respective impact on IJVs construction projects in UAE.
4. To recommend control measures to overcome or mitigate the impact of the risks to ensure the best performance of IJVs projects in UAE.

1.4 **Research Questions**

The following research questions have been answered in this research:

Q1: What are the critical risks of partner and host country related factors associated with IJVs in construction projects in UAE?

Q2: What are the impacts of the risks associated with IJVs construction projects of UAE on contractors?

Q3: What are the relationships between the risk factors and the impacts on IJVs construction projects in UAE?

Q4: How can the contractors control the risks associated with IJVs construction projects in UAE?

1.5 **Significance of the Study**

The research under debate is significant in terms of increasing understanding and awareness of the contractors about risk assessment of IJVs. Furthermore, it is important for identifying, assessing and controlling risks for construction companies in UAE together with the international construction projects. So that, projects can be accomplished easily with the higher benefits of maintaining relationship with international contractors. It would be relatively a new area of study that focuses on the UAE contractors. Hence, little relevant study has been

identified in the literatures so far. Therefore, the research under consideration contributes to existing literature on risk management, particularly focusing on IJVs construction projects in UAE. Furthermore, the research would assist the global construction companies and contractors that face similar issues and concerns as UAE contractors faced while working with IJV mega construction projects. Also, it assists in terms of making their risk assessment performance effective and efficient in order to achieve long-term competitiveness in international construction industry. Besides, it would assist the global construction contractors and construction companies in terms of acquiring success in the joint venturing at international level. In addition to this, the research under consideration would bring the optimistic practical implications for the UAE contractors. Furthermore, it helps in overcoming risks and related concerns associated with the IJV at global level. Nevertheless, it allows them to perform effeciently by maintaining the successful and strong relationship within international construction industry. With the help of this study, the UAE contractors would be able to anticipate the impacts of risks associated with the construction industry of UAE in IJVs. In addition, it allows them to understand the relationships between risks' factors associated with IJVs construction projects and their impact on foreign and local contractors' performance. Similarly, to propose mitigation strategies that can be adopted to overcome the impact of those risks.

1.6 **Dissertation outline**

Chapter one:

It is the core of the research study; it introduces research background in the context with risk management in construction industry, and IJVs in UAE. It also spots the light on research aim, objectives, and questions. Finally, it highlights the significance of the research topics along with a brief summary of thesis and conclusion.

Chapter Two: The second chapter begins with a brief introductory about theoretical framework and its purposes. The research will be designed by describing the relationships between different variable of risk assessment of IJVs. All aspects of risk management will be explained separately. Conceptual framework will be design based on previous studies and research aim and objectives to answer the proposed questions. At the end of the chapter, a conceptual framework will be presented to illustrate the proposed relationships between different variables which will be considered the base of the undertaken research.

Chapter Three: The third chapter provides an in-depth study of previous literatures in the context with risk assessment in construction industry and IJVs risks of IJVs. Risk assessment in construction industry will be studied as well. At the end of chapter two, a brief conclusion about the literature findings will be provided by summarizing the data and highlighting the gaps. All the findings will be tested and compared with the current IJVs construction projects practices.

Chapter Four: The fourth chapter of the study is research methodology. The chapter begins with a brief introductory about the link between the topic and the research methodology adopted to achieve the research aim and objectives. Then, the chapter highlights the complete design of the research including research philosophy, research method, research strategy, data gathering, data analyzing methods, and ethics of the research. Finally the chapter ends up on a brief conclusion.

Chapter five: The fifth chapter of the undertaken study is data analysis. The chapter will elaborate on different findings and results from the developed research methodology in chapter four. An in-depth analysis, by using suitable techniques appropriate for the data collection methods, will be performed as well. Moreover, the results will be presented appropriately in tables, figures, and chart to ease understanding. Besides, the contrast between different findings

resulted from various resources will be interpreted along with discussion and implications so that a comprehensive conclusion can be obtained based on the findings.

Chapter Six: The sixth chapter of the current study is the conclusion and recommendations during which key findings will be presented along with the conclusion. Besides, the chapter will provide recommendations to both local and foreign contractors working in a joint venture in UAE to improve their performance and selection criteria. The chapter will highlights the limitations of this research as well as addressing recommendations to improve future studies relevant to risk management and joint ventures in UAE.

1.7 Definition of the Key Terms

1.7.1 Risk

There are number of definitions for risk which somehow can be defined as the probability of bad events occurring during any practices and having consequences at both upside or downside (Hansson & Zalta, 2007).

1.7.2 Risk Assessment

Risk assessment, on the other hand, can be defined as the practices or activities through which risk can be identified, evaluated, and estimated so that influence of risk can be overcome at most acceptable levels of standards and determination (Rausand, 2013; Hansson & Zalta, 2007).

1.7.3 International Joint Venture

Joint venture is an agreement in which all parties share profit or loss equally or as per agreed percentage (Campbell & Netzer, 2009). When it comes to defining an international joint venture, the concept remains same and only differs when such agreement is made between international organizations. Thus, it can be said that the international joint venture refers to a form of partnership between two companies belonging from two different countries. It is

mainly done to expand the business globally or to increase trade practices between two countries (Campbell & Netzer, 2009; Kaya, 2013).

1.8 Conclusion to the Chapter

The introductory chapter has presented a general overview of the undertaken research topic which is “risk assessment of IJVs construction projects in UAE as perceived by contractors”. It has also provided a background on the research problem of lack of risk assessment and management practices in UAE. Based on the research problem, the aim of the undertaken research was stated clearly in identifying and assessing the risks of partner and host country related factors associated with IJV construction projects in UAE. According to the research problem and aim, four main objectives along with four main questions have illustrated the extent and areas to be investigated. The research topic has revealed a significant in measuring impacts of risks on contractors in UAE. Similarly, it shows a broad scope of understanding the relationships between risks’ factors and their impact on IJVs’ performance. The dissertation layout in which the research will be conducted to achieve its aim and objectives was presented in six chapters including (Introduction chapter, Literatures chapter, Conceptual framework chapter, Methodology chapter, Data Analysis / Findings/ Interpretation chapter, and conclusion & Recommendations chapter). Finally, the main three terms (risk, risk assessment, and IJV) which will frequently be used during the study have been defined according to previous literatures.

2 CHAPTER TWO -THEORETICAL FRAMEWORK

Theoretical framework is the foundation of the research. This chapter is pertaining to conceptualizing the theories and variables of the undertaken research in a framework to be adopted as the core of this study. The conceptual framework then will illustrate the theories and present the proposed relationships in a simple and logical manner.

2.1 Study components

The overall purpose of the research is to identify, assess and mitigate the impact of risks associated with IJVs mega construction projects in UAE on contractors. In addition, lack of relevant studies performed in developing countries and UAE in particular was of concerned. Besides, (Basit, 2012) found that lack of risk assessment and risk management deficiencies influence international and local contractors. For that reason, it hinder or undermine the purpose of creating the joint venture in UAE. General purposes are listed in *Table 2.1* Therefore, the conceptual framework will be structured to highlight the research variables based on its aim and objectives. Accordingly, an in-depth research of previous literatures was performed. Through in-depth literature review of previous studies, Eleven complex risks in relevant to IJV construction projects were identified to have an impact on IJV performance *Figure 2.1*. This research proposes two groups based on their origin; the first group related to the partners of the Joint Venture and the second group related the host country in which the project is undertaken. Table 3-2 records the first group's main factors as follows: Partner fit, Inter-partners' conflict, opportunism, culture distance, dependence, ownership share, and agency risk. Similarly, each one of the factors was classified according to the literature review's chapter. The research assumed that those classified factors are indicators of the IJV performance and success; for this reason they were recorded in *Table 2.2* On the other hand, the impact of the risks factors and their indicators were identified and recorded. Similarly,

Table 2.3 records the second group which contains four major factors associated with host country in which the project is undertaken as follows: Financial risk, political risk, resource deficiency risk, and construction risk. Likewise, it records the performance indicators associated with each factor. Furthermore, the table records the impacts of those factors on IJVs performance. Besides, the impact of both groups is recorded as well. This research will adapt, oppose, or add other related factors in association with IJV construction projects in UAE. At last, the mitigation plan for each of the identified risks will be concluded based on primary and secondary data analysis.

Figure 2-1 Complex risks of IJVs as per literatures



Table 2-1 Motivation of IJVs

Motivation of local and Foreign contractors for creating IJVs		Literatures
Greater opportunity to access local market	Foreign	(Walker & Johannes, 2003)(Shuraa, 2014)(Mohamed, 2003)
Advanced capabilities (size and quality of work performance)	Foreign & Local	
Obtain the best staff members from different destinations	Foreign & Local	
Transfer technology	Local	
Reduce the fear of investing in new market	Foreign	
Risks are shared between partners	Foreign & Local	
Respond to market change and globalization.	Foreign	
Explore opportunities and add value through business process alignment	Foreign & Local	
Competitive interest of national development and prevention of the economy by encouraging international investors	Host country	
Expand business apart from core business with passive or limited role.	Foreign	

Table 2-2 Theoretical framework of Partner's related factors

Risks factors	Indicators	Impact	Literatures
Partner fit	Resources, Experience, Staff, knowledge, Size, Diverse, Objectives, Operations policies	Negative impact on partners' performance. High cost transaction efficiency of partners.	(Yan & Duan, 2003)(Ozorhon et al., 2010) (Hsieh & Child, 2010)
Inter-partners' conflict	Strategic Control, Tactical control, Division of benefits, Distrust, Lack of confidence	Negative impact on partners' performance leads to irresolvable disagreement, work distribution, and lack of confidence.	(Demirbag & Mirza, 2000)(Sim & Ali, 2000) (Zaheer et al., 1998) (Fey & Beamish, 2001)
Opportunism	Misrepresentation of facts Hiding important information Taking advantage from partner without ethics	Negative impact on partners' performance and reputation leads to fail to achieve the alliance's objectives.	(Hsieh & Child, 2010) (Skarmas et al., 2002) (Child & Rodrigues, 2003) (Eisenhardt, 1989)
Culture Distance	Language, Religion, Communication, Leadership	Negative impact on partners' performance.	(Hennart & Zeng, 2002)
Dependence	Incompatible partner Insufficient resources	Negative impact on partners' performance, trust, and employees' commitment.	(Inkpen & Beamish, 1997) (Robson et al., 2008)
Ownership share	Amount of ownership share, Tolerance, Dominant ownership, Host country laws, Financial problems	Imbalanced ownership shares negatively affect partners' interest in achieving project's objectives, decision making power, overall time, and cost.	(Reus & Rottig, 2009) (Mjoen & Tallman, 1997) (Hsieh & Child, 2010)
Agency Risks	Multiple level principle-agent Host country laws	Negative impact on partners' performance, conflict at workplace, difficulties in resolving problems, prevent partners from acquiring managerial responsibilities	(Child & Rodrigues, 2003) (Chong, 2009) (Borys & Jemison, 1989) (Eisenhardt, 1989)

Table 2-3 Theoretical framework for Host country’s related factors

Risks Factors	Indicators	Impact	Literatures
Financial risks	High Fluctuated interest rates, High exchange rates,	Negative impact on project particularly in terms of costs preventing	(Xin & Pearce, 1996)
	Weak capital market, Unstable economy, and Unspecified property rights	contractors to achieve their projected goals related	(Parkhe, 1993)
Political risks	Change of policies and regulations, Restriction on capital repayments, Export and Import restrictions,	Negative impact on performance. Delay in construction project or sometime	(Ozorhon et al., 2007)
	Instability, Licensing, Permits, Employees wages, Taxes	increased the overall project cost. Challenge for contractors to manage cost and quality Simultaneously	(Ashley & Bonner, 2002)
Resource deficiency	Host country lack of resources	Negative impact on partners’ performance, prevents contractors to access the required construction resources	(Child & Rodrigues, 2003)
Construction Risks	Change in Design, Variation orders, Materials change, Equipment deficiency,	Negative impact on partners’ performance. Can force contractors to	(Ofori, 2003)
	Safety, Lack of reliability between partners, Lack of coordination between partners	leave the project without completing it or delivering it with poorer quality. Negative impact on contractors’ reputation.	(Hastak & Shaked, 2000)

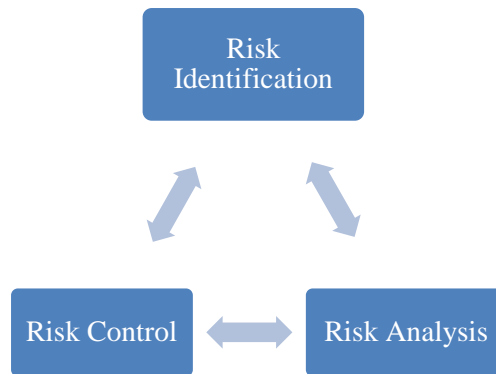
2.2 Assessment of risks related factors on IJV construction projects in UAE

As discussed earlier, the research problem manifested in the lack of studies that were carried out to identify and assess the impact of the risks associated with IJVs in construction industry in UAE. In addition, research problem was accompanied by poor risk assessment practices by contractor involved or about to be involved in Joint ventures in UAE. For this reason, comparison between data resulted from the literature review and the data collected through survey questioners, and interviews questions shall be performed during the study. Similarly, risk management planning shall be applied for assessing risk of IJVs projects in UAE. However, the process can go infinite without enclosure if objectives, boundaries, and limits are not defined clearly (Gardiner, 2005). Besides, the overall of risk assessment perception by contractors shall be investigated.

In general, risks are uncertain events that can affect projects and can also prevent them from achieving their goals, so that they have to be identified and managed properly. Besides, contractors who use solid risk assessment techniques can identify the risks and control them efficiently. Through informal interviews with participants who work in IJVs construction projects, it has been observed that the concept of risk assessment is applied similarly to both solo and allied projects. This implies that risks relevant to IJV construction projects might be overlooked. In addition, risk assessment is considered the main and most useful part of risk management tool for organizational operations and functions at each level (Smith, 2006). Similarly, it is considered an in-depth study regarding the identification of risk and level of influence on the organization and its performance. Besides, the study of risk assessment particularly relevant to IJV construction projects is relatively new area of concern. For this reason, managers make the use of risk assessment theories in order to deal with risk factors of IJVs construction projects. In this research, the term risk assessment is interrelated to the

research of risks impact on IJVs construction projects associated with organizational operations and functions at each level within international contracting firms. For this reason, risk assessment process (Identification, analysis, control) will be applied through the study to assess the impact of the risks associated with IJVs in UAE. As a result, the three main processes are proposed to identify, assess and control risks factors associated with IJV construction projects performance in UAE. **Figure 2.2** shows typical activities associated with risk assessment (Gardiner, 2005):

Figure 2-2 Risk assessment cycle



A Description of each process and its application in the context with the undertaken study is described as follows:

2.2.1 Risk Identification of IJV Construction projects in UAE

Risk identification is the first step in risk assessment (Tchankova, 2002), and it forms the base for risk analysis and controlling. Sufficient risk identification secures an effective risk management. This implies that managers who fail in identifying all possible losses and gains that are challenging the organization or the project will probably fail in managing these unidentified risks. Risk identification is about to determine the likely risks that may affect organization or project's success due to external or internal environment as well as documenting their characteristics in a systematic way. The research proposed 11 risks factors which might affect IJV construction projects performance in UAE **Figure 3.1**

2.2.2 Risk Analysis of IJV Construction projects in UAE

In order to assess the impact of risks on IJV construction projects, risk analysis will be applied during the research study. Risk analysis should consider three factors which are probability, impact and cost of the risks (Gardiner, 2005). For the purpose of this research, risks will be analysis through qualitative analysis of risk exposure (e.g. High, Medium, low). There are many difficulties in evaluating the impact of risks factors on IJV success, the most common problems is deciding whether the IJV success is measured by using subjective or objective measures or combination of the two. To overcome this problem, this research will adopt (Ozorhon et al., 2007) three-dimensional performance indicators “project performance measures, partners’ performance measures, and management performance measures” combined with subjective measures (Ozorhon et al., 2010). As of project performance measures, it can be defined as the extent to which projects’ goals are met. For this reason, the research proposes objective measures such as completion of IJV project on time, within budget, quality, and with client satisfaction. In contrast, Partner's performance measures can be measured by the extent to which partners’ goals, when forming Joint Ventures, are reached. Based on previous studies, common goals are recorded in Table 3.1 Furthermore, management performance measures defined as the effectiveness of partners’ control over the IJV performance, so that this research will adopt Yan’s objective measures of “strategic control, operational control, and organizational control” measures at management of IJV construction projects (Yan & Duan, 2003). Finally, In addition to the measures mentioned above, the subjective measure is used to assess the overall satisfaction of IJVs construction projects in UAE as per contractors’ perception (Ozorhon et al., 2010).

2.2.3 Risk Control of IJVs in Construction Projects

Previous studies have suggested some measure to mitigate IJV risk in construing industry as discussed earlier in the literature chapter. However, there was a lack of enough studies relevant

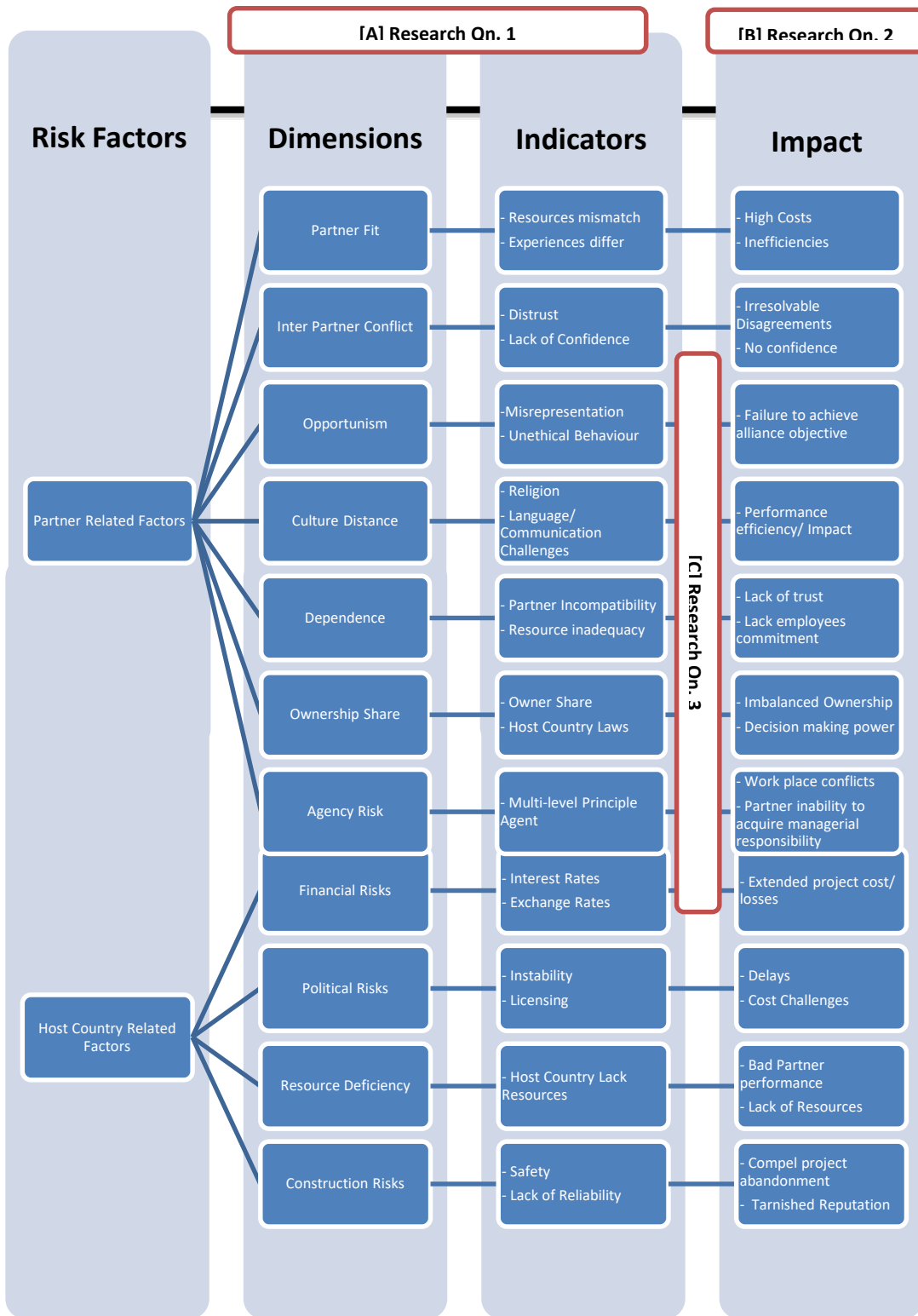
to IJV in construction and particularly in UAE. Besides, one of the main objectives of the research is to mitigate the impact of IJV risks in UAE on contractors. For this reason, this study proposes mitigation risks related factors through in-depth analysis of interviews with experts in risk management field. Besides, mitigation will be pursued in line with conclusion and recommendation chapter based on data collection and data analysis outcomes.

2.3 Conceptual framework:

Figure 2-3 is presented within the scope of IJV construction environment, considering risk indicators and their impacts as reviewed in the previous sections. The various areas of investigation where the research questions focuses towards the achievement of study objectives are clearly presented in the framework. Whereas, ‘Node A’ denotes areas covering the identification of risk factors associated with IJVs construction projects in UAE, it seeks to collect field data to assess such risk factors and their levels within the UAE IJV construction sector. Key items for investigation under indicators of risk in IJV construction were selected as backed by theoretical sources in *Table (2-2&2-3)*. The second objective, represented by ‘Node B’ seeks to identify the impact of risk factors on the various stakeholders involved in the project. It may be noted that as presented in *Table (2-2&2-3)*, the various indicators and their respective impacts are assessed in two separate contexts pertaining to partner related factors and host country related factors. The conceptual framework, therefore, consists of two broad segments of partner related and host related risks. The final research question (Node C) investigates the relationship between the risk indicators and their respective impacts.

It must be stressed that key risk indicators and impacts presented in *Figure 3.3* have been thoroughly assessed in previous sections of the literature review.

Figure 2-3 Conceptual framework



2.4 Conclusion to the chapter

The chapter summarized the data collected from previous literatures in tables and figures to simplify the understanding of the research theoretical framework. The research proposed main groups that have an impact on IJV construction projects' performance in UAE (Host country, and Partners' related factors). The first group is Partners related factors; they were found to have an impact on IJV construction projects performance. The research proposes seven main risks which are "*Partner fit, Inter-partner conflict, Opportunism, Culture Distance, Dependency, Ownership share, and Agency risk*". While the second group is Host country related factors; they were found to have an impact on IJV construction projects performance. The research proposes four main risks which are "*host country political risks, host country financial risks, host country resource deficiency risks, and host country construction risks*". In addition, this research proposes combination of objective and subjective measures to assess the impact of risk related factors of IJV construction projects in UAE on contractors. Similar measures are; objective performance measures in terms of project outcomes, partners' goals, and management performance indicators. Similarly, the mitigation of the risks related factors will be concluded based on data collection and analysis. *The conceptual framework* was designed within the scope of IJV construction environment, considering risk indicators and their impacts to be tested. The next chapter will discuss the research methodology by which research's aim and objectives can be reached.

3 CHAPTER THREE – LITERATURE REVIEW

The chapter is pertaining to an in-depth analysis of previous literatures in line with the research main aim and objectives. The literature review highlights the various definition of the construction industry and risk assessment along with critically discusses the role of IJVs in construction industry. In the light of the previous studies, the chapter continues by researching in literatures in context with followed UAE construction industry and joint venturing practices. It is then critically analyzing the factors which affect the IJVs project by creating risks for contractors in UAE. Finally, the brief conclusion of the chapter is given by summarizing the key findings.

3.1 Overview of Risk Management in construction industries

(Ahmed et al., 2002) Defined risk as the perception of expected instabilities, vulnerabilities, and weaknesses that expose organizations to potential losses restrictions or limitations in its business. Besides, Davie (2008) defined risk as “*decision maker’s assessment of the risk inherent in a situation*”. By analyzing the literature, it is found that as compared to the other industries, the construction industry is more complex to manage due to its requirement of special skills and knowledge. That is the reason due to which the construction projects subjected to more risks and uncertainties (Ozorhon et al., 2007). In construction industry, the risk occurs in construction projects affects them either adversely and have significant influence on the entire construction project or less adversely which does not have much influence on construction projects. An Organization perceives risk to be associated with dissatisfied or unwanted outcome which hold back its objectives and values (Miller & Leiblein, 1996). In contrast, high-risk construction work means that the construction projects involve higher risk than conventional projects. High-risk construction may include incidents such as falling off a person from more than 3 meters. High-risk projects may contains the following conditions:

destruction of any structure's element that is load bearing, having strong physical integrity with the project, disturbance of asbestos, structural alterations which need temporary support to avoid collapse, using of explosives material; and diving work (Safework.SA, 2012).

In contrast, the identification of the risks is essential since if a construction company has potential to assess and mitigate risk, it can easily protect the construction project from the adverse impacts of certain risk. In addition, it can ensure that the project is reliable in terms of its accomplishment. The notion of risk assessment is presented by (Sitkin & Weingrat, 1995) as they found that risk assessment reflects the degree to which an individual consider certain event or condition as a negative or a threat. Moreover, risk assessment in construction is considered essential because it studies probability, impact, and the effect of every risk associated with the project. Also, it detects other expected risks that occur during the project lifecycle (Jannadi & Almishari, 2003). In addition, in construction project planning, a proper risk management has established by including the corrective actions that would be taken to mitigate the risk. Hence, it can be said that the risk assessment and mitigation is essential for all construction companies but particularly at international level, this importance becomes more significance because of its multicultural environment.

Risks are assessed and evaluated through a risk assessment model. There are many models for assessing risks according to (Lichtenstein, 1996). Selecting sufficient assessment model for an organization or project depends on many factors such as budget, organization structure, size, security philosophy, consistency, usability, feasibility, credibility, automation, agreement, adaptability.

Risk assessment process is considered the main and most useful part of risk management (Smith, 2006). Since the 90's construction risk assessment modeling has become a very important topic for researchers mainly in regards to Probability and Impact theories. Many

have focused on Analytic Hierarchy Process (AHP) modeling in construction industry for risk assessment namely (Mostaf & Al-Bahar, 1991). (Dey et al., 1994) Used AHP as P-I modeled by combining subjective and objective assessment. Some researchers have used AHP model to assess international construction projects similar to (Zhi, 1995). Others also suggested software for calculating risk scores, yet they lack risk rating (Jannadi & Almishari, 2003). Overall the improvements were mainly predictability and controllability of risks.

Moreover, most studies have been focusing mainly on quantitative analysis in risk assessment although it is considered to be complicated and impractical in terms of finding probability (Carr, 2001). So that, Project Manager is usually forced to use subjective probabilities. Nevertheless, there has been a debated that risk assessment can be successful without quantitative analysis. For this reason, the terms qualitative and quantitative analyzes have been removed because they didn't improve the clarity of what was to be achieved (Gardiner, 2005).

As a result, the probabilistic approach is avoided and to be replaced by qualitative approach, by utilizing knowledge, experience, lessons learned, and judgment (Dikmen, 2007). Therefore, it is assumed that construction risk modeling is still under-development and modifications. Besides, there is still a need for a tool or a system to assess construction risks compensating for the shortage. In addition, there is a need for an assessment model which enables contractors in assessing risks and their impact on different aspect of construction projects such as time, cost, and quality. For the purpose of this research, risk assessment processes including risks analysis and prioritizing will be based on qualitative analysis of risk exposure.

3.2 Overview of IJVs in Construction Industry

Alliance takes many forms, and joint venture at domestic and international level is one of them. In general, alliance may be defined as a strategy used by firms to partnering with others in order to achieve specific purposes (Adobor, 2004). From business perspective, joint venture can be adopted by organizations as a strategy to cope with market change. Furthermore, it may help them to enter a new market. In addition, some organizations may gain flexibility when dealing with new country regulations. Other benefits of joint ventures are: fulfill project's requirement, enhance business capacity, increase experiences, and transfer knowledge. According to (Walker and Johannes 2003), joint ventures bridge knowledge, fills expertise gaps, shares risks, explores opportunities and adds business value through collaboration. Moreover, they stated that joint ventures also work as a market driver to respond to market change, globalization, business process alignment, and achieve the costumer value. According to (Shuraa, 2014) joint venture can be known as an economic corporation or business combination between two or more people, firms, or association with a common economic goal. In literatures, the IJVs are also discussed widely. According to (Bing, et al 1999), IJV is a new legal setup between two or more different companies of which the parent company of one of them is based outside the country in which the project is undertaken. Moreover, IJV can be defined as:

“The commercial agreement between two or more companies in order to allow greater ease of work and cooperation towards achieving a common aim, through the manipulation of the appropriate resources” (Kaya, 2013, p.24)

In this case partners from a different jurisdiction combined with an enterprise that will cross border and law applied to these entities would be foreign to one or more of the participants. In contrast, it is found that many IJVs researches have been conducted on manufacturing industries while very few works were focusing on IJVs in construction industries (Bing &

Tiong, 1999; McIntosh & McCabe, 2003), factors affecting IJVs' performance (Sillars & Kangari, 2004; Mohamed, 2003), and IJVs' management issues (Luo, 1997).

With respect to IJVs in construction industry, the demand of construction projects has been increasing at global level and construction companies are moving rapidly in the international construction industry to achieve more popularity and success in respective area of concern. Therefore, the construction organizations are forced to form alliances at different level in order to stay in business as well as maintain their competitiveness. It is depicted that the opportunities for IJVs in construction industry has been involving rapidly and therefore the construction companies are moving toward international construction industry to avail such opportunities especially in developing countries. Since, developing countries and their construction industries perceive IJVs as the key tool to meet with the national competitive improvement and economy prevention by encouraging foreign investments (Mohamed, 2003).

3.3 Overview of Construction Industry in UAE and International Joint Ventures

UAE is an attractive destination for foreign investors and more especially the construction industry of the region. This might be due to the political stability, tax-free investment, and growing economy of the UAE. Besides, the construction industry of UAE has been growing rapidly in the international market, similarly the risks and uncertainties become the major threats to the industry. The construction industry of UAE has been recorded as 46 key construction projects at international level valued at USD \$625 billion (Basit, 2012). It is further expected that the construction industry of UAE will contribute to 11.1% GDP (Growth Domestic Product) by the end of 2015 (Basit, 2012).

The growing economy and construction industry of UAE attract numbers of investors to participate in developing a number of remarkable projects. This can be usually done through

IJVs in which the UAE companies make alliance with the foreign companies and start construction projects through collaboration. However, this strategic alliance would bring positive change to the growth and development of the country. On the other hand, it has been identified that the UAE construction industry has lack of risk assessment and management practices that has a negative influence on the contractors (Basit, 2012).

In the UAE, a JV is actually recognized as a business entity. The scope of joint ventures is very broad in UAE as it is found that part four of the UAE's Commercial Companies Law is dedicated to outlining the rules applicable to joint ventures entities. In UAE, there has been a dramatic increase in all business sectors as a result of that international joint ventures has become the best choice for many firms locally and abroad amid to enter a new market. This might be for many reasons foremost to minimize or highlight their financial risks by sharing other mutual partners with assets, expertise, or resources. Moreover, it is found that in UAE, some enterprises take IJVs as an arrangement to expand their investment apart from their core business with a passive or limited role.

3.4 Risk in Construction Industry of UAE in IJVs Construction Projects

It is found that IJVs have many benefits for contractors. (Norwood & Mansfield, 1999) Found that IJVs increase contractors ability to access local market. Also, it increases contractors capabilities in terms of size and work efficiency. Futhermore, he added that IJVs contractors are able to obtain the best staff members from diferent distinations, and reduce the fear of inveting in new market by risk sharing. It is also true that many IJVs fail to achieve such benefits because IJV usually faces many challenges (Makino & Beamish, 1998). With respect to construction industry and projects, it is found that the construction projects are more complex than other projects so that they face more risks than other industries. The reason behind this fact is that construction projects are complicated in their nature (Shen et al., 2001). (Inkpen &

Currall, 1998) Added that risk in IJVs results when one partner perceives potential negative outcome due to trustworthy actions from other partners. Another fact is that the occurrence of a risk highly depends on the size and growth of a construction company. (Ogunlana et al., 2004; Abdelghany & Ezeldin, 2010; Xiaopeng & Pheng, 2013). For this reason, it can be said that considerable risks are also associated with the UAE construction industry and its IJVs practice because of the huge size and growth of the industry. Moreover, in the literature, a number of factors have been identified to affect the construction projects and ultimately the practices of contractors. All these factors have been widely studied in context of developed countries like UK, USA, Germany, China and so on. For this reason, the study under consideration focuses on the developing economies like UAE because of the lack of focus and less identification of risk in UAE IJVs construction projects.

In literature, different authors identified different factors that influence the construction projects and affect the contractors in IJVs. For instance, (Han, et al. 2008) stated that the big reason of occurrence of risk and failure of a construction project is the lack of commitment of top management at the initial stage of venturing. Similarly, inadequate development of strategies to execute project in international construction market is another factor which affect the construction project and work as a risk for construction companies. Furthermore, Edum-Fotwe and (McCaffer, 2000) stated that inadequate identification of cross-culture environment is the greater risk of the failure in overseas construction projects (Edum-Fotwe & McCaffer, 2000). Finally, (Jaafari, 2001) argued that the risk of construction project failure occurs if the organization fails in weighting the foreign market requirements in terms of their political, legal, social and environmental procedures and needs (Jaafari, 2001). It has been shown that most of the foreign investors have a lack of knowledge and skill about risk management at international level which affects the entire construction project, as well as the companies involved in it. For instance, (Memon et al., 2011) conducted a study in Malaysia and found that lack of risk

management practice and knowledge are the key factors which affect the international construction project. (Bing et al., 1999) Found that IJVs might face the following risks:

1. Partner financial problems
2. Lack of trust between partners' employees
3. Changes in Partner's parent company
4. Partners' Managerial deficiencies
5. Organizational chart allocation and project hierarchy disputes
6. Work allocation and tasks distribution between partners' employees
7. Disagreements about transfer of technology.

(Shen et al., 2001) Argued that, because of the the high number of risks accossiated with IJVs construction projects, constuction companies are adviced to spend more time on developing risk techniques and mitigation plans when dealing with joint ventures, (Shen et al., 2001). However, in literature no detailed discussion has been given in the context of the factors which create different risk in construction projects associated with intering in IJVs in UAE. Therefore, the factors discussed below provides the clear picture of the most common risks that might take place in mega IJVs construction projects in UAE:

3.4.1 Partner Fit

Consturction companies select partners based on different criteria. Many literatures have defined the selection criteria for partners, yet, (Andersson, 2010) found that the selection, in general, is based on two criteria, the first criterion pertaining to task such as resources, knowladge, manpower. On the other side, the second criterion pertaining to partner, such as documentation, managerial style, and size. Moreover, (Yan & Duan, 2003) stated that partners' fit is important for IJVs efficiency as it reduces the cost associated with managing international joint ventures (Yan & Duan, 2003). If partners fit in terms of strategic, resources, and

operational factors then transaction efficiency will improve through reducing costs associated with managing the IJVs. (Yan & Duan, 2003) Added that to fit strategically, partners should have compatible goals. Furthermore, resource fit means that partners' resources are compatible. In contrast, partners are operationally fit when their organizational culture, management, and operational style are compatible. Although these factors may be considered and assessed during the formation stage of, yet they may turn to be incompatible in post-formation or operating stage, this may be due to misinformation about the partner reputation or unrevealed self-interests (Hsieh & Rodrigues, 2005).

3.4.2 Inter-Partners' Conflicts

IJVs are highly affected by inter-partners' conflict. Also, disagreement between partners might lead to the breakdown or weaken corporation. Some issues like strategic control, tactical control, division of benefits, and component sourcing are relating to the inter-firm conflict according to (Demirbag & Mirza, 2000). Conflicts between partners are common yet as it becomes dysfunctional or irresolvable IJVs relationships may destabilize (Sim & Ali, 2000). In addition, conflicts usually reflect distrust and lack of confidence. (Zaheer et al., 1998) Found that inter-partner conflicts and trust are negatively associated with each other and as conflicts intensity increase mutual trust and commitment between partners decrease. In addition to this, (Fey & Beamish, 2001) found that conflicts hinder international joint ventures' performance.

3.4.3 Opportunism

Opportunism is defined as seeking personal interests with deception (Hsieh & Child, 2010). It is manifested in different acts of misrepresentation of facts, hiding important information, and taking advantage from other partners without ethics (Skarmeas et al., 2002). However, IJV is

about the collaboration between two or more partners for satisfying each other needs and each partner represent an agent to its partners and has to accomplish his role as per IJVs' contract. These agents who are directed by value maximization cannot automatically be reliable (Eisenhardt, 1989), moral and adverse selection may consider opportunism which occur in post-formation stage of IJV. This also may cause renegotiation and transaction cost inflation due to monitoring and safeguards of others behavior. Moreover, opportunism may increase hatred between partners and hamper commitment and trust (Child & Rodrigues, 2003). In many studies it has been proven that partners perceive opportunism from other partners' behavior, it probably negatively affects IJV's performance and hinder its development.

3.4.4 Culture Distance

Cultural differences have been a subject for many studies over the last decade because of its impact on international joint ventures' performance and outcome. In the case of clashes, cultural distance may cause low-performance index and complex relationships between partners. According to Hofstede's cultural, values can be different in five dimensions, "power distance, uncertainty avoidance, individualism, masculinity, and long-term orientation" (Hofstede, 1991). Cultural distance or difference in many studies found to be negatively related to longevity and stability of IJVs. According to (Hennart & Zeng, 2002), when each partner thinks differently as per his culture, his vision will reflect different thoughts. As a result, his values, perceptions, and actions will change as well which lead eventually to interactions problems that may negatively affect the IJVs' performance.

3.4.5 Dependence

In IJVs partners depending on each other to achieve their strategic objectives, so they are required to maintain their relationships. It is common for a foreign partner to rely on a local partner for knowledge and expertise to facilitate local market accessibility. In return, a local

partner depends on the foreign partner for technology (Inkpen & Beamish, 1997). Partners' inter-dependence might be one of the major factors which affects the level of commitment and trust between partners in IJVs. Therefore if partners mutually depend on each other for resources and services to achieve their objectives it is probably to witness less opportunism behaviour. Robson et al (Robson et al., 2008) found that the more mutual dependence the partners have, the more positive performance they gain. In contrast, asymmetric dependence relationship between partners can negatively affect performance. Therefore, dependence may be negatively associated with performance in case one partner utilize his power or authorities to achieve self-interests regardless of other partners interests. In addition, dependence may results out of manipulating favourable terms of IJVs as per partner's desires, or if one partner fail to satisfy IJV needs. It may lead to insufficient resources or incompatible between partners.

3.4.6 Ownership Share

Ownership is a legal term used to define the exclusive rights for one partner to possession certain percentage of the alliance, while co-ownership refers to two or more persons who have the legal interest in something. In previous studies, there was attention to the impact of ownership share on alliance performance as it seems to affect partners' relationships, as well as an alliance outcome. (Reus & Rottig, 2009) Found that the amount of ownership share determines power of decision-making enjoyed by partners which may be dominant or equal share in IJVs. Equal partners share may achieve the maximum level of commitment for IJVs. For this reason, it increases trust and knowledge acquisition between partners (Mjoen & Tallman, 1997). In addition, (Mjoen & Tallman, 1997) further stated that it provides mutual tolerance and stability. On the contrary, dominate ownership structure may cause faster decision-making. Nevertheless, if host country does not have a system to protect minority rights, partners will tend to secure majority ownership during formation stage to maintain

control (Hsieh & Child, 2010). Furthermore, it is studied that equity ownership share forces foreign partner to give more attention to managerial operations, as well as monitor local partner through board members and senior executives, so that the performance of IJVs may be enhanced (Mjoen & Tallman, 1997). On the other hand, dominate or unequal partners share may cause bargaining power and opportunism; for example, host country prevent foreign majority ownership and vesting local partner more power against foreign partners interest and objectives. Nevertheless, foreign partner may choose less ownership share and a reflex of perceiving risks in the formation stage like financial risk to reduce exposure (Yan & Duan, 2003).

3.4.7 Agency Risk

Agency risk generates from ethical, legal, and managerial issues within an agent-principal relationships. According to agency theory the relationship is formed between two parties; the first is principal who delegates responsibilities and the second is power to the agent who execute the tasks in accordance to the principal's desire (Child & Rodrigues, 2003; Mead, 2005). Moreover, (Eisenhardt, 1989) defined two types of agency risks. The first may result from conflict between principal's interests and agent's interests; in this case, agency risks cannot be avoided because it is difficult and expensive for principle to keep an eye on agent performance (Eisenhardt, 1989). The second type of agent risks may happen when there are differences toward risk sharing between the principal and the agent and each of them have different attitude dealing with risks related to agent responsibilities (Eisenhardt, 1989). It is examined that agency relationships in international joint ventures become more complicated because of the involvement of multi-level principal-agent. First at inter-organizational level, the principal-agent refers to the parent company and its agents i.e. board of directors which should be involved in IJVs. The second at the intra-organizational level principle-agent, in which principal will be transferred to the board of directors and the agents who have to work as a management team in international joint ventures. Third principal-agent can be seen at the

following level within international joint ventures, in which the principal may be the top management while the agents are considered as the subordinates in IJVs. For this reason the complex relationships of the principal-agent structure may increase agency risks for parent companies in international joint ventures than in conventional organizations. In IJVs, partners usually have different objectives and interests, also the structure of multi-level agency relationships as mentioned earlier, therefore it is common that one partner gets more information from management than others do (Child & Rodrigues, 2003). Therefore when partners have different interests and risks preferences the agency risks is expected to be high. (Chong, 2009) Found that to measure the performance of IJVs a parent needs to ensure embrace mutual vision and goal. Also (Borys & Jemison, 1989) found that different ownership share increases agency risks. This manifested when host country does not protect minority equity owners. As a result, and according to agency theory it is assumed that in most cases agent cannot be always trustful to be assigned for self-service behaviour and the principal (parent companies) must investigate different mechanism to protect their equity investment (Borys & Jemison, 1989).

3.4.8 Host Country Financial Risks

Economic system in the host country predicts financial risks especially for foreign partners. It may increase the possibility of their money being eroded. For example, host country with centrally planned economy is associated with weak capital market, unstable economy, and unspecified property rights (Xin & Pearce, 1996). In addition, unbalanced industrial structure might be the reason behind opportunism when contracts are legally unprotected in contrast with state-owned enterprises being protected by the state. Moreover, when host country is politically unstable and politics affects economy, then decision will be based on certain policies not on economic judgment (Parkhe, 1993). Besides, when host country has fluctuated interest rates or

exchange rates change dramatically it may affect the availability of capital or profits for foreign partners and this may increase financial risks.

3.4.9 Host Country Political Risks

Political risks are related to many factors in the country where the project is undertaken. Many researchers have studied the expected risks in the context with the host country. (Ozorhon et al., 2007) found that political risk are related to government's policies, law and regulations, restriction on the capital repayments, and restrictions on exports or imports. (Ashley & Bonner, 2002) defined political risks as any political event that has an effect on the IJVs' performance or its ability to operate effectively. Similar risks are unstable law, regulations, import restrictions, and inconsistency in policies. The political crises damages the political stability of international joint ventures in the region and affect the construction projects in terms of legal licensing, permission; conditions, construction employees wages or salaries, payment of taxes, imports of materials, and other project related financing. Moreover, political risks can be grouped as the change in political staff, increase of project cost because of political and regulatory as well as restriction of foreign capital (Ashley & Bonner, 2002).

3.4.10 Host country Resource Deficiency Risks

Resource deficiency risk arises when host country suffers from a lack of or insufficient resources. One of the reasons for choosing local partner is to facilitate access to the local market and provide adequate information regarding quantities and prices of resources including manpower, material, machinery. Lack of resources or resources deficiency may cause a serious problem for foreign investors, and it may lead to terminate the international joint ventures (Child & Rodrigues, 2003).

3.4.11 Construction Risks

Construction risks are also widely associated with the IJV construction projects because of the involvement of multiple contractors in one construction project. By reviewing the literature, it is found that the construction risks arise at the time of project execution and constructing process. Since, different contractors may demand to follow their instructions and in result it becomes difficult to finish the project on specified time, within the specified budget and best quality (Ofori, 2003). Moreover, the construction risks may be classified as the changes in design, material, equipment deficiency, material or equipment shortage, supply chain breakdown, lack of quality material, lack of coordination between partners, incidents on construction site, lack of reliability between contractors, and other issues caused by partners involvement in international projects (Hastak & Shaked, 2000).

3.5 Impact of IJV Construction Projects risks on Contractors

In construction projects, the delivery of construction project is one of the factors on which the reputation of an organization based. For this reason, it has been argued that the risk management is essential to manage construction projects for the timely completion of the project within a specified budget. Similarly, with respect to international construction projects, it is found that the high level of risk is associated with international construction projects due to the involvement of different cultures, political backgrounds, and economies. Therefore, their impacts are expected to be high for construction companies and particularly on contractors. It is argued that the impacts of such risks on construction projects and companies have significant especially for contractors and construction companies. Therefore, it is necessary to assess and identify the risks associated with the IJVs construction projects. So that, the project can be delivered successfully, and efficiency can be increased along with profitability by implementing effective mitigation plan or approaches.

Concerning to the impacts of identified risk in the above section, it is found that the contractors have to suffer a lot due to the risks associated with the construction projects especially started at international level. According to (Ozorhon, et al. 2008), most of the risks in international joint ventures construction projects influenced the contractors because of their considerable role in a construction project. More essentially, in regards to the partner fit risk factor associated with IJVs construction projects, it is found that it creates a challenge for contractors in terms of deciding appropriate criteria related to task and partners. If criteria does not match with each other, it would affect the international joint ventures' performance and contractor have to suffer from a high-cost concern. Besides, transaction efficiency of contractors can be affected if partners do not collaborate with each other efficiently (Yan and Duan, 2003; Morris and Cadogan, 2001; Hsieh et al, 2010).

The influence of inter-partners' conflicts on contractors is also considerable. Since, by reviewing the literature it is examined that disagreement between partners are often irresolvable in IJVs. For this reason, contractors get disturbed and failed to decide what they have to do to accomplish the construction project. It also leads to the lack of confidence in contractors involved in the project which ultimately affect the entire performance of project. (Zaheer et al., 1998; Fey & Beamish, 2001; Sim & Ali, 2000; Demirbag & Mirza, 2000).

The risk of opportunism also affects the contractors in terms of taking advantage of all the aspects to accomplish the project in more effective manner. It is found that, in opportunism, partners do not follow the ethics and hides key information related to project. Therefore, in similar situation, contractors will fail to get the actual requirements of the certain construction project. As a result, they will fail to satisfy the needs of IJVs partners which definitely affects their reputation and performance in the industry. In addition to this, it engages contractors in identifying and evaluating the exact project requirement instead of planning and executing of certain construction project. Hence, overall, it can be said that the opportunism has a negative

influence on both IJVs' performance and contractors of the project. (Eisenhardt, 1989; Skarneas et al, 2002; Child and Rodrigues, 2003; Hsieh et al, 2010).

In addition to opportunism, the culture difference and distance also significantly affect the contractors as well as the entire international joint ventures' performance. Thus, cultural clashes between partners affect the performance of contractors and its stability in terms of accomplishing certain project. Due to culture difference, each partner IJVs construction projects wants to reflect his culture which diverts the attention of the contractors and create a problem for them in terms of deciding which instructions they have to follow. Consequently, different thoughts, values, and perceptions lead to interaction projects between partners and contractors which ultimately have a negative influence on IJVs' performance (Hofsted, 1991; Hennart & Zeng, 2002).

The risk of dependence prevents contractors to achieve strategic objectives. It can be manifested when foreign partners relies on domestic partners for knowledge and expertise while domestic partners relies on foreign partners for capital and technology. For this reason, it affects the level of commitment of the contractors. More specifically, the dependence of local and foreign partners on each other creates problem for contractors in terms of obtaining resources and services to accomplish the project on given deadline. It sometimes creates trust problem for contractors since delay in projects prevents client to trust on respective contractor for future construction projects. Hence, it can be said that the dependence of local and foreign partners on each other affects the client and contractor relationship (Inkpen & Beamish, 1997; Robson et al., 2003).

Ownership share is another kind of risk which has a negative influence on contractors and prevents contractors in the accomplishment of international construction project on specified deadline. Given that, ownership share affects the overall IJVs' performance. With respect to

contractors, the risk of ownership share affects contractors' decision-making power. In addition, financial instability can be created due to the ownership share issue between foreign and domestic partners that could prevent contractors to achieve the project aim effectively without having resources and other construction related issues. (Mjoen & Tallman, 1997; Child, 2002; Yan & Duan, 2003).

In addition to the above, the agency risk may affect the contractors' capability to take responsibility for project accomplishment. As a result of lack of moral, managerial and legal values among partners, the relationship can be affected especially in terms of allocation responsibilities. On the other hand, prevents contractors to show interest in the project. The lack of interest and responsibility taking capability among contractors created due to the conflicts between domestic and foreign partners prevents them to monitor the project performance and shows risk taking behaviour. (Eisenhardt, 1989; Borys & Jemison 1989; Child & Rodrigues, 2003; Zhou and Wang, 2000). Besides, it also becomes a greater challenge for the contractors to resolve inter-organizational and workplace conflicts that resultant from the conflicts between domestic and foreign partners involved in construction work. In addition to this, the agency risk also affects the interests and objectives of contractors and prevents them in acquiring managerial responsibility, showing trustful behavior, protecting ownership equity of partners, and monitoring project performance. Hence, from the given findings, it can be said that the agency risk have a negative impact on the contractors and their performance in IJVs. (Eisenhardt, 1989; Borys & Jemison 1989; Child & Rodrigues, 2003; Zhou and Wang, 2000).

The identification of financial risks of host country is also essential. Since, financial and economic risks in IJVs construction projects affects the overall project performance. It prevents contractors from gaining effective financial and economic support from the domestic and international partners. More specifically, financial risks i.e. (weak capital market, unstable economy, unbalanced industrial structure, and unspecified property rights) can prevent

contractors to gain financial support from the partners in terms of having effective resources to accomplish the projects. It prevents contractors to acquire funds from the market or collect funds at higher interest rates which could affect the financial planning of the contractors and force contractors to accomplish the project at higher cost. Thus, it can be said that the economic and financial risks affects the project particularly in terms of costs and prevent contractors to achieve their projected goals related to finance. (Xin & Pearce, 1996; Parkhe, 1993).

Like other risks, political risks also have significant influence on the international joint ventures contractors. Since, the change in government policies, laws and regulations prevents contractors to fulfil the client's requirements. Since, sometimes it happens that the specified needs and requirements of the client does not match with the rules and regulations specified by government for the construction industry. In this case, construction project contractors remain failed to meet with the instructions and requirements of the client. Furthermore, import and export restrictions, higher taxes, legal licensing by the government can restrict contractors from supplying resources which cause delay and increases the overall cost. For this reason, it become a very challenge for contractors to manage cost and quality together. (Ozorhon et al., 2007; Ashley & Bonner, 2002).

The role of resource deficiency risks cannot be neglected in terms of affecting contractors during IJVs construction projects. Lack of availability of resources prevents contractors to access the required construction resources i.e. technology, raw material, and human resource, to fulfil project needs and accomplish the project on specified deadline. Hence, the lack of resources is one the serious challenge for the contractors without which it is not possible for them to complete the project (Child & Rodrigues, 2003).

Finally, the different construction risks have been widely studied in the literature which conclude the fact the construction risks could affect the contractors. The construction risks

identified from the literature were mainly about changes in design, changes of material, equipment deficiency, resources shortage, supply chain breakdown, lack of quality material, lack of coordination between partners, incidents on construction site, and lack of reliability between subcontractors. Thus, all these risks could pressurize contractors to leave the project without completing it or finish it with poorer quality. Moreover, it may also cause delay in project which definitely affect the reputation of contractors in the construction industry (Hastak & Shaked, 2000; Ofori, 2003).

3.6 Conclusion to the Chapter

Literature review has revealed a number of facts about IJVs and UAE construction industry. It has been noticed an increasing number of international companies willing to work and invest in UAE. This was a result of many attractions such as economic and political stability.

It was also clear that the same case is applied to the number of IJV in UAE. The international contractors find the joint ventures as a tool for access the new market, sharing risks, and increase capacities. Thus, this gap of the study highlights the need to identify the current situation in UAE construction industry with respect to IJV. Moreover, the literature has been depicted that there are a number of risks also associated with the international construction projects that can be categorized as risk of partner fit, inter-partners' conflicts, risk of opportunism, risk associated with cultural differences, risk of dependency, risk of ownership share, agency risk, financial or economic risk, political risk, resource deficiency risk, and construction risks. Besides, the literature also revealed that all these identified risks have significant influence on the contractors. However, all these factors and the impacts of risks on contractors in UAE IJVs construction industry have not been discussed. Therefore the research under consideration has fulfilled this gap by studying the nature of IJVs in UAE construction

industry. The next chapter of the study is the research methodology which provides the discussion on the way through which the defined research objectives can be achieved.

4 CHAPTER FOUR - RESEARCH METHODOLOGY

This chapter contains a detailed methodology adopted to achieve the aim and the objectives of the research as well as to answer the research questions. The main purposes of this research, in a brief summary, are related to the identification of the risk associated with IJVs construction projects and to assess the impacts of those risks on contractors. The paper comprises discussion on research philosophy, research approach, research method, data gathering, sampling method, data analysis methods and research ethics along with a brief conclusion.

4.1 Research Philosophy

Research philosophy determines the way through which an individual will learn and examines what certain individual will learn during the process of the research. There are three types of research philosophies that are positivism, interpretive, and realism (Saunders et al., 2012). Positivism philosophy is an extremely structured that is appropriate to generalize data, quantifiable observation, and calculate results by utilizing best relevant statistical method. In addition, interpretive philosophy is appropriate to examine the varied meanings and truths of a simple fact, which can be applied in all possible situations. At last, the realism philosophy is appropriate to study the facts and beliefs exist in real environment (Johnson & Christensen, 2010). In this study under consideration, realism philosophy has been applied in order to examine the risks associated with IJV mega construction projects as well as to access the impacts of those risks on contractors of the project. It is chosen because it deals with real phenomena that would study the research problem in real-life field (Hughes & Sharrock, 1997). Moreover, the selected philosophy would assist the researcher in developing theory for the research as well as studying and analysing existing researchers so that new ways to study the research issue can be introduced.

4.2 Research Method

The research method refers to the framework relating to the theoretical research problems to the relevant empirical research (Zikmund & Babin, 2006). However, research method can be of three types named as Qualitative, Quantitative and Mixed research methods. Quantitative research method is based on numerical data that come up with the numerical insights of the research problem (Zikmund & Babin, 2006). Besides, Qualitative research method is usually interpretative in which data is gathered from observation empirically. Finally, mixed method is the combination of both quantitative and qualitative methodologies, which contains the characteristics of both statistical and empirical data to interpret the results (Zikmund & Babin, 2006).

In the research under consideration, mixed research method, qualitative and quantitative, has been used to answer the research questions. It would help in understanding the research problem in both qualitative and quantitative manner. It would further help in acquiring accurate conclusion by utilizing multiple sources of information. Moreover, multiple sources of data and analysing techniques would help in the accurate analysis of the study results (Flick et al., 2007). As Basit (2010) explains, in this research, surveys or questionnaires will be used to gather statistical data (quantitative) followed by deeply investigation of smaller issues with the help of empirical studies, interviews or literature (qualitative). Thus, the combination of both qualitative and quantitative data would help in effectively identifying the risk essential for IJV construction projects of UAE and to assess the impacts of those related risks on partners involved.

4.3 Research Strategy

According to (Walsh & Wiggins, 2003) research strategy can be defined as the way by which overall investigation for the research is conducted. The most strategies used in the research includes survey (questionnaire and interview), action research, experiments, and case studies. Survey research strategy gives a systematic view of a research area by gathering observational facts (Walsh, 2001). Furthermore, action research requires the researcher to involve in the research and become a key element of the study area where the research being conducted (Walsh, 2001). Moreover, experiment strategy is usually effective for the scientific area of research specifically natural sciences and social sciences (Walsh, 2001). At last, the case study strategy is used to acquire a significant perception of research background and process by using a case of any specific organization or group, which is reviewed, interpreted and presented about a specific phenomenon (Walsh, 2001).

As this research is based on mixed research, therefore, survey strategy would be identified great to reach the research outcomes. In the form of survey, the close-ended questionnaire has been used to collect relevant and appropriate information about the identification of risk faced by contractor in IJV mega construction projects and their impacts. Questionnaire has been distributed to more than 15 contractors from both local and foreign contractors working in IJV mega construction project specifically (airport, museum, port, and bridge). In contrast, an interview is a productive discussion among people to assist the researcher in gathering data from the field that is relevant to the undertaken topic (Saunders et al., 2012). He also divided the interviews into three types (Structured, semi-structured, and non-structured). For the purpose of this study, a total of three semi-structured interviews will be conducted. The Semi-structured interviews will adopt non-standardized questionnaire unlike structured interviews. Therefore, a list of pre-prepared questions related to the research topic allowing for variance to

occur from one participant to another. In this research, three semi-structured interviews will be conducted. Semi structured interview will allow the researcher to change the sequence of the questions depending on the interview and the interviewee circumstances. The participants will be selected based on their role (Project managers, and senior risk managers). Also, the selection will be limited to people who worked on similar projects. Therefore, a comprehensive insight into UAE IJV mega construction projects can be observed. In addition, overview about the risks they face along with common practises and impact on partners can be revealed. Hence, both survey and interview approaches would help in gathering valid and reliable data to achieve the research's aim and objectives.

4.4 Data Collection

Data collection is the most important part of the research because it helps in gathering desired information through which researcher can reach an appropriate conclusion. Data collection includes the preparation and assembly of relevant information by utilizing suitable approach such as observation, interview, and questionnaire (Connaway & Powell, 2010). However, there are two key types of data gathering i.e. primary data collection method and secondary data collection method, which are discussed here in the context of this study.

4.4.1 Primary Data Collection

Primary data collection methods are effective to collect information for the first time in regards to general or specific group of people, entities, or public sectors. For this reason, many methods were described and used by researchers such as, survey, interviews and observations. Similar approaches help researchers to collect data about a problem, phenomena, or situation for a specific group of people or objects (Kumar, 2008). However, for the purpose of this research and due to time limitation and data accessibility restrictions, primary data collection will be gathered through Web-based survey questionnaire and semi-structured interviews. This

strategy would help in understanding the systematic view of the research phenomena related to the identification of risks factors associated with IJV construction projects in UAE, and to assess their impacts on contractors. (Walsh & Wiggins, 2003).

In this research, the survey will be conducted by using close-ended questionnaire to foreign and local contractors who worked on IJVs construction projects in UAE. The questionnaire was designed to identify critical risks factors relating to partner and host country in which the joint venture is undertaken. It also seeks investigation of the relationships between the risks factors and their impact on contractors. Based on previous literatures (Chong, (2009) Ozorhon et al., (2008) Ozorhon et al., (2007) Galea & Luob, (2004) Hsieh & Child, (2010) Hsieh & Rodrigues, (2005)) a total of 42 questions were compiled in order to answer research's questions. The questionnaire will be divided into two sections (A) and (B). In the section (A), the questions will search for general information relevant to the participants i.e. (gender, age, qualification, and overall experience). In contracts, section B will seek specific information about the research's topic. Some questions will be negatively coded in order to ensure that responses were authentic and that an average of both the normal and negatively coded questions would reveal a good composite mean for ranking. The total number of the questionnaire will reach (42) including demographic information and five scales range between (strongly disagree-.strongly agree).

In the meanwhile, semi-structured interviews will be conducted for qualitative data collection purposes; a certain list of non-structured and pre-prepared questionnaire were designed for exploratory discussion to answer the "what", "why", and "how" types of questions (Saunders et al., 2012). The questions will be examined with the help of Projects Managers and senior risk managers involved in IJV construction projects in UAE. Through interviews connection can be made to the survey results and fill the gap when needed.

4.4.2 Secondary Data Collection

Secondary data refers to the information obtained from already existing data mainly provided by earlier authors and researcher in the relevant area of study (Kumar, 2008). In this research, the secondary data is based on an extensive literature review and existing theories that have been studied in the context of the risks factors associated with IJV construction projects and their impacts on the contractors, specifically in context of UAE. The secondary data has been accessed by using online sources including journal articles, authorized books, authentic websites and other legal and authorised reports and documents.

4.5 Sampling

According to Ramsay & Silverman (2002), Sampling is a method used for statistical analysis, in which a predetermined number of individuals or things that has the ability to represent its particular group of population in order to validate the generalization of the research outcomes to the whole population. There are two divisions of sampling i.e. sampling size and sampling technique (Ramsay & Silverman, 2002).

Sample technique can be categorized into two types; random and non-random selection. For the purpose of this research, to reach the sample, random sampling selection has been approached in which each participant including foreign and local contractors involved in IJVs construction projects in UAE have been chosen randomly by visiting the mega IJV projects namely, (Airport, Museum, bridge, port, and civil projects for Oil & Gas). For this reason, equal chances would be granted for sample selection; also this way of sample selection would keep the research findings away from presumptions (Kumar, 2008).

As of survey's sample size, (Bryman & Bell, 2007) considered the size of the sample as a key element of sample selection which shows the length of the sample population. Because of the time and resource limitations, the targeted number of respondents has to reach at least 100

individuals working with foreign and local contractors and involved in IJV projects in UAE. Participants' selection will be based on their years of experience, age, and experience in IJVs in UAE. In addition, the survey would be conducted by visiting different IJV construction companies and it would be delivered through Web-based questionnaire.

As for the number of semi-structured interviews, (Ritchie et al., 2003) found that the sample in qualitative data methods is much smaller than in quantitative data methods. Also, sample size is not important in Semi-structured interviews compared to the survey approach. This is because one data occurrence is enough to be considered in study framework, and more data does not necessarily add more. In addition, frequencies are less important in qualitative data, unlike quantitative data methods. Therefore, occurrence of one data can lead to understanding the meaning of the process. Furthermore, qualitative data concerns in meaning rather than generalization information (Crouch & McKenzie, 2006). Finally, because qualitative data methods are time-consuming and very intensive, analysis large sample can be time-consuming and impractical. In this research, 3-5 semi-structured interviews with individuals i.e. (CEO, Project Manager, and Risk Management Director) from foreign and local contractors working on IJV construction projects in UAE for explanatory and exploratory purposes.

4.6 Data Analysis Method

The data analysis is a process of sorting, converting and presenting primary and secondary data gathered by using different data collection approaches. However, there are several data analysis methods, but the study under consideration has been utilized Web-based survey approach through which gathered data has been scrutinized, sorted, converted and represented. Questionnaire's results will be analysed with the help of IBM SPSS version 20. Data was first coded to reduce errors and make it more manageable... Entries were made in SPSS and analysis generated. According to Saunders et al., (2007) SPSS saves time and improves the quality of

results. It also helps in conducting complex analysis and reducing errors significantly. This way, of analysing data, would underline the relevant information to suggest concluding thoughts in the area of the risk significant for IJVs construction projects and to assess the impacts of those risks on the project contractors. The results will be presented in appropriate tables and charts.

4.7 **Research Ethics**

(Buddenbaum & Novak, 2001) Defined research ethics as the ethical principles embraced by researchers when dealing with people who involved as participants in order to protect their legal, social, and political rights. For this reason, this research is conducted with great concern with ethical techniques mainly in regards to protection, interest, and profit of participants.

(Buddenbaum & Novak, 2001) The following are the main ethical checklist that was adopted and embraced when dealing with individuals participants:

1. Voluntary: participation of the research respondents is ensured since no foreign or local contractors have been forced to participate in the research.
2. Information: In this research participants from local and foreign contractors have been learned about the entire study, their role in the research, the information needed and about the course of action associated with the study. In addition, the authorization has been granted directly from CEOs and Project Managers before starting data collection.
3. Confidentiality: Assurance has been made about the confidentiality of gathered information or survey data. As a result, contractors have been granted to erase any confidential information including names of participants, names of projects, name of names of contractors. Moreover, emails were sent to the CEOs and Project managers of the selected projects about the amount of data required, samples of the survey and interviews. Besides, it was granted to both local and foreign contractors that the data

obtained will not be shared or used for any other purposes. Also, and data gathered will be destroyed directly once the research is completed.

4.8 Conclusion to the Chapter

Chapter four presents the methodology adopted to achieve research's aim and objectives. It also spots the light on research philosophy, method, strategy, data collection and analysis, sampling, and ethics. Realism is the research philosophy as a real phenomenon has been considered in this research related to the identification of the risks associated with IJVs construction projects in UAE and has considerable influence on the contractors. In addition, the mixed qualitative and quantitative research approach has been used for supporting the generalization of the results. Moreover, Random sample techniques were selected by choosing random construction companies from both local and foreign contractors who worked on IJVs projects to avoid deceptive and unrealistic findings. The sample would also obtain the exact interpretation of the issue under consideration. For this reason, it would give equal chance of selection to the respondents. In addition, the analysis of the primary data through SPSS software analysis approach would help in supporting qualitative results by quantifying data. Similarly, Charts and tables would help in gaining the overall representation of the responses, as well as the findings. The next chapter will be discussing the data collection and analysis gathered from survey and interview questionnaire. Hence, contradicts between hypothetical and practical results will be examined and presented as well.

5 CHAPTER FIVE- RESULTS AND FINDINGS

This chapter elaborates on the findings of the present study. It also presents the data collected with the help of the survey questionnaire and the interview discussed in the research methodology chapter. The Presentation of findings in order to answering the set research questions is essential to ensure that the objectives of the study are achieved. The findings would also help in establishing robust conclusions and make valuable recommendations to organizations within the scope of the study. In addition, the overall recommendations intended to other stakeholders. The chapter commences with the demographics of respondents. It then proceeds to elaborate on survey's results pertaining to the various indicators of IJVs' risk factors, impact of the risk factors, and finally across assessment of significance between various indicators and impacts. Moreover, the findings of two semi-structured interviews will be presented and discussed as well.

5.1 Survey Demographics

Out of a total of (200) emails used for online data administration, a total of (186) viewed the online form. Out of this number, only (104) respondents completed the questionnaire; responsive rate of 52%. Due to the excessive amount of missing data, data from (46) questionnaires were completely exempted from the analysis. Data presented in *Table 5.1* indicate that 84% were within UAE, and (4) were located in Austria as at the completion of the questionnaire. To add to this, one respondent completed the questionnaire from Oman and another from the Kingdom of Saudi Arabia. In addition, 94.8% were male; most of the respondents were above 49 years old and had more than 25 years of experience. Dominant qualification was bachelor graduation. From *Table 5.2*, it may be noted that the standard deviation was highest in the years of working experience. Other demographics have recorded lower variances.

Table 5-1 Demographics

Country Code

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	AE	49	84.5	86.0	86.0
	AT	4	6.9	7.0	93.0
	SA	1	1.7	1.8	94.7
	IN	2	3.4	3.5	98.2
	OM	1	1.7	1.8	100.0
	Total	57	98.3	100.0	
Missing	System	1	1.7		
Total		58	100.0		

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	55	94.8	94.8	94.8
	Female	3	5.2	5.2	100.0
Total		58	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26-30 years	2	3.4	3.4	3.4
	31-35 years	18	31.0	31.0	34.5
	36-40	9	15.5	15.5	50.0
	41-45	10	17.2	17.2	67.2
	Above 45 years	19	32.8	32.8	100.0
Total		58	100.0	100.0	

Overall working experience as a contractor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 years	2	3.4	3.5	3.5
	6-10 years	13	22.4	22.8	26.3
	11-15 years	11	19.0	19.3	45.6
	16-20 years	11	19.0	19.3	64.9
	21-25 years	7	12.1	12.3	77.2
	Above 25 years	13	22.4	22.8	100.0
	Total	57	98.3	100.0	
Missing	System	1	1.7		
Total		58	100.0		

Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School	2	3.4	3.4	3.4
	Diploma	5	8.6	8.6	12.1
	Graduation	31	53.4	53.4	65.5
	Masters	18	31.0	31.0	96.6
	Other	2	3.4	3.4	100.0
Total		58	100.0	100.0	

Other qualifications indicated include three counts of “bachelor”, one count of MCInstCES, and one count of “professional qualification”. Even though, “graduation” was presented as a representation of all qualifications falling under bachelor and first-degree qualifications, some respondents might have misunderstood this.

Table 5-2 Demographics Statistical Indicators

		Country	Gender	Age	Working experience as a contractor	Qualification
N	Valid	57	58	58	57	58
	Missing	1	0	0	1	0
Mean		1.2807	1.0517	4.4483	3.8246	3.2241
Median		1.0000	1.0000	4.5000	4.0000	3.0000
Mode		1.00	1.00	6.00	2.00 ^a	3.00
Std. Deviation		.81841	.22340	1.32681	1.57120	.79567
Variance		.670	.050	1.760	2.469	.633
Range		4.00	1.00	4.00	5.00	4.00
Minimum		1.00	1.00	2.00	1.00	1.00
Maximum		5.00	2.00	6.00	6.00	5.00

a. Multiple modes exist. The smallest value is shown

The demographics of the respondents reveal that the sample was carefully selected based on role and years of experience along with vast experience in IJVs projects in UAE.

5.2 Risk Indicators

This section is grouped into three main aspects. First and foremost section, pertains to the general perception of respondents on presence of IJV construction projects risk factors in UAE and on the international platform; the second section presented Partners' risk indicators according to the framework of the study; and finally, the third section elaborates on the host country related IJV construction risk factors.

5.2.1 General Perception of IJV Risk Factors

Prior to asking, respondents were requested to contribute to questions pertaining to the main dimensions of the study, an attempt was made to understand the perception of risk associated with IJV construction projects in UAE. Key statistical indicators pertaining to the first three questions on general perception of the risk factors are presented in *Table 5.3*. Before continuing to the descriptive statistics of items measured under this dimension, a test for reliability was conducted on the three questions which represented participants' general perception in order to access if the existence of internal consistency of these preceding dimension. With the Cronbach's Alpha statistical technique, on the three items, .352 was recorded. This essentially does not imply a high level of reliability among the items. In order to use this dimension and

its items in high and even low stake projects, attention may be paid to enhance reliability by considering other items that may be associated with general existence of risk in IJVs construction projects. Even though a low level of internal consistency was realized, it may be observed from *Tables 5.3 and 5.4* that in UAE 75% of participants perceive higher risk in IJV construction projects compared with domestic level projects. An outstanding 91% of respondents believe that the UAE construction sector is attractive to international construction companies; however, less than this portion (62%) actually believe that the construction sector is affected by risk factors. Very low lean figures were recorded in *Table 5.4*, this signify answers were basically positive and closer to “Yes = 1”, as the median and the mode figures for all the items were “1”. To add to this, standard deviation was very low and all items were positively skewed especially the second question that the UAE IJV construction sector is attractive to investors; risks exist in UAE IJV construction projects.

Table 5-3 Perception of IJV in UAE

Risk in International joint venture in construction projects is higher than domestic level projects					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	44	75.9	80.0	80.0
	No	7	12.1	12.7	92.7
	Don't know	4	6.9	7.3	100.0
	Total	55	94.8	100.0	
Missing	System	3	5.2		
Total		58	100.0		

The construction industry in UAE is attractive enough for international construction companies					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	53	91.4	94.6	94.6
	No	2	3.4	3.6	98.2
	Dont Know	1	1.7	1.8	100.0
	Total	56	96.6	100.0	
Missing	System	2	3.4		
Total		58	100.0		

Construction industry in UAE is affected due to key factors which create risk in execution of IJV Projects					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	39	67.2	69.6	69.6
	No	14	24.1	25.0	94.6
	Don't know	3	5.2	5.4	100.0
	Total	56	96.6	100.0	
Missing	System	2	3.4		
Total		58	100.0		

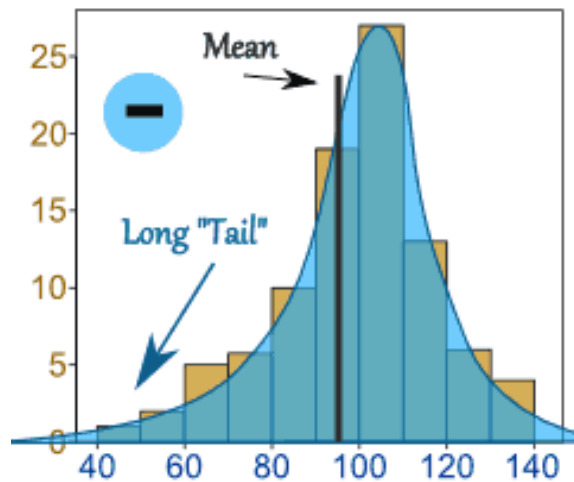
Table 5-4 General Perceptions Statistical Indicators

	IJV risks is higher than domestic level projects	construction industry in UAE is attractive	UAE construction industry is affected by several risk factors
Mean	1.2727	1.0714	1.357
Median	1.0000	1.0000	1.000
Mode	1.00	1.00	1.0
Std. Deviation	.59175	.32233	.5855
Variance	.350	.104	.343
Skewness	2.079	4.929	1.432
Std. Error of Skewness	.322	.319	.319
Range	2.00	2.00	2.0

5.2.2 Partner Related Indicators

Key risk indicators measures are presented in *Table 5.5*. It may be noted that almost all items recorded a mode of 4 which interprets as “somewhat important”. A very low standard deviation was recorded and data was skewed to the right for all items as illustrated in *Figure 5.1*

Figure 5-1 Low Standard Deviation



Projecting skewed data between one and negative one, items like the first question under partner fit had -0.814 which means majority of the responses rated that partner fit is a high risk factor.

Table 5-5 Partner Related Risk Indicators

	N	Mean	Median	Mode	Std. Dev.	Variance	Skewness	Min	Max	
	Valid	Missing								
Risk of partners' fit is high in IJVs (Partner Fit)	58	0	3.45	4	4	1.062	1.129	-0.814	1	5

Partners cooperate and understand each other (Partner Fit)	57	1	3.72	4	4	1.082	1.17	-0.637	1	5
Inter-partners' conflicts is high (Inter partner conflict)	54	4	3.24	3	4	0.989	0.979	-0.267	1	5
Risk of opportunism is high (Opportunism)	55	3	3.62	4	4	1.045	1.092	-0.579	1	5
Partners try to satisfy each other needs (Opportunism)	55	3	3.4	4	4	1.164	1.356	-0.479	1	5
Culture difference risk is high (Culture Differences)	56	2	3.41	4	4	1.345	1.81	-0.569	1	5
Partners reflect their own cultural thoughts (Culture Differences)	57	1	3.05	3	4	1.216	1.479	-0.165	1	5
Risk of dependence is high (Dependence)	55	3	3.35	4	4	1.058	1.119	-0.648	1	5
Dependence for technology and capital (Dependence)	55	3	3.75	4	4	1.190	1.415	-0.784	1	5
Ownership shares risk is high (Ownership Share)	57	1	4.14	4	4	1.597	2.551	-0.401	1	7
There is trust and increase commitment with each other (Ownership Share)	57	1	3.49	4	4	1.151	1.326	-0.632	1	5
The level of agency risk is high in Joint venture projects in UAE (Agency)	58	0	3.28	3	3	0.854	0.73	-0.048	1	5
projects have different interests and risk preferences (Agency)	56	2	3.64	4	4	1.197	1.434	-0.845	1	5

Level of skewness however does not imply such responses have highest mean values. An item like the first indicator under ownership share risk had the highest mean but was not extensively skewed to the right; mean values represent a good ground for ranking.

Emanating from this, and as maintained throughout the remaining areas of the analysis, comparison of mean values helped rank indicators and impacts of IJV associated risks. The mean values of the items under partner related risk factors were compared in order to reach at the most important dimension under this group of factors. It must be noted that the first item under ownership share had a scale range of 7, this was recorded to a scale of five where the last two extreme values of the 7-point likert scale were added to the last one items on the 5-point likert scale. This was computed before arriving at the mean age for the dimension. **Table 5.6** presents findings in order of highest mean per dimension. Inter partner conflicts recorded the highest composite mean value, the partner related indicator with highest impact on IJV Construction projects, in context of partner related factors. This was closely followed by partner fit, dependence, opportunism, agency, ownership share, and culture differences in that particular order of importance. It must be mentioned at this point that whereas all items had two items as indicators of IJV risk factors, inter partner fit had only one item as indicator but two impact items. Also, almost all of the second items under indicators for both partner and

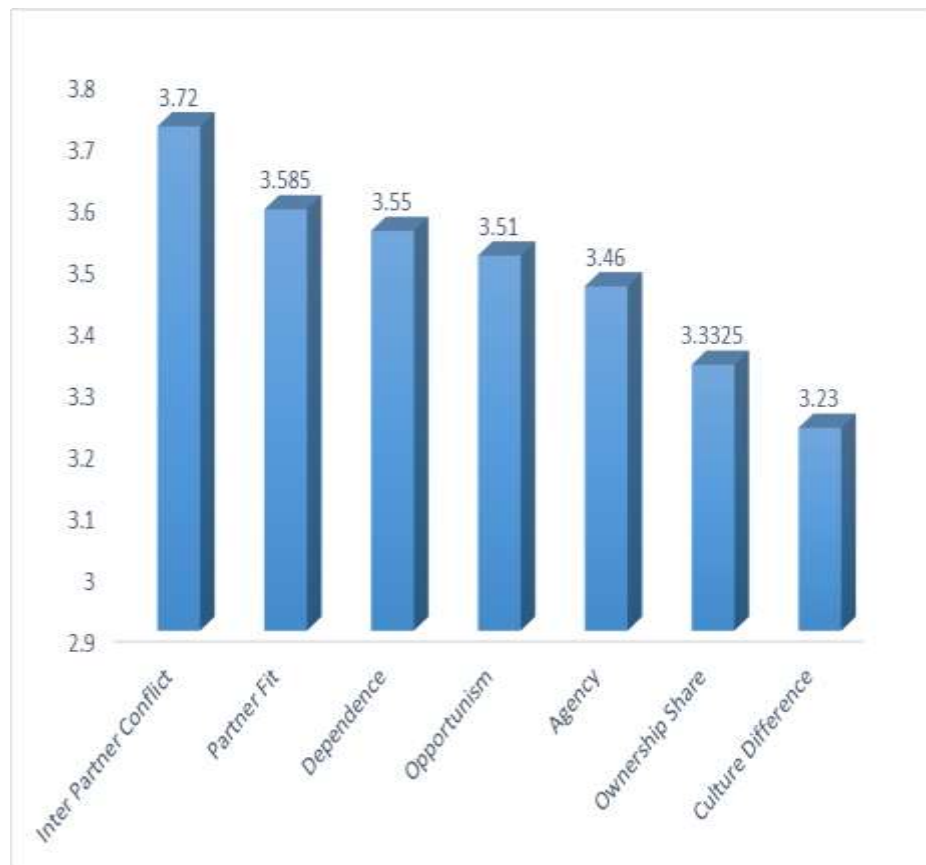
host country related risk factors were negatively coded. Such coding helped ensure that responses to indicators were genuine, and that an average of both the normal and negatively coded questions would reveal a good composite mean for ranking.

Table 5-6 Comparison of Means for Partner Related Dimensions

Dimension	Mean Values	Number of Items
Inter Partner Conflict	3.72	1
Partner Fit	3.585	2
Dependence	3.55	2
Opportunism	3.51	2
Agency	3.46	2
Ownership Share	3.3325	2
Culture Difference	3.23	2

Table 5.6 is further represented in *Figure 5.2* below

Figure 5-2 Mean ranking for partner related indicators



5.2.3 Host Country Related Indicators

Data pertaining to indicators of host country related risk dimensions are outlined in *Table 5.7* below. Generally, mean values were somewhat lower than indicators discussed under partner

related risk factors. To add to this, a very low modal value of 2 (somewhat disagree) was recorded for 1 political risk indicator, 1 resource deficiency indicator, and 1 construction risk indicator (3 out of 8 indicators). Contrary to indicators under partner related risk factors, some amount of positive skewness was as well observed principally among political factors and single items under resource deficiency and construction host country risk indicators. In order to reach at the most significant indicator of risk factors in IJV construction projects from the host country, the comparison of means presented in *Table 5.8* clearly ranks the composite mean values of various host country related dimensions.

Table 5-7 Host Country Risk Indicators

	N		Mean	Median	Mode	Std. Dev.	Variance	Skewness	Min	Max
	Valid	Missing								
financial and economic risks is high (Financial Risk)	57	1	3.7018	4	4	1.068	1.142	-0.92	1	5
interests rates and exchange rates changes are high (Financial Risk)	57	1	3.3158	3	3.00a	1.183	1.398	-0.11	1	5
political risk is high (Political Risk)	57	1	2.7895	2	2	1.411	1.991	0.428	1	5
capital repayments and exports or imports (Political Risk)	56	2	2.6607	3	3	1.066	1.137	0.076	1	5
Resource deficiency risk is high (Resource Deficiency)	54	4	3.0926	3	4	1.233	1.52	-0.25	1	5
Risk of manpower, material, and machinery related resources is high	58	0	3	3	2	1.376	1.895	0.084	1	5
design change due to lack of coordination (Construction risk)	53	5	4.0189	4	5	1.217	1.48	-1.37	1	5
level of construction risk is high (Construction risk)	52	6	3.0577	3	2	1.274	1.624	0.066	1	5

a. Multiple modes exist. The smallest value is shown

Table 5-8 Comparison of Mean for Host Country Related Indicators

Dimension	Mean Values	Number of Items
Construction risk	3.538	2
Financial Risks	3.509	2
Resource deficiency	3.046	2
Political Risks	2.725	2

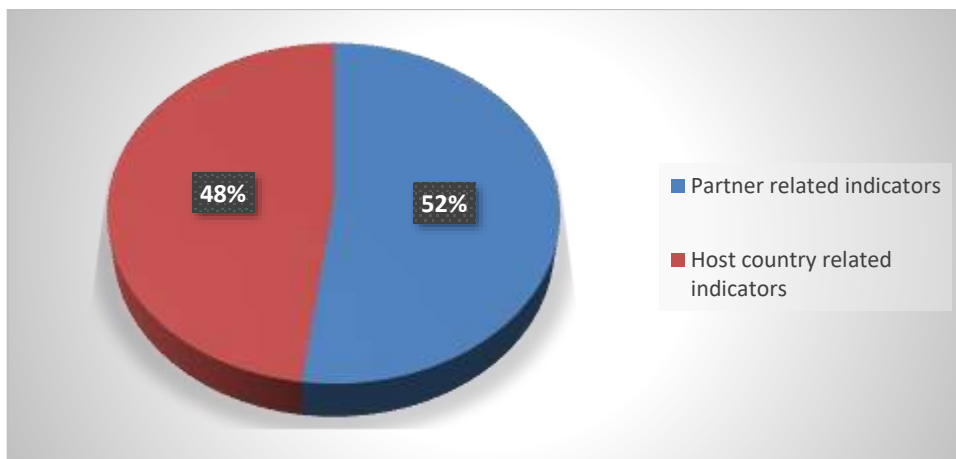
Figure 5-3 Mean ranking for host country related indicators



It may be observed (*Table 5.8*) that host country risk indicators is led by construction related risk factors was highest acknowledged risk indicator. This was followed by financial risks, resource deficiency, and political risk in that particular order. Respondents think that political risk is the lowest kind of host country related risk factor that affects IJV construction projects.

A total average of 3.48 was realized for partner related factors whereas a total mean value of 3.20 was recorded for host country related factors (Figure 5.4). Irrespective of these, construction risk had the highest mean value as most important risk element in IJV construction projects, with a mean value of 3.72. The lowest mean value was cultural differences (2.72) as a risk indicator.

Figure 5-4 Partner related indicators against host country related indicators



5.3 Impacts of risks associated with IJV projects

The second research sought answers pertaining to impact of risk factors on IJV projects. Various Impact items placed under each dimension pertaining to partner related and host country related factors are therefore presented in this section.

5.3.1 Partner related risk Impacts

Impact assessment items were selected from the various partner related dimensions. Statistical indicators and their impact on performance presented in *Table 5.9*

Table 5-9 Partner Related Risk Impacts

	N		Mean	Median	Mode	Std. Dev.	Variance	Skewness	Min	Max
	Valid	Missing								
Partners show understanding of each other (Partner Fit)	57	1	3.491	4	4	1.10393	1.219	-0.679	1	5
Lack of trust between partners (Inter Partner Conflict)	57	1	3.421	4	4	1.14872	1.32	-0.532	1	5
Strategic control, tactical control (Inter Partner Conflict)	55	3	4.018	4	4	0.97165	0.944	-1.42	1	5
Partners often misrepresent the facts (Opportunism)	57	1	3.035	3	4	1.16443	1.356	-0.141	1	5
Different culture backgrounds (Culture Distance)	57	1	3.368	4	4	1.2766	1.63	-0.416	1	5
Partner relies on local partner (Dependence)	56	2	3.536	4	4	1.33436	1.781	-0.698	1	5
partners tend to secure majority ownership (Ownership)	58	0	3.655	4	4	1.00091	1.002	-0.336	2	5
complex relationships of principal-agent structure (Agency)	57	1	3.509	3	3	0.84775	0.719	0.063	2	5

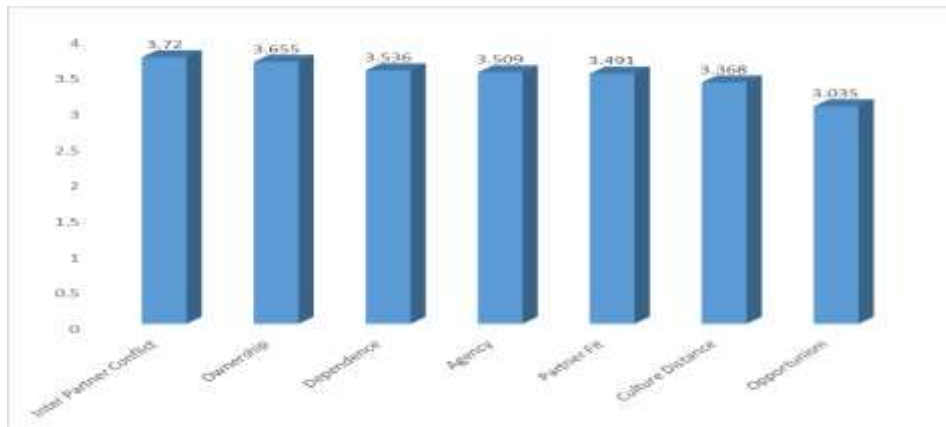
a. Multiple modes exist. The smallest value is shown

Generally, respondents agreed to the impact of partner related risk factors on IJV construction projects in UAE; this is evident from the high modes values recorded. Emanating from this, data was accordingly negatively skewed, with the exception of the impact assessment item under agency risk factors. This however does not imply that this item had the lowest mean value. Comparing composite mean values of dimension in search of highest impact, *Table 5.10* and *Figure 5.5* are presented below. Inter partner conflict had the highest impact on IJV projects, followed by ownership factors, dependence, agency, partner fit, cultural differences, and opportunism in that particular order.

Table 5-10 Comparison of Mean Values for Partner related impact items

Dimension	Mean Values	Number of Items
Inter Partner Conflict	3.72	2
Ownership	3.655	1
Dependence	3.536	1
Agency	3.509	1
Partner Fit	3.491	1
Culture Distance	3.368	1
Opportunism	3.035	1

Figure 5-5 Mean Ranking for Partner related impact factors



5.3.2 Host Country Related Risk Impact

Indicators pertaining to host country risk related impact are also presented in **Table 5.11** below. Respondents generally agreed that the host country factors have significant impact on IJV construction projects.

Table 5-11 Host Country Risk Impacts

	N		Mean	Median	Mode	Std. Dev.	Variance	Skewness	Min	Max
	Valid	Missing								
Weak capital market impact projects (Financial Risks)	57	1	3.4737	4	4	1.25506	1.575	-0.528	1	5
government policies affect projects (Political Risks)	56	2	3.0714	3	4	1.14188	1.304	-0.144	1	5
suffer from lack or insufficient resources (Resource Deficiency)	56	2	2.9464	3	4	1.32692	1.761	0.005	1	5
risk of supply chain breakdown (Construction Risk)	57	1	3.2456	4	4	1.21421	1.474	-0.369	1	5

Since all items presented in **Table 5.11** were single statements under each dimension, there is no need to find composite mean values for comparison. Resource deficiency had close to perfectly normal distribution with a skewness of 0.005. A glance at the mean values of the 4

items show that financial risk has the highest impact on projects, followed by construction risk, political risk, and resource deficiency in that particular order (*Table 5.12& Figure 5.6*). Total partner and host country related impacts are also presented (*Figure 5.7*)

Table 5-12 Comparison of Composite mean values for host country related impact items

Dimension	Mean Values	Number of Items
Financial Risks	3.474	1
Construction Risks	3.246	1
Political Risks	3.071	1
Resource deficiency	2.946	1

Figure 5-6 Mean Values for host country related impacts

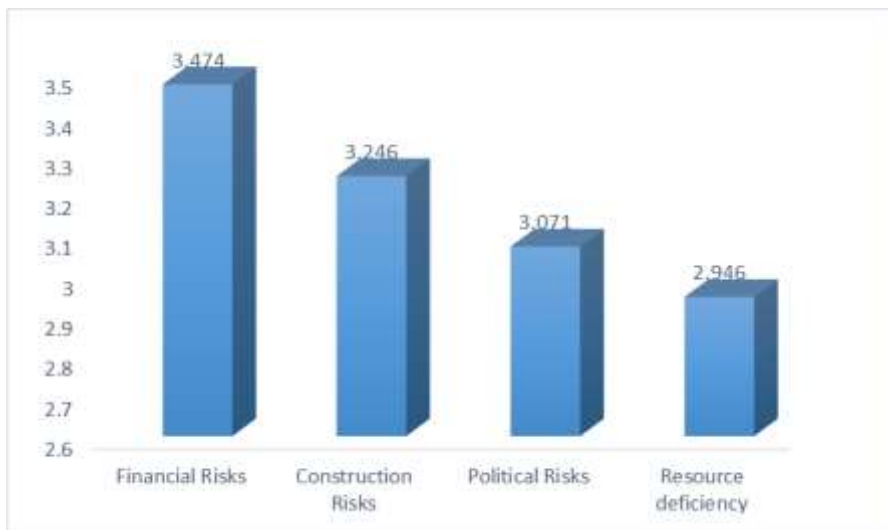
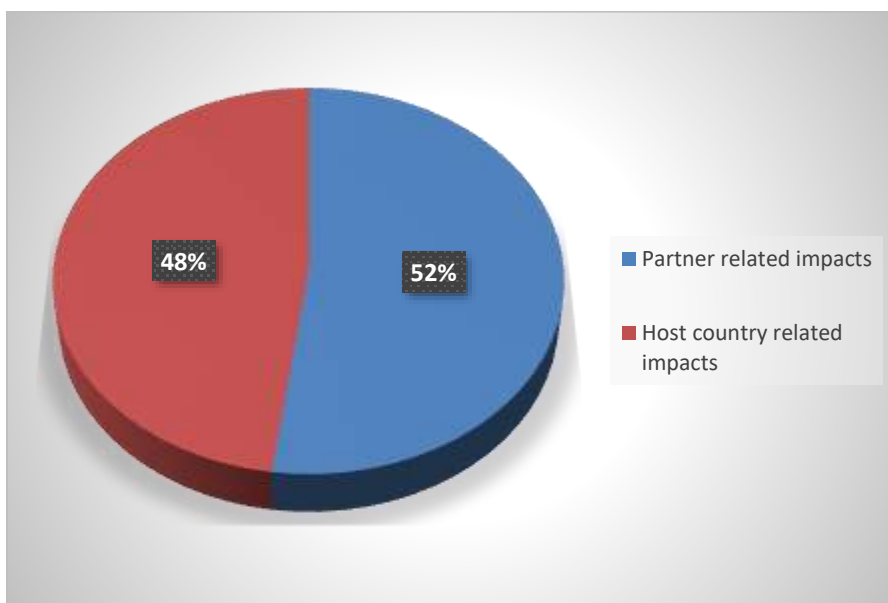


Figure 5-7 Partner related impacts against host country related impacts



5.4 Discussion of Indicators and Impact Ranking

The table below summarises the various indicators and impacts as pertains to data collected. Whereas respondents were made to attribute level of agreement to indicators in the general level, specific impact on UAE construction projects was sought.

Table 5-13 Indicator ranking and impacts on UAE IJV construction projects

	Indicators (General)	Impacts (UAE)
Partner Related Factors		
1st	Inter Partner Conflict	Inter Partner Conflict
2nd	Partner Fit	Ownership
3rd	Dependence	Dependence
4th	Opportunism	Agency
5th	Agency	Partner Fit
6th	Ownership Share	Culture Distance
7th	Culture Difference	Opportunism
Host Country Related Factors		
1st	Construction risk	Financial Risks
2nd	Financial Risks	Construction Risks
3rd	Resource deficiency	Political Risks
4th	Political Risks	Resource deficiency

The table indicate that participants observe inter partner conflicts as a threat to IJV projects in general and believe it has the highest impact on UAE projects. Partner fit was the second indicator ranked as dangerous to IJV projects but the indicator used to assess its impact did not show same rank level on UAE IJV projects as it was moved to 5th item under impacts in UAE. Host country risk indicators was topped by construction risk factors and followed by financial risk indicators. However, this was exchanged as financial risk was observed as of the highest impact on UAE IJV projects followed by construction risk indicators. Likewise, Resource deficiency and political risks indicators were ranked 3rd and 4th respectively, but political risks impact scored higher than resource deficiency. Nevertheless, Impact ranking might have changed in case other performance measures were adopted in the survey questions. For example strategic control which is a management performance indicators adopted from

(Ozorhon et al., 2010) was used to assess partner conflict impact on IJV project performance so its impact can be changed if other indicators have been adopted in the survey.

5.5 Relationship between indicators and impacts

This section grouped into partner related and host country related factors as outlined in the framework of the study. The test for reliability for all dimensions under partner related dimensions are presented in *Table 5.14*, while host country related dimensions are presented in *Table 5.15*. For the test for reliability, a single indicator in each dimension as presented on the questionnaire was used in addition to a single item that represented impact of such risk factors under the same dimension. Even though two items representing indicators were presented under each dimension, the second indicators were negatively coded as mentioned in the previous sections. These factors had to be exempted from the test for reliability, tests for correlations, and other internal consistency tests. The inclusion of the negative items resulted in negative average covariance among items which essentially violates reliability model assumptions. However, it must be noted that the negative items were useful for descriptive analysis in the previous section, in presenting both the indicators and impacts of risk factors.

Table 5-14 Reliability tests for partner related risk dimension

	Cronbach's Alpha	Number of Items
Partner Fit	.602	2
Inter Partner Conflict	.566	2
Opportunism	.621	2
Culture Difference	.866	2
Dependence	.416	2
Ownership Share	.176	2
Agency	.559	2

Table 5-15 Reliability test for host country related risk dimensions

	Cronbach's Alpha	Number of Items
Financial Risks	.249	2
Political	.710	2
Resource deficiency	.789	2
Construction	.715	2

From *Table 5.14*, a reasonable level of reliability was observed for all the partner related risk dimensions with the exception of Dependence and Ownership Share. Culture differences represents most reliable dimension with Cronbach Alpha of 0.866, an alpha suitable for high stake testing. Test for reliability among dimensions under host country related factors resulted in very high alpha results with the exception of financial risks (*Table 5.15*). Items used to measure host country dimensions are therefore highly reliable and have a high level of internal consistency than partner related risk factors.

It must be mentioned that since the dimensions do not represent linear correlation, the use of Pearson's correlation as an indicator is relationships was ignored. Even though IBM SPSS Statistics can be used to create additional dummy variables in a much more complex approach to test regression and Pearson's correlation for ordinal scales, other modes of correlation such as Kendall's tau-b and Spearman's correlation were just as helpful and works perfectly with nominal and ordinal scales. These other correlation determinants were readily available and selected for establishment of relationships between indicators and impacts pertaining to the third research question.

Finally, in addition to the above mentioned considerations, the results of indicators and impacts are not skewed to a single side only (single sided skewness was not consistent among all dimensions even though results were mainly negatively skewed), all dimensions were tested for two-tails tests of significance.

5.5.1 Relationship between Indicators and Impacts of Partner Related Factors

Table 5-16 Partner related risk factors

	Kendall's			Spearman's		
	Correlation Coefficient	Sig. (2-tailed)	N	Correlation Coefficient	Sig. (2-tailed)	N
Partner Fit	.451	.000	56	.504	.000	56
Inter Partner Conflict	.325	.005	53	.362	.008	53
Opportunism	.378	.001	54	.448	.001	54
Culture Distance	.689	.000	55	.745	.000	55
Dependence	.205	.072	54	.236	.086	54
Ownership	.139	.204	57	.154	.254	57
Agency	.420	.000	57	.444	.001	57

Correlation significant at 0.01

A positive moderately strong correlation and significant relationship exists between indicators and impacts of risk factors under partner fit dimension. The claim that no relationship exists between partner fit and its associated impacts may therefore be rejected. Also, a positive below average correlation and significant relationship exists between indicators and impacts of risk factors of inter partner conflicts. The null that no relationship between these variables is as well rejected. Opportunism indicators were as well positively correlated to impacts and relationship was significant. Cultural distance recorded the highest correlation, which was also positive and significant in the two tailed test. Dependence and ownership had very low positive correlation and relationship between indicators and impacts were not significant at the 0.01 significance level. The null that no relationship exists between indicators and impacts for dependence and ownership risks may therefore be accepted.

5.5.2 Relationship between Indicators and Impacts of Host Country Factors

Table 5.17 outlines the correlation between indicators and impacts variables of the host country IJV construction risk dimensions described in the previous sections.

Table 5-17 Host Country related risk factors

	Kendall's			Spearman's		
	Correlation Coefficient	Sig. (2-tailed)	N	Correlation Coefficient	Sig. (2-tailed)	N
Financial Risks	.175	.120	56	.208	.124	57
Political Risks	.479	.000	55	.566	.000	55

Resource Deficiency	.565	.000	52	.645	.000	52
Dependence	.489	.000	52	.528	.000	52

Correlation significant at 0.01

According to the table a positive correlation was established in all of the dimensions. However, the relationship between indicators and impacts for political risks, resource deficiency risks, and dependence risks, remained average and statistically significant. The assertion that no relationship exists between the indicators and impacts of these dimensions may therefore be rejected; positive relationships do exist between the indicators and impacts of these dimensions. The last item, financial risk, had no significant relationship between indicators of risk and impacts.

5.6 Improvement of IJV construction projects and avoidance of risks

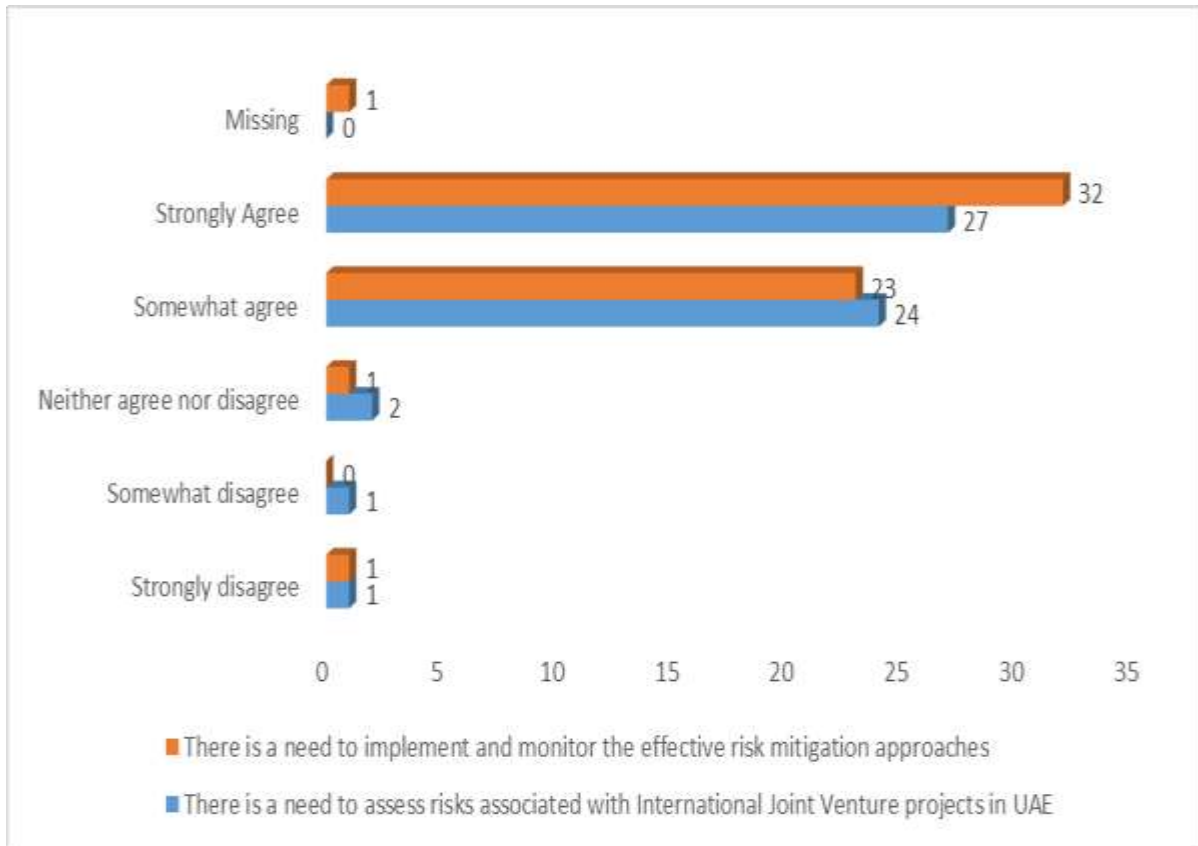
The final section of the questionnaire investigates respondents' ideas of how improvements can be made in the execution of IJV construction projects, and risk avoided. Results are presented in *Figure 5.8* and *Table 5.18*.

Table 5-18 Need for recommendations on assessment and mitigation of risk in IJV construction projects

	Need to assess IJV risks in UAE	Need to implement and monitor the effective risk mitigation approaches towards enhanced performance
N Valid	55	57
Missing	3	1
Mean	4.3636	4.4912
Median	4.0000	5.0000
Mode	5.00	5.00
Std. Deviation	.80193	.71020
Variance	.643	.504
Skewness	-1.883	-2.293
Range	4.00	4.00
Minimum	1.00	1.00
Maximum	5.00	5.00
Sum	240.00	256.00

The need to assess and enhance IJV risk assessment in UAE are further presented in *Figure 5.8*.

Figure 5-8 The need for risk assessment and mitigation



In order to identify a variety of mean though which risk could be assessed and moderated, two Semi-Structured interviews sessions were conducted.

5.7 Discussions and Implications (Survey)

Analysis pertaining to partner risks indicated that dependence was ranked third indicator and third impact with no statistically significant correlation between these two. As the third indicator with positive importance among seven dimensions, close attention may be needed for this particular factor within the framework. The items may be important but the correlation quite poor because of reasons including working of questions as presented on the questionnaire, or that some other factors may account for the identified impacts. Irrespective of the mean raking of this dimension, thorough investigation may be required to back it with significance.

It is however not surprising that dependence had no significant relationship since the Cronbach's alpha restated that there is no reliability or internal consistency exist between items used for the measurement. The other dimension that had issues of statistical significance was ownership risks. Back to the descriptive statistical indicators pertaining to this particular dimension, results were not that impressive either. Ownership risk indicator items were 6th among all indicators but 2nd among impact items. The impact of ownership risks might be exist but definitely not from the indicators measured; very close attention must be paid to reformation of individual items under this dimension as it failed the reliability test as well. Concerning the host country indicators and impacts, political risk was one of the least concerns of respondents, to add to that, no significance was established in correlating indicators with impacts. Therefore, it is the weakest dimension on the framework according to the analysis. The other host country related item that must be considered for its mixed behaviour in the framework is resource deficiency. Although resource deficiency was part of the last two the host country related indicators and impacts, it recorded the highest correlation between indicator and impact variables. Whereas financial risk was considered host country related dimension with highest impact, the relationship with indicators were not statistically significant. Other factors/indicators other than the items presented within the indicators might therefore the cause of such severe impact perceived by respondents.

5.8 Interview Analysis

The purpose of the Semi-structured interviews, as discussed in research methodology chapter, was intended to explore the research topic by conducting constructive discussion with people involved in the current situations significant to the research topic. For this reason, a list of 18 pre-prepared questions was designed based on the research objectives as well as complementing the survey and fill the gap where needed. The questions were divided into three sections: *The first section* investigates responsiveness of the construction industry, IJV projects, foreign investors, and UAE law. *The second section* seeks gathering information in regards to IJV and partners' performance. In addition to the relationships between contractors, strength of IJV, Problems of IJV, Impact of both strength and risks on contractors, and finally some common mitigations measures by contractors in UAE. *The third section* search for control and mitigation practices by contractor in UAE IJV construction projects to fill the gap in survey's results.

Around 15 candidates (Chief Executive Officers, Project Managers, Construction Mangers, and Senior Project Mangers) were approached. Because of candidates' busy schedule and their critical positions, only three agreed to conduct the interviews. Unluckily, one senior risk manager working with international contractor at IJV Airport project in Abu Dhabi canceled the appointment at short notice. The other two interviews were conducted as follows:

5.8.1 Interview (A) (International Contractor)

Interviewee (A) is a Senior Risk Manager from Austria with vast experience in risk management and currently works for Austrian contracting company in Abu Dhabi. Previously, He worked as a project manager on a Port project in alliance with another local contractor in Abu Dhabi. In addition, he completed other joint ventures infrastructure projects in Abu Dhabi i.e. sewerage tunnel program, and some Oil and Gas civil projects. The meeting lasted for

almost two hours at his site office in Alreem Island/ Abu Dhabi. Almost all main questions were covered, but few questions were bounced due to time constraint.

Section one:

Interviewee (A) finds that ***the overall responsiveness of UAE construction industry*** ***Construction industry is positive*** and open process, contractors also has fair chances of winning projects. The competition is relatively high for midsize projects. Nevertheless, only a few contractors can participate in mega projects because of technology. Therefore, international contractors have higher chances of winning compared to domestic contractors. In addition, he ***perceived positive responsiveness of foreign investors*** in UAE. He clarified that UAE market has been very attractive for the international contractor although the market is considered medium in term of number and size of projects compared to China and USA. Specialized contractors have a big demand especially in infrastructure projects such as airport, metro, rails, transportation, tram, and renewable energy. Therefore, with the right managerial approach international contractors can succeed. Interviewee (A) finds that the ***overall response of IJV in UAE is positive*** because the risk in the construction industry is high since the financial crisis. As a result, a few contractors win projects, some of the contractors had to downsize their resources (e.g. manpower, employees, and equipments). Therefore, he sees the advantages of Joint Venture is to fill the gap of shortage and increase competitiveness and winning chances. This can be achieved by selecting the mutual partner. In addition, he gave an example of unique project similar to building a bridge or metro, the foreign international contractor has the technology while the local contractor has the resources. By teaming up together they can cover and fulfil the gap so that they increase their chances of winning projects. Moreover, working with local contractors on mega projects is better than competing against them. On the top of that, consortiums eliminate weak competitors and eventually the number of bidders. In general contractors don't bid alone as they perceived risk is very high.

Interviewee (A) defined three main features which attract international contractor in UAE.

The first aspect related to project, it usually follows international standards so that international contractors find themselves familiarized with projects atmosphere. The second aspect is related to projects' finance, the repayments are reasonable, and the third aspect is related to UAE infrastructure which eases progress i.e. (electricity, water, and manpower). He believes that ***UAE law in regards to IJV legislation is under development, and it improves progressively.***

He witnessed few cases in the courts related to IJV projects in UAE, from which he observed legislation lacks experience. Moreover, there is a lack of detached contractual dispute entity so that the current legislation are generalized.

Section Two:

The second part is more dedicated to investigating IJV performance. This includes, relationships between contractors, strength of IJV, Problems of IJV, Impact of both strength and risks, and investigate common mitigations measures by contractors in UAE.

In general, contractors ***maintain good relationships with same partners*** for several projects resulted from the experience. If the joint venture achieves its goal smoothly, then they work again on similar projects. This can be noticed through same joint ventures between same contractors on several projects. Interviewee A finds that Local resources were ***the main strength of local contractor*** in UAE. He explained that local contractors have permanent resources while international contractor keep temporary resources for the project completion. Therefore, the local contractor can mobilize immediately unlike international contractors who need time to set up business. In addition, local contractors have domestic manpower and emirate employees. Hence, UAE gives more opportunities for international companies who recruit a certain number of local employees. This can be attained by local contractor. While the main strength for international contractors are technology and know-how. He added that each one has the strength in one field and not the other so that they complete each other based

on project's type, location, and size. For example, Local contractors can mobilize faster than international contractors while international contractors can provide international references and prequalify for mega projects. *On the other hand, the most common problems* were different culture and background at management level, dominate ownership share, and opportunism between partners. Those problems influence the IJV project seeing that decisions at work are delayed, people leave project, progress is disturbed, and lack of cooperation between engineers. Furthermore, this can also cause project failure if the JV contract does not define scope of work clearly. Yet, clear JV contract which define scope of work clearly can reduce the impact. *The most risks factors* encountered in projects were (Weak partner, internal deficiency within the joint venture itself, lack of technology, and resources deficiency). He believes that *those risks factors can severely impact* the project and in most cases two options are considered in similar cases; either the strong contractor take over or they go for arbitrations. Moreover, he was asked to define the factors that lead to similar risks, he said that overestimated the partner capacity, also in some cases partner's capacity change over time because of new commitment or projects; so that they lack resources or finance. On the other side, lack of enough investigation on partner's references leads to disqualify the joint venture.

Section Three:

The third part of the interview investigates practices to control IJV performance based on previous experience in UAE. Interviewee (A) check on partner's reference list, reputation, and mutual understanding as some cultures clash. While, clear joint venture's agreement can define the scope of work to avoid conflict. Moreover, partners establish an independent committee for the JV to resolve any problem during project life cycle. Also, leadership and project management must be autonomous and work for the best of the joint venture and report back to the committee to control dependency. Besides, JV committee assign independent leadership who are responsible and work for the benefit of the Joint Venture. Nevertheless, selection of

the project team has to be a balance between all partners. It is also important for contractors to select their partner based on previous evaluation of mutual understanding and previous experience in similar joint ventures between different cultures. In case of disagreements at pre-contract stage it is better to resolve the alliance as evaluation of culture, financial strength, opportunism, and mentality can be judged at early stages. After the joint venture is formed, construction project should be treated independently regardless of parent's company. As of UAE laws, Juridical Department is improving, and legislation are under development yet, separate entity to deal with Joint Ventures is necessary.

5.8.2 Interview (B) (Local contractor)

Interviewee (B) is A General Manager from Lebanon. He currently works with local contracting company in Abu Dhabi. He was a Project Manager on Major Bridge project in alliance with international contractor in Abu Dhabi. In addition, He had more than 20 years experience in construction industry and worked in several IJV projects in UAE. The interview took almost three hours of discussion at his office in Yas Island/ Abu Dhabi. Most questions were covered, yet due to time limitations we had to skip on few of them.

Section One:

Similar to interview A, the first part is pertaining to responsiveness of construction industry, foreign investors, IJV projects, attractive features of construction in UAE, and law in UAE. ***UAE construction industry responsiveness***, in general, has some advantages and disadvantages. In the last couple of years, many changes have happened due to the financial crisis. The main change was the market capacity which was decreased. Therefore the competition becomes tougher. Moreover, many new projects were released, but nothing in reality. Recently there has been a noticeable improvement in construction industry along with mega projects being released as part of UAE plan (2030). The plan contains many new projects

in infrastructure such as aviation, residential and commercial buildings, wastewater treatment plants, transportation, and renewable energy. Overall, UAE construction industry is under development and it attracts international contractors especially it is politically stable. Interviewee (B) believes that *the overall perception of international contractors is positive*. He added that, many international contractors are willing to step up business in UAE after releasing the (2030 plan) by Abu Dhabi Urban Planning Council (UPC) (2030 it is an urban structure framework to optimize development program for the urban evolution). Besides, mega projects need specialized contractors with international experience. Therefore, the the number of international contractors increased gradually. *The overall responsiveness of IJV in UAE is positive*. In many cases were successful and achieved projects' objectives, but there are some problems encountered with IJV i.e. payoff is relatively small for international companies. In addition, foreign companies share profit with a parent company which reduces their profit margin. *Interviewee B defined several features attracts IJV in UAE*, the first one is Stability compared to other O&G countries. The second one is excellent infrastructure for expats to live with their families. The third one is a large number of mega construction projects. The fourth one is financially strong country (stable repayments). Interviewee B finds that, although *UAE law is effective and can solve cases*, yet there are some issues encountered. The contract affects the way of work and the joint venture success. Therefore, it should be drafted carefully. Both local and international companies are treated equally and well protected under UAE law. Yet UAE changes the regulations and legislation frequently which cause some confusion and delay at work. Authorities are evolving and using e-procedures so that regulations are changes on daily bases this affect the performance in negative and positive way. For example, Abu Dhabi Municipality change regulations on daily basis because it is still under developing. This can delay approvals and work permit and eventually can cause delay, and affect IJV performance negatively.

Section Two:

The second part is more dedicated to investigate IJV performance. It includes, the relationships between contractors, the strength of IJV, the problems of IJV, Impact of both strength and risks, and investigate common mitigations measures by contractors in UAE In general, the project delivery is the most important ***indicator of the relationship and to maintain trustful alliance***. Therefore, the joint venture depends on how the responsibilities are distributed between contractors. ***The most important strength as per interviewee*** (B) is that both partners must complete each other and fill the gaps wherever needed. He added an example; international partner lack of infrastructure equipment and local resources can't be competitive enough without local contractor. On the other side, the local contractor the reputation of the international contractor for special technology or product can help local contractors to get prequalified for mega projects. Moreover, international contractors have strong managerial skills due to vast experience in mega projects such as documentation, organizational, leadership, and procurement skills which can add value and increase competitiveness. It gives more chances in competing against other solo contractors and share risks of high-risk projects. ***On the other hand, the most important problems are***, Scope of work confusion, regardless the ownership share between partners; they should depend on compatible relationship and not on the percentage of ownership. Also decision makers should be loyal to the project and not to the parent company. Provide shared management at site without interference from parent companies. ***Those problems can impact*** IJV performance in term of Mistrust. They also lead to problems between employees and workers at site. Nevertheless, they can delay progress and making decisions. ***The most risks factors are*** undefined scope of work between partners, management and leadership deficiency at site, contract terms and conditions, improper documentation. Such problems disturb relationships, delay work, disputes, and in serious conditions can eventually cause project failure.

Section Three:

The third part of the interview investigates common to control IJV performance based on previous experience in UAE. Interviewee (B) believes that the scope of work has to be highlighted and areas of interfaces should be defined. Moreover, Full resources for each scoop have to be provided and in case of interfaces between partners there should be another organizational and job description for this entity to be dedicated to the interfaces works. This entity can coordinate and manage interfaces dependently and report directly to the project team and not to the parents companies. In addition, assigning proper leadership at site dedicated for the joint venture project regardless of the parent company. A Proper documentation can avoid conflict. Finally, UAE government has to monitor changes in rules and regulations and simplify procedures for contractors to expedite approvals.

5.9 Discussion and Implications (Interviews)

Both interviewees have shared comparable data for many questions. Overall, they mentioned that the UAE construction sector is very attractive to both internal and external investors. Moreover, they believe that the sector is attractive to external contractors since it abides by international standards and makes it easy for contractors to fit in. Another side is that project repayments are very reasonable. Such repayments may be associated with project profitability, payback period, and returns on project investments. Both interviewees suppose that IJV are formed to Fill the gap and increase competitiveness. They also have the same opinion that UAE infrastructure and financial strength attract international investors. Eventhoug, Interviewee (A) include that projects follow international standards which help foreign contractors. Moreover, Interviewee (A) finds that although juridical department is improving, yet some legislation lack experience in IJV. While, Interviewee (B) finds regulations and legislation frequently change which delay work. Both Interviewee (A) and (B) believe that resources are the main strength

of local partner while Technology for international partner. Interviewee (A) includes to that a quick mobilization as strength of the local partners. While, interviewee (B) adds that managerial, leadership and documentation skills are main strength of international partners. Table (5.19) summarizes the main risk related factors and indicators observed by both interviewees, the main impact of risks factors, and control measures. It can be observed that there was very little concerned by interviewee (A) for host country relate factors except for some resource deficiency indicators. Moreover, there was no sign of agency risk indicator. On the contrary, political risks indicators were observed by Interviewee (B) especially in regards to frequent changes in regulations. Yet, there was no indication of partner fit because he assumed that this must have investigated and experienced at pre-contracting stage. Also there was no indication for partner culture risk. Hence, it was assumed that UAE has already different cultures so that employees are familiarized with multiculturalism atmosphere. Unlike interviewee (A) who believes that culture differences arise at managerial level. In regards to Impact of risk related factors, both interviewees have agreed on that partner related risk factors impact IJVs in UAE more than host country related factors. Moreover interviewee (B) believed that host country related factors in term of regulations changes can impact IJV project performance and delay progress. Some of the common impacts of IJVs risk related factors resulted from both interviews are stated in **Table 5.19**. In addition, summary of control measures concluded from interviewees are recorded as well. It can be noticed that the recorded measures are proactive rather than reactive.

Table 5-19 Risk assessment as per interview (A) and (B)

	Risks factors & Indicators	Impact	Control
--	---------------------------------------	---------------	----------------

International contractor	<ol style="list-style-type: none"> 1. Managers have different culture and background (Culture risk) 2. Opportunism between partners 3. Dominate ownership share. (Ownership risk) 4. Weak partner (Dependency) 5. Internal management deficiency (Partners' conflict) 6. Lack of technology (Partner Fit) 7. Resources deficiency (Host country related factor) 8. Overestimated the partner capacity or capacity change overtime. (Partner fit) 	<ol style="list-style-type: none"> 1. Decisions at work are delayed 2. People leave project 3. Progress is disturbed 4. Lack of cooperation between employees 5. Project failure if the JV contract does not define scope of work clearly. 6. Disqualify joint venture. 7. Lack of resources and finance. 	<ol style="list-style-type: none"> 1. Partner reference list, reputation, mutual understanding as some cultures clash. 2. Defines the scope of work 3. Establish independent committee for the JV to resolve problems independently. 4. Leadership and project management must be independent. 5. JV committee assign independent leadership. 6. Equal team members or representatives from all partners at site. 7. Partner selection based on previous experience in similar successful IJVs. 8. If problems arise at pre-contract stage it is better to resolve it as evaluation of culture, finance, opportunism, and mentality can be judged at early stages, after the contract project should be treated independently.
Local contractor	<ol style="list-style-type: none"> 1. Scope of work confusion (Dependency) 2. Incompatible relationship due to unequal percentage of ownership (Ownership share) 3. Interference of Parent company (Agency risk) 4. Management deficiency (Partners' conflict) 5. Contract terms and conditions 6. Improper documentations (Partners' conflict) 7. Frequent change of regulations (Political risk) 	<ol style="list-style-type: none"> 1. IJV performance in term of Mistrust. 2. Conflict between employees and workers at site. 3. Delays progress and decisions at site. 4. The relationship can be disturbed. 	<ol style="list-style-type: none"> 1. Define the scoop of work for each partner. 2. Define areas of interfaces. 3. Separate management and team for interfaces works to avoid conflict. 4. Assigning proper leadership at site dedicated for the joint venture project regardless of the parent company. 5. Proper documentations.

5.10 Conclusion to the Chapter

In Chapter five, two primary data collection results were analysed and discussed in the context of research objectives and questions. Firstly, data resulted from web-based survey were analysed by utilising SPSS software program. Accordingly, results were presented in appropriate tables, figures, and charts for simplification. Survey demographic revealed that the sample was carefully selected based on role, experience, and vast experience in IJVs construction projects in UAE. Based on the analysis, Inter-partner conflict risk indicator was the highest ranked compared to the other partner related factors as well as its impact on IJVs' performance. On the other hand, construction risk indicator was ranked on the top of other host country related risk factors, but its impact was the second after financial risk indicator. Furthermore, there was no significant in relationships between risk indicators and impact indicators for both dependency and ownership partner related factors. Besides, the relationship between risk indicator and impact indicators was rejected as well for the same reason. Nevertheless, there is a clear consensus of opinions from almost all participants that there is a need to assess risks associated with IJVs construction projects in UAE. In addition to implement and to monitor the effective mitigation approaches by contractors.

The two semi-structured interviews with two local and international contractors were analysed and discussed as well. Main risk factors were recorded along with their impact, and some of the control measures were recorded in *Table 5.19*. There was a convergence in many answers by both interviewees very minor differences were detected as well. The partner related risk factors were dominant in comparison with host country related risk factors. Therefore, Control measures by both interviewees were proactive rather than reactive. The next chapter will discuss some major conclusions and recommendations based on data collection and analysis.

6 CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

This chapter presents conclusion to the whole research based on previous chapters. The conclusions will be presented in the first section of this chapter. Then, and to achieve the research's objective number four, the recommendations pertaining to each of the identified risks will be presented based on their level of importance for both partner and host country related-factors. Finally limitation of this research and some recommendations for future researchers will be recorded at the end of the chapter.

6.1 Conclusions

In line with the main aim and objectives of the undertaken research, and based on the proposed conceptual framework that was the base for data analysis, several main conclusions can be recorded and presented as follows:

- In UAE, IJVs construction projects have become a trend for contractors in order to participate in large projects that require immense resources and unique capabilities. It also revealed that in most IJV in UAE, local contractors provide resources while international contractors transfer technology. It is found that IJVs construction projects in UAE are associated with higher risks compared to the domestic level projects. In addition, there is an increase in the number of international contractors willing to work and invest in UAE due to stability, strong economy, international projects standards, reasonable repayments, and excellent infrastructure.
- In UAE, Inter-partner conflicts are ranked the highest partner related risk indicator followed by partner fit, dependence, opportunism, agency, ownership share, and culture difference in that particular order of importance. While, the host country related risk indicators are led by construction risk followed by financial risks, resource deficiency, and political risk. In

general, partner related factors perceived to have a higher level of risks on IJVs in UAE compared to host country related factors. Overall, construction risk in UAE perceived to have the highest level of all other identified risks while cultural difference is ranked the lowest.

- In UAE, Impact of partner related factors on IJVs is led by Inter-partner conflict followed by ownership share, dependence, agency risk, partner fit, cultural differences, and opportunism in that particular order. On the other hand, the financial risk has the highest impact on IJV with respect to host country related factors followed by construction risk, political risk, and resource deficiency in that particular order. Therefore, there is a various level of importance between level of risk indicators and their impact on IJV performance. Although inter-partner conflict is ranked the highest in level and impact. This was not the case for other identified risks. Therefore, it can be concluded that impact ranking can be changed in case of other performance measures used for assessment. Also, risk might exist but not from the same indicator measures.
- The relationships between indicators and impacts used in the proposed conceptual framework in order to test dependence and ownership risk indicators were not significant in the context with IJVs in UAE. Therefore, they both were rejected. Concerning host country indicators and impacts, political risk was one of the least concerns of respondents. In addition, no significance was established in correlating indicators with impact. Therefore, the weakest dimension in the framework according to the analysis. Although resource deficiency was part of the host country last two related indicators and impacts, it recorded the highest correlation between indicator and impact variables.

6.2 Recommendations

In addition to the control measures listed in *Table 5.19*, the recommendations in this section are intended to achieve objective number four. So that, to recommend the best control measures for contractors to overcome the identified risks if possible. For this reason, recommendations will be based on data analysis and findings only. Firstly, recommendations for partner related factors are presented starting from the highest to the lowest level of importance. Similarly, recommendations to control risks related to host country factors are presented as well.

Recommendations to control Partner related factors:

Inter partner conflict: Contractors who are engaged in IJVs in UAE must pay serious attention to partners' conflict. This risk indicator was ranked the highest among other partner related factors. It also has the most influential impact on IJVs' performance in UAE especially with respect to internal management deficiency, documentation, leadership, and decision-making process. Majority of participants agreed that strategic control and division of benefits are some of conflict's indicators. Also, they find a lack of trust impacts IJVs in UAE so that selection should be based on trust and mutual goals and objectives.

Partner fit: Contractors should be very careful when selecting a partner to be fit. It is perceived to be the second highest level of risks in IJVs in UAE. Although its impact was ranked the 5th in the list, this didn't lower its importance especially if another indicator was used to test its impact as discussed earlier. Also, in UAE partner capacity frequently changes because of new commitments that reduce their resources therefore hinder IJVs success. For this reason, contractors should investigate partner's financial status, reputation, and previous projects before attaining to joint venturing.

Dependence: This is another very crucial and noticeable indicator in UAE. Its level and impact were equally ranked the 3rd in the list. For this reason contractors should control it very well to ensure superior IJVs performance. Special attention to the relationship between indicator and impact in the conceptual framework as it was rejected. Therefore, other indicators/ questions can be used such as confusion of scope of work and fragile partner as they were identified by interviewees to cause dependency and impact IJVs performance in UAE.

Opportunism: Is another important risk indicator which was ranked the 4th in the list, yet is has the least impact in term of misrepresenting the facts and hide information between partners. Nevertheless, contractors should always be careful when considering opportunism so that they complement the gaps without relying on each other. Also, defining the scope of work and interfaces between partners can control opportunism as revealed by interviewees.

Agency risk: This is a complicated indicator yet it has a medium level in UAE. Contractors should take care when selecting partner with multi agent-principle relationships. In UAE contractors perceived Agency risk being 4th in the list in term of different interests and risk factors by partners that increase agency risk. Therefore, they have to control it by establishing a committee to ensure mutual preferences and goals regardless of agent-principle structure.

Ownership share: It is a very important risk indicator, yet the relationship used in the conceptual framework is not significant. For this reason it has been rejected. The level of ownership risk is perceived to be low in UAE yet, survey results show that participants believe equal ownership shares to maintain trust and ensure commitment. For this reason, impact is very high on IJVs' performance in UAE. It also was evident in both survey and interviews' results. Equal number of representatives from all partners in IJV can control its impact and ensure mutual interest.

Culture distance: In UAE culture distance was perceived as the lowest level among all other partner related risk factors. This can be proved in both survey and interviews results. It also has low impact on IJVs in UAE. Nevertheless, contractors must pay attention at the managerial level and select partners with mutual culture or those who have experience successful previous IJVs. In general, UAE has a multicultural environment so that employees are open minded when dealing with different cultures at work. Hence, contractors must pay attention to culture differences at managerial level and select partner who has mutual culture or proven success in previous similar IJVs.

Recommendations to control Host country related factors:

Construction risk: It was ranked the highest among all other indicators including partner risk indicators. It is revealed that construction risk has the 2nd level of impact on IJVs' performance in term of supply chain breakdown and its influence on the quality. For this reason, construction risk requires extra care by contractors especially in term of design change due to lack of coordination and supply chain breakdown when it comes to IJV in UAE. Many other indicators can be linked to construction risk so that its level cannot be generalized. Instead it can be investigated under project risks so that project's type, size, cost, and quality can be considered as well.

Financial risk: It is ranked the 2nd highest indicators among other host country related factor. While has the highest impact on IJVs in UAE because of weak capital market, unstable economy, and unspecified property rights especially as perceived by majority of participants. This might be due to the crisis as perceived by interviewees. The above factors found to be associated with joint ventures in UAE. Contractors must pay serious attention and mainly to the client's financial stability to secure repayments and profits. Also, it was revealed that international contractors share part of profits with a parent company as well as with the local

agent that decrease profitability and increase financial risks. This can also be used as another indicator to host country related factors for future investigation.

Resource deficiency: It is ranked the 3rd in the host country-related factors and its impact on IJV in UAE is perceived the least. The results are not surprising as contractors find that UAE has an adequate amount of resources. In addition, maximum respondents do not believe that manpower, materials, machinery and other resources are high-risk indicators in UAE. Therefore, contractors must assure that resources are available and taken into consideration when assessing IJVs in UAE and selecting partners.

Political risk: It is perceived to be the lowest level of importance between all other risk indicators including partner risk indicators. Most respondents believe that restrictions on capital repayments and imports or exports are very low. Nevertheless, Political risks' impact on IJVs in UAE was higher than resources' impact, this was revealed by interviewee (B) where he insisted that changes in regulations is quite frequent in UAE and it can severely delay projects. So that contractors in IJVs in UAE must take it into consideration.

6.3 Limitation of the study

1. The research takes contractor perspective only. The clients, consultants, and subcontractors would have a different opinion.
2. Results from interviews cannot be generalized because of sample size.
3. The research is applied only for UAE so that it cannot be generalized for other countries.

6.4 Recommendations for future research

Based on findings of the study, key recommendations are made for future researchers as follows:

1. A single tailed test may challenge the test for significance of relationship between indicators and impacts as done in the third objective. Such tests would ensure that a stronger relationship exists between the two variables under each dimension of the framework. Therefore, in future research, other attempts must be made to ensure that the use of interval or ratio scales as a measure of indicators and impacts; such would help draw regressions, scatter plots and other pictorial representation of relationship between risk indicators and impacts.
2. Future research can propose some different risk indicators for survey design to test impact and level of risk factors.
3. Further research can test project related factors i.e. type, size, and budget besides partner and host country related factors.

References

- Abdelghany, Y. & Ezeldin, A.S., 2010. Classification of risks for international construction joint ventures (ICJV) projects. *Construction Research Congress*.
- Adobor, H., 2004. High performance management of shared-managed joint venture teams: contextual and socio-dynamic factors. *Team Performance Management*, 10(3/4), pp.65-76.
- Ahmed, Z., Mohamad, O., Tan, B. & Johnson, J., 2002. International risk perceptions and mode of entry: a case study of Malaysian multinational firms. *Journal of Business Research*, (55), pp.805-13.
- Andersson, U., 2010. *Managing the Contemporary Multinational: The Role of Headquarters*. Edward Elgar Publishing.
- Ashley, D.B. & Bonner, J.J., 2002. Political risks in international construction. *Journal of Construction Engineering and Management*, 113(3), pp.447-67.
- Baker, S., Ponniah, D. & Smith, S., 1999. Risk response techniques employed currently for major projects. *Construction Management & Economics*, 17(2), pp.250-13.
- Basit, A., 2012. Construction set to contribute 11.1% in UAE's GDP by 2015. *Khaleej Times*, 31 December.
- Beynon, J., Curry, B. & Morgan, H., 2000. The Dempster-Shafer theory of evidence: An alternative approach to multicriteria decision modelling. *OMEGA*, 28(1), pp.37-50.
- Bing, L. & Tiong, R.L.K., 1999. Risk management model for international construction joint ventures. *Journal Construction Engineering Management*, 125(5), pp.377-84.
- Bing, L., Tiong, R.L., Fan, W.W. & Chew, D.A., 1999. Risk management in international construction joint ventures. *Journal of Construction Engineering and Management*, 124(4), pp.277-84.
- Borys, B. & Jemison, D.B., 1989. Hybrid arrangements as strategic alliances: theoretical issues in organizational combinations. *Academy of Management Review*, 14, pp.234-49.
- Borys, B. & Jemison, D.B., 1989. Hybrid arrangements as strategic alliances: theoretical issues in organizational combinations. *Academy of Management Review*, 14, pp.234-49.

Bresnen, M. & Marshall, N., 2000. Building partnerships: case studies of client–contractor collaboration in the UK construction industry. *Construction Management & Economics*, 18(7), pp.819-32.

Bryman, A. & Bell, E., 2007. *Business research methods*. Oxford University Press.

Buddenbaum, J.M. & Novak, K.B., 2001. *Applied communication research*. Wiley-Blackwell.

Campbell, D. & Netzer, A., 2009. *International Joint Ventures*. Netherlands: Kluwer Law International.

Carr, V.&T.J., 2001. A Fuzzy Approach to Construction Project Risk Assessment and Analysis: construction project risk management system. *Advances in Engineering Software*, 32, pp.847-57.

Ceric, A., Marcic, D. & Ivandic, K., 2011. A risk assessment methodology in tunnelling. *Technical news/ technical Gazette*, 18(4), pp.529-36.

Chan, D.W. et al., 2011. Risk ranking and analysis in target cost contracts: empirical evidence from the construction industry., 29(6), *International Journal of Project Management*, 29(6), pp.751-63.

Chan, E.H.W. & Tse, R.Y.C., 2003. Cultural considerations in international construction contracts. *Journal of Construction Engineering and Management*, 129(4), pp.375-81.

Chapman, R.J., 2001. The controlling influences on effective risk identification and assessment for construction design management. *International Journal of Project Management*, 19(3), pp.147-60.

Child, J. & Rodrigues, S.B., 2003. Corporate governance and new organization forms: issues of double and multiple agency. *Journal of Management & Governance*, 7(4), pp.337-60.

Chong, H.G., 2009. Measuring performance of Chinese joint ventures. *Advances in Accounting, incorporating Advances in International Accounting*, 25, pp.81–88.

Connaway, L.S. & Powell, R.R., 2010. *Basic Research Methods for Librarians*. ABC-CLIO.

Crouch, M. & McKenzie, H., 2006. The logic of small samples in interview based qualitative research. *Social Science Information*, 45(4), pp.483-99.

Davie, J.L., 2008. *An Analysis of Risk Perception and the RPN Index Within Failure Modes and Effects Analysis*. New York: ProQuest.

Demirbag, M. & Mirza, H., 2000. Factors affecting international joint venture success: An empirical analysis of foreign-local partner relationships and performance in joint ventures in Turkey. *International Business Review*, 9, pp.1-35.

Dey, P.K., Tabucanon, M.T. & Ogunlana, S., 1994. Planning for Project Control through Risk Analysis; a case of Petroleum Pipeline laying Project. *International Journal of Project Management*, 12(1), pp.23-33.

Dikmen, I.B.M.T..a.H.S., 2007. Using fuzzy risk assessment to rate cost overrun risk in international construction projects. *International Journal of Project Management*;, 25, pp.494–505.

Edum-Fotwe, F.T. & McCaffer, R., 2000. Developing project management competency: perspectives from the construction industry. *International Journal of Project Management*, 18(2), pp.111-24.

Eisenhardt, K.M., 1989. Building theories from case study research. *Academy of Management Review*, 14(4), pp.532-50.

El-Sayegh, S.M., 2008. Risk assessment and allocation in the UAE construction industry. *International Journal of Project Management*, 26(4), pp.431–38.

Fey, C.F. & Beamish, P.W., 2001. The importance of organizational climate similarity between parent firms and the JV: The case of IJVs in Russia. *Organization Studies*, 22(5), pp.853-83.

Flick, U. et al., 2007. *Designing Qualitative Research*. SAGE.

Galea, A. & Luob, J., 2004. Factors affecting construction joint ventures in China. *International Journal of Project Management* , 22 , pp.33–42.

Gardiner, P.D., 2005. *Project Management A Strategic Planning Approach*. London: Pgrave Macmillan.

Han, S.H., Kim, D.Y., Kim, H. & Jang, W., 2008. A web-based integrated system for international project risk Management. *Automation in Construction*, 17(3), pp.342-56.

Hansson, S.O. & Zalta, E.N., 2007. *Risk*. [Online] Available at: <http://plato.stanford.edu/entries/risk/> [Accessed 18 September 2014].

Harhoff, D., Stahl, K. & Woywode, M., 1998. Legal form, growth and exit of West German firms—empirical results for manufacturing, construction, trade and service industries. *The Journal of Industrial Economics*, 46(4), pp.453-88.

Hastak, M. & Shaked, A., 2000. ICRAM-1: Model for international construction risk assessment. *Journal of Management in Engineering*, 16(1), pp.59-69.

Hennart, J.-F. & Zeng, M., 2002. Cross-Cultural Differences and Joint Venture Longevity. *Journal of International Business Studies*, 33(4), pp. 699-716.

Hofstede, G., 1991. *Cultures and organizations- software of the mind*. New York: McGraw Hil.

Hsieh, L.R.S. & Child, J., 2010. Risk perception and post-formation governance in international joint ventures in Taiwan: The perspective of the foreign partner. *Journal of International Management*, 16(3), pp.288-303.

Hsieh, H.Y. & Rodrigues, S.B., 2005. Risk Perception and Post-formation Control in International Joint Ventures in Taiwan: The Perspective of the Foreign Partner. *University of Birmingham, Birmingham Business School, UK*.

Hughes, J.A. & Sharrock, W.W.W., 1997. *The Philosophy of Social Research*. Longman Publishing.

Inkpen, A.C. & Beamish, P.W., 1997. Knowledge, bargaining power, and the instability of international joint ventures. *Academy of Management Review*, 22(1), pp. 177–20.

Inkpen, A.C. & Currall, S.C., 1998. The nature, antecedents, and consequences of joint venture trust. *Journal of International Management*, 4, pp.1-20.

Jaafari, A., 2001. Management of risks, uncertainties and opportunities on projects: time for a fundamental shift. *International journal of project management*, 19(2), pp.89-101.

Jamil, M., Mufti, N.A. & Khan, A.H., 2008. Risk Identification for International Joint Venture Construction Projects. In *First International Conference on Construction In Developing Countries*. Karachi, Pakistan, 2008. University of Engineering and Technology.

Jannadi, O.A. & Almishari, S., 2003. Risk assessment in construction. *Journal of construction engineering and management*, 129(5), pp.492-500.

Johnson, B. & Christensen, L., 2010. *Educational Research: Quantitative, Qualitative, and Mixed Approaches*. SAGE.

KarimiAzari, A., Mousavi, N., Mousavi, S.F. & Hosseini, S., 2011. Risk assessment model selection in construction industry. *Expert Systems with Applications*, 38(8), pp.9105-11.

Kaya, K., 2013. *ARGE - Construction Partnership in Germany: Legal Issues in Cooperation of Different Engineering Firms*. Germany: Anchor Academic Publishing.

Kerr, M., Ryburn, D., McLaren, B. & Dentons, Z.O., 2013. *Construction and projects in United Arab Emirates*. Practical Law.

Kumar, R., 2008. *Research Methodology*. APH Publishing.

Lichtenstein, S., 1996. Factors in the selection of a risk assessment method. *Information Management & Computer*, 4(4), pp.20-25.

Luo, Y., 1997. 'Partner selection and venturing success: The case of joint ventures with firms in the People's Republic of China. *Organizational Science*, 8(6), pp.648-62.

Makino, S. & Beamish, P., 1998. Performance and survival of international joint ventures with non-conventional ownership structures. *Journal of International Business Studies*, 29(4), pp. 797-818.

McIntosh, K. & McCabe, B., 2003. Risks and benefits associated with international construction-consulting joint ventures in the English-speaking Caribbean. *Canadian Journal of Civil Engineering*, 30, pp.1143-52.

Mead, R., 2005. *International management: cross-cultural dimensions*.

Memon, H.A., Rahman, I.A., Abdullah, R.M. & Azis, A.A.A., 2011. Factors affecting construction cost in Mara large construction project: perspective of project management consultant. *International Journal of Sustainable Construction Engineering and Technology*, 1(2), pp.41-54.

Miller, K.D. & Leiblein, M.J., 1996. Corporate risk-return relations: Returns variability versus downside risk. *Academy of Management Journal*, 39(1), pp.91-12.

Mjoen, H. & Tallman, S., 1997. Control and performance in international joint ventures. *Organization Science*, 8(3), pp.257-74.

Mohamed, S., 2003. Performance in international construction joint ventures: modeling perspective. *Journal of Construction Engineering and Management*, 129(6), pp.619-26.

Mohamed, S., 2003. Performance in International Construction Joint Ventures: Modeling Perspective. *Journal of Construction Engineering and Management*, 129(6), p.619.

Morris, B.G. & Cadogan, J.W., 2001. Partner symmetries, partner conflict and the quality of joint venture marketing strategy: An empirical investigation. *Journal of Marketing Management*, 17(1-2), pp.223-59.

Mostaf, M. & Al-Bahar, J., 1991. Project Risk Assessment Using the Analytic Hierarchy Process. *IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT*, 38(I), pp.46-52.

Norwood, S. & Mansfield, N., 1999. Joint venture issues concerning European and Asian construction markets of the 1990's. *International Journal of Project Management*, 17(2), pp.89-93.

Ofori, G., 2003. Frameworks for analysing international construction. *Construction Management and Economics*, 21(4), pp.379-91.

Ogunlana, S., Charoenngam, C., Herabat, P. & Hadikusumo, B.H.W., 2004. Globalisation and Construction. In *Construction in Developing Economies and Culture in Construction*. Bangkok, Thailand, 2004. CIB-SCE, AIT.

Ozorhon, B., Arditi, D., Dikmen, I. & Birgonul, M.T., 2007. Effect of host country and project conditions in international construction joint ventures. *International Journal of Project Management*, 25(1), pp.799-806.

Ozorhon, B., Arditi, D., Dikmen, I. & Birgonul, M.T., 2008. Effect of partner fit in international construction joint ventures. *Journal of Management in Engineering*, 24(1), pp.12-20.

Ozorhon, B., Arditi, D., Dikmen, I. & Birgonul, M.T., 2010. Performance of international joint ventures in construction. *Journal of Management in Engineering*, 26(4), pp.209-22.

Parkhe, A., 1993. Trust in international joint ventures. Hawaii, 1993. Academy of International Business Meeting.

Rahman, M.M. & Kumaraswamy, M.M., 2002. Risk management trends in the construction industry: moving towards joint risk management. *Engineering, Construction and Architectural Management*, 9(2), pp.9(2), 131-151.

Ramsay, J.O. & Silverman, B.W., 2002. *Applied functional data analysis: methods and case studies*. Springer.

Rausand, M., 2013. *Risk Assessment: Theory, Methods, and Applications*. New York: John Wiley & Sons.

Rausand, M., 2013. *Risk Assessment: Theory, Methods, and Applications*. New York: John Wiley & Sons.

Reus, H. & Rottig, D., 2009. Meta-analyses of international joint venture performance determinants. *Management International Review*, 49(5), pp.607-40.

Ritchie, J., Lewis, J. & Elam, G., 2003. Designing and selecting samples. In Jane Ritchie & Jane Lewis (Eds.). *Qualitative research practice. A guide for social science students and researchers*, Thousand Oaks(CA Sage), pp.77-108.

Robson, M.J., Katsikeas, C.S. & Bello, C.D., 2008. Drivers and performance outcomes of trustin international strategic alliances: The role of organizational complexity. *Organization Science*, 19, pp.647-65.

Safework.SA, 2012. *DEFINITION OF CONSTRUCTION AND HIGH RISK*. Government of South Australia (SA).

Saunders, M., Lewis, P. & Thornhill, A., 2012. *Research Methods for Business Students*. 6th ed. Harlow: Pearson Education Limited.

Shen, L.Y., Wu, G.W. & Ng, C.S., 2001. Risk assessment for construction joint ventures in China. *Journal of Construction Engineering and Management*, 127(1), pp.76-81.

Shen, L.Y., Wu, G.W.C. & Ng, C.S.K., 2001. Risk assessment for construction joint ventures in China. *Journal of Construction Engineering and Management*, 127(1), pp.76-81.

Shuraa, 2014. *BUSINESS IN DUBAI - JOINT VENTURE*. [Online] Available at: http://www.shuraa.com/business_in_dubai.aspx [Accessed 8 November 2014].

Sillars, D. & Kangari, R., 2004. Predicting organizational success within a project-based joint venture alliance. *Journal of Construction Engineering and Management*, 130(4), pp.500-08.

Sim, A.B. & Ali, M.Y., 2000. Determinants of stability of international joint ventures: Evidence from a developing country context. *Asia Pacific Journal of Management*, 17(4), pp.373-97.

Sitkin, B.S. & Weingrat, R.L., 1995. Determinants of risky decision-making behavior: A test of the mediating role of risk perceptions and propensity. *Academy of Management Journal*, 38(6), pp.1573-92.

Skarmeas, D., Katsikeas, C. & Schlegelmilch, B., 2002. Drivers of Commitment and its Impact on Performance in Cross-Cultural Buyer-Seller Relationships: The Importer's Perspective. *Journal of International Business Studies*, 33(4), pp.757-83.

Smith, N.J.M.T.J.P., 2006. *Managing risk in construction projects*. Oxford.

Taroun, A., 2014. Towards a better modelling and assessment of construction risk: Insights from a literature review. *International Journal of Project Management*, 32(1), pp.101-15.

Tchankova, L., 2002. Risk identification – basic stage in risk management. *Environmental Management and Health*, 13(3), pp.290 - 297.

Walker, D.H. & Johannes, D.S., 2003. Preparing for organisational learning by HK infrastructure project joint ventures organisations. *Learning Organization*, 10(2), pp.106-17.

Walsh, M., 2001. *Research made real: a guide for students*. Nelson Thornes.

Walsh, M. & Wiggins, L., 2003. *Introduction to research*. Nelson Thornes.

Williamson, O.E., 1991. Comparative economic organisation: The analysis of discrete structural alternatives. *Administrative Science Quarterly*, 36, pp.269–96.

Xiaopeng, D. & Pheng, L.S., 2013. Understanding the critical variables affecting the level of political risks in international construction projects. *KSCE Journal of Civil Engineering*, 17(5), pp.895-907.

Xin, K.R. & Pearce, L.J., 1996. Guanxi: Connections As Substitutes for Formal Institutional Support. *Academy of Management Journal*, 39(6), pp.1641-58.

Yan, A. & Duan, J., 2003. Interpartner fit and its performance implications: A Four-Case Study of U.S.-China Joint Ventures. *Asia Pacific Journal of Management*, 20, pp.541–64.

Zaheer, A., McEvily, B. & Perrone, V., 1998. Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science*, 9, pp.141–59.

Zhi, H., 1995. Risk management for overseas construction projects. *International Project Management*, 13(4), pp.231-37.

Zikmund, W.G. & Babin, B.J., 2006. *Exploring marketing research*. Cengage Learning.

7 Appendices

7.1 **Appendix (A)**

7.1.1 **Email survey invitation**

Dear Sir,

I trust this email finds you well.

I would like to introduce myself to you, my name is (), a student at British University in Dubai <http://www.buid.ac.ae/buid/index.php>

I am perusing Masters Degree in Project Management and currently writing dissertation about "Risk Assessment of International Joint Venture in construction project in UAE".

I need to perform a survey to collect data on the above mentioned topic by distributing the link below to contractors who work together in alliance for constructing mega projects in UAE. I would appreciate your kind help in distributing the survey to the (Risk Mangers, Project Managers, Construction Managers, and Project Engineers, or equivalent role) working at (Project name).

The questions are general and no confidential information or names would be disclosed or mentioned in the survey. Therefore, please be as open, fair, and honest as possible in your answers.

The results of the analysis will be strictly used by me for study purposes *only*.

At the end of the research, I will share the conclusions and recommendations based on the survey and the previous studies with you and the team for your information and future projects.

Thank you for your cooperation,

Best regards,

Start the survey <http://riskmngement.questionpro.com>

7.1.2 Survey questionnaire

Survey Questionnaire

Section A (Background Information)	
Q1: What is Your Gender?	<ul style="list-style-type: none"> a) Female b) Male
Q2: What is Your Age?	<ul style="list-style-type: none"> a) 20-25 years b) 26-30 years c) 31-35 years d) 36-40 years e) 41-45 years f) Above 45 years
Q3: What is Your overall working tenure as a sub-contractor?	<ul style="list-style-type: none"> a) 1-5 years b) 6-10 years c) 11-15 years d) 16-20 years e) 21-25 years f) Above 25 years
Q3: What is Your Qualification?	<ul style="list-style-type: none"> a) High School b) Diploma c) Graduation d) Masters e) Other
Q3: Is the risk in international joint venturing, and related construction project is high as compared to the domestic level projects?	<ul style="list-style-type: none"> a) Yes b) No c) Don't know
Q4: Do you think that the construction industry of UAE is attractive enough for international construction companies?	<ul style="list-style-type: none"> a) Yes b) No c) Don't know
Q5: Do you think that the construction industry of UAE is widely affected due to several factors that create risks in execution of international construction projects?	<ul style="list-style-type: none"> a) Yes b) No c) Don't know

Please indicate the level of agreement or disagreement with the statements about risk associated with the international construction projects or IJV with UAE construction industry by ticking an appropriate box (1=strongly disagree; 3=neither disagree nor agree; 5=strongly agree).

Section B (Survey Questions)	1	2	3	4	5
Risks of Partners' Fit					
Q6: The level of risk of partners' fit is high in international construction projects alliance with UAE.					
Q7: In UAE, partners cooperate and understand each other for the success of international construction projects.					
Q8: Partners show understanding organizational culture, management, and operational style of each other which affect projects in UAE projects					
Inter-Partners' Conflicts					
Q9: The level of inter-partners' conflicts is high in international construction projects alliance with UAE.					
Q10: Lack of trust between domestic and international partners has been observed which affect the project performance.					
Q11: Strategic control, tactical control, and division of benefits are some of the reasons behind inter-partners' conflicts between domestic and international partners.					
Risks of Opportunism					
Q12: The level of risk of opportunism is high in international construction projects alliance with UAE					
Q13: Both partners try to satisfy the needs of each others					
Q14: Partners often misrepresent the facts and hide the important information with each other which affect the project performance.					
Cultural Risks					

Q15: The level of culture difference risk is high in international construction projects alliance with UAE					
Q16: In UAE, each partner tries to reflect its cultural thoughts, values, perceptions, and actions that lead eventually to interactions problems and failure of the project					
Q17: Different culture backgrounds affect the performance of projects and causes delay					
Risk of Dependence					
Q18: The level of risk of dependence is high in international construction projects alliance with UAE.					
Q19: Local partner depends on the foreign partner for technology and capital for the execution of international construction projects					
Q20: In international construction projects, the foreign partner relies on a local partner for knowledge and expertise to facilitate local market accessibility.					
Risk of Ownership Shares					
Q21: The level of ownership shares risk is high in international construction projects alliance with UAE					
Q22: Partners believe in equal ownership to maintain trust and increase commitment to each other					
Q23: In UAE, partners tend to secure majority ownership during the formation stage to maintain control, which affect the project negatively.					
Agency Risks (The risk that the management of a company will use its authority to benefit itself rather than shareholder)					
Q24: The level of agency risk is high in international construction projects alliance with UAE					
Q25: In UAE, complex relationships of the principal-agent structure increases agency risks for parent companies in international joint ventures					

Q26: In international construction projects in UAE the partners have different interests and risks preferences that affect project performance					
Financial or Economic Risks					
Q27: The level of financial and economic risks is high in international construction projects alliance with UAE					
Q28: High fluctuating in interest rates and exchange rates change affect the international contraction projects					
Q29: in UAE Weak capital market, the unstable economy, and unspecified property rights are some of the factors that create risks for international partners.					
Political Risks					
Q30: The level of political risk is high in international construction projects alliance with UAE					
Q31: The risk of restriction on the capital repayments and exports or imports is high in UAE					
Q32: In UAE, country's government policies, laws and regulations changes affect the construction industry performance in terms of international construction projects execution.					
Resource Deficiency Risks					
Q33: The level of resource deficiency risk is high in international construction projects alliance with UAE					
Q34: The risk of manpower, material, and machinery related resources is high in UAE					
Q35: In UAE, we often suffer from lack of or insufficient resources					
Construction Risk Factors					
Q36: The Level of construction risk is high in international construction projects alliance with UAE					
Q37: The design changes due to lack of coordination is a significant risk associated with the international construction projects.					

Q38: The risk of supply chain breakdown and its influence on quality material supply is considerable in international construction projects					
Assessment and Mitigation					
Q39: There is a need to assess risk associated with the international construction projects.					
Q40: There is the need to implement and monitor the effective risk mitigation approaches to ensure the best performance.					

7.1.3 Interview questions

Interview Questionnaire

1. How can you define the overall responsiveness of the UAE construction industry?
2. How can you define the overall responsiveness of the foreign investors in UAE construction industry?
3. How can you define the overall response of IJV in UAE construction industry?
4. Which features of UAE construction industry do you think attracts IJV?
5. What approaches do you use to maintain good relationship with both domestic and international partners?-
6. Do you think the UAE laws and regulations are effective enough to ensure best IJV in UAE construction industry? Why?
7. According to you what are the strengths of IJV and domestic partners, who work together on international construction projects?
8. Being a contractor, how the above strengths of IJV and domestic partners would provide support to you?
9. What internal problem do you think influence the relationship of international and domestic partners while executing construction projects?
10. Being a contractor, how the above weaknesses or problems between the relationship of foreign and domestic partners influence your way of working?
11. What are the most common risk factors that took place while working with international joint ventures?
12. How the above risks influence your construction work and performance?
13. Can you mention the factors that overlooked by partners during international joint venturing due to which the above risks took place?
14. What would you like to suggest to foreign partners in terms of improving IJV relationships?

15. What would you like to suggest to domestic partners in terms of improving IJV relationships?
16. What suggestion would you like to make for UAE government regarding to improve domestic and international partners' relationships to ensure best IJV practices in the region?
17. Is there anything you would like to add about IJV in UAE construction industry to improve construction project quality and lower the impacts of associated risks?

7.2 **Appendix (B)**

7.2.1 Survey (Raw Data)

Q1

What is your Gender?

Male	77	91.67%
female	7	8.33%
Total	84	
Mean	1.08	
Standard Dev.	0.28	
Variance	0.08	

Q2

What is your age?		
20-25 years	1	1.20%
26-30 years	4	4.82%
31-35 years	23	27.71%
36-40 years	14	16.87%
41-45 years	13	15.66%
Above 45 years	28	33.73%
Total	83	
Mean	4.42	
Standard Dev.	1.39	
Variance	1.93	

Q42

What is your overall working experience as a contractor		
1-5 years	3	3.75%
6-10	20	25.00%
11-15	15	18.75%
16-20	17	21.25%
21-25	8	10.00%
Above 25 years	17	21.25%
Total	80	
Mean	3.73	
Standard Dev.	1.56	
Variance	2.43	

Q3

What is your Qualification?

High school	2	2.41%
Diploma	10	12.05%
Graduation	45	54.22%
Masters	21	25.30%
Other	5	6.02%
Total	83	
Mean	3.20	
Standard Dev.	0.82	
Variance	0.68	

Other Option [Other]

Bachelor
bachelor
Bachelor
MCInstCES
Professional Qualification

Q4

Is the risk in International joint venture in construction projects is higher than domestic level projects?

Yes	59	78.67%
No	12	16.00%
Don't know	4	5.33%
Total	75	
Mean	1.27	
Standard Dev.	0.55	
Variance	0.31	

Q5

Do you think that the construction industry in UAE is attractive enough for international constitution companies

Yes	77	96.25%
No	2	2.50%
Don't know	1	1.25%
Total	80	

Mean	1.05
Standard Dev.	0.27
Variance	0.07

Q6

Do you think that construction industry in UAE is widely affected due to several factors which create risk in execution of international joint ventures projects?

Yes	51	63.75%
No	22	27.50%
Don't know	7	8.75%
Total	80	

Mean	1.45
Standard Dev.	0.65
Variance	0.43

Q7

The risk of partners' fit is high in International Joint Venture in UAE

Strongly disagree	5	8.33%
Somewhat disagree	3	5.00%
Neither agree nor disagree	18	30.00%
Somewhat agree	26	43.33%
Strongly agree	8	13.33%
Total	60	

Mean	3.48
Standard Dev.	1.07
Variance	1.14

Q8

In UAE, partners cooperate and understand each other for the success of the joint venture project

Strongly disagree	1	1.67%
Somewhat disagree	11	18.33%
Neither agree nor disagree	7	11.67%

Somewhat agree	26	43.33%
Strongly agree	15	25.00%
Total	60	
Mean	3.72	
Standard Dev.	1.09	
Variance	1.19	

Q9

Partners show understanding toward organizational culture, management, and operational style of each other

Strongly disagree	3	5.08%
Somewhat disagree	10	16.95%
Neither agree nor disagree	9	15.25%
Somewhat agree	28	47.46%
Strongly agree	9	15.25%
Total	59	
Mean	3.51	
Standard Dev.	1.10	
Variance	1.22	

Q10

The level of inter-partners' conflicts is high in International Joint Venture projects in UAE

Strongly disagree	2	3.64%
Somewhat disagree	11	20.00%
Neither agree nor disagree	17	30.91%
Somewhat agree	20	36.36%
Strongly agree	5	9.09%
Total	55	
Mean	3.27	
Standard Dev.	1.01	
Variance	1.02	

Q11

Lack of trust between domestic and international partners have been observed widely which affect the project performance

Strongly disagree	4	7.02%
Somewhat disagree	9	15.79%
Neither agree nor disagree	12	21.05%
Somewhat agree	23	40.35%
Strongly agree	9	15.79%
Total	57	

Mean	3.42
Standard Dev.	1.15
Variance	1.32

Q12

Strategic control, tactical control, and division of benefits are some of the reasons behind inter-partners' conflict between domestic and international partners

Strongly disagree	2	3.64%
Somewhat disagree	3	5.45%
Neither agree nor disagree	4	7.27%
Somewhat agree	29	52.73%
Strongly agree	17	30.91%
Total	55	

Mean	4.02
Standard Dev.	0.97
Variance	0.94

Q13

The level of risk of opportunism is high in Joint Venture construction projects in UAE

Strongly disagree	2	3.64%
Somewhat disagree	6	10.91%
Neither agree nor disagree	14	25.45%
Somewhat agree	22	40.00%
Strongly agree	11	20.00%
Total	55	

Mean	3.62
Standard Dev.	1.05
Variance	1.09

Q14

Partners often misrepresent the facts and hide the important information from each other which affect the project performance

Strongly disagree	6	10.53%
Somewhat disagree	14	24.56%
Neither agree nor disagree	14	24.56%
Somewhat agree	18	31.58%
Strongly agree	5	8.77%
Total	57	

Mean	3.04
Standard Dev.	1.16
Variance	1.36

Q15

Both partners try to satisfy the needs of each other

Strongly disagree	4	7.27%
Somewhat disagree	9	16.36%
Neither agree nor disagree	12	21.82%
Somewhat agree	21	38.18%
Strongly agree	9	16.36%
Total	55	

Mean	3.40
Standard Dev.	1.16
Variance	1.36

Q16

The level of culture difference risk is high in international joint venture projects in UAE

Strongly disagree	7	12.50%
Somewhat disagree	10	17.86%
Neither agree nor disagree	4	7.14%
Somewhat agree	23	41.07%
Strongly agree	12	21.43%

Total	56
--------------	-----------

Mean	3.41
Standard Dev.	1.35
Variance	1.81

Q17

Different culture backgrounds affect the performance of the International Joint Venture projects in UAE

Strongly disagree	5	8.62%
Somewhat disagree	13	22.41%
Neither agree nor disagree	7	12.07%
Somewhat agree	22	37.93%
Strongly agree	11	18.97%

Total	58
--------------	-----------

Mean	3.36
Standard Dev.	1.27
Variance	1.60

Q18

In UAE, each partner try to reflect its own cultural thoughts, values, perceptions, and actions which leads eventually to interactions problems and failure of the

Strongly disagree	7	12.28%
Somewhat disagree	13	22.81%
Neither agree nor disagree	13	22.81%
Somewhat agree	18	31.58%
Strongly agree	6	10.53%

Total	57
--------------	-----------

Mean	3.05
Standard Dev.	1.22
Variance	1.48

Q19

The level of risk of dependence between Local and international partners is high in Joint Venture projects in UAE

Strongly disagree	4	7.27%
Somewhat disagree	7	12.73%
Neither agree nor disagree	15	27.27%
Somewhat agree	24	43.64%
Strongly agree	5	9.09%
Total	55	
Mean	3.35	
Standard Dev.	1.06	
Variance	1.12	

Q20

In international Joint Venture projects, foreign partner relies on local partner for knowledge and expertise to facilitate local market accessibility.

Strongly disagree	7	12.50%
Somewhat disagree	6	10.71%
Neither agree nor disagree	8	14.29%
Somewhat agree	20	35.71%
Strongly agree	15	26.79%
Total	56	
Mean	3.54	
Standard Dev.	1.33	
Variance	1.78	

Q21

Local partner depends on foreign partner for technology and capital for execution projects

Strongly disagree	3	5.45%
Somewhat disagree	7	12.73%
Neither agree nor disagree	8	14.55%
Somewhat agree	20	36.36%
Strongly agree	17	30.91%
Total	55	
Mean	3.75	
Standard Dev.	1.19	
Variance	1.42	

Q22

The level of ownership shares risk in International joint venture projects is high in UAE

Strongly disagree	4	7.02%
Somewhat disagree	8	14.04%
Slightly disagree	4	7.02%
Neither agree nor disagree	15	26.32%
Slightly agree	14	24.56%
Somewhat agree	10	17.54%
Strongly agree	2	3.51%
Total	57	

Mean	4.14
Standard Dev.	1.60
Variance	2.55

Q23

Partners believe of equal ownership shares to maintain trust and increase commitment with each other

Strongly disagree	4	7.02%
Somewhat disagree	8	14.04%
Neither agree nor disagree	11	19.30%
Somewhat agree	24	42.11%
Strongly agree	10	17.54%
Total	57	

Mean	3.49
Standard Dev.	1.15
Variance	1.33

Q24

In UAE, partners tend to secure majority ownership during formation stage to maintain control which affect the project negatively.

Strongly disagree	0	0.00%
Somewhat disagree	10	17.24%
Neither agree nor disagree	12	20.69%
Somewhat agree	24	41.38%
Strongly agree	12	20.69%

Total	58
--------------	-----------

Mean	3.66
Standard Dev.	1.00
Variance	1.00

Q25

The level of agency risk is high in Joint venture projects in UAE

Strongly disagree	1	1.72%
Somewhat disagree	8	13.79%
Neither agree nor disagree	27	46.55%
Somewhat agree	18	31.03%
Strongly agree	4	6.90%

Total	58
--------------	-----------

Mean	3.28
Standard Dev.	0.85
Variance	0.73

Q26

In UAE, complex relationships of principal-agent structure increases agency risks for parent companies in International Joint Venture

Strongly disagree	0	0.00%
Somewhat disagree	6	10.34%
Neither agree nor disagree	24	41.38%
Somewhat agree	21	36.21%
Strongly agree	7	12.07%

Total	58
--------------	-----------

Mean	3.50
Standard Dev.	0.84
Variance	0.71

Q27

In UAE, Partners in International Joint Venture projects have different interests and risk preferences

Strongly disagree	4	7.02%
Somewhat disagree	8	14.04%
Neither agree nor disagree	5	8.77%
Somewhat agree	27	47.37%
Strongly agree	13	22.81%
Total	57	
Mean	3.65	
Standard Dev.	1.19	
Variance	1.41	

Q28

The level of financial and economic risks is high in Joint Venture projects in UAE

Strongly disagree	3	5.26%
Somewhat disagree	5	8.77%
Neither agree nor disagree	10	17.54%
Somewhat agree	27	47.37%
Strongly agree	12	21.05%
Total	57	
Mean	3.70	
Standard Dev.	1.07	
Variance	1.14	

Q29

Weak capital market, unstable economy, and unspecified property rights are some of the factors which create risk in Joint Venture projects in UAE

Strongly disagree	5	8.77%
Somewhat disagree	9	15.79%
Neither agree nor disagree	10	17.54%
Somewhat agree	20	35.09%
Strongly agree	13	22.81%
Total	57	
Mean	3.47	
Standard Dev.	1.26	
Variance	1.58	

Q30

High fluctuating in interests rates and exchange rates changes affect the international joint venture projects in UAE

Strongly disagree	3	5.26%
Somewhat disagree	13	22.81%
Neither agree nor disagree	15	26.32%
Somewhat agree	15	26.32%
Strongly agree	11	19.30%
Total	57	
Mean	3.32	
Standard Dev.	1.18	
Variance	1.40	

Q31

The level of political risk is high in International Joint Venture projects in UAE

Completely disagree	11	19.30%
Somewhat disagree	18	31.58%
Neutral	12	21.05%
Somewhat agree	4	7.02%
Completely agree	12	21.05%
Total	57	
Mean	2.79	
Standard Dev.	1.41	
Variance	1.99	

Q32

In UAE, country's government policies, laws and regulations changes affect the construction industry performance in terms of Joint Venture construction execution

Strongly disagree	5	8.77%
Somewhat disagree	14	24.56%
Neither agree nor disagree	14	24.56%
Somewhat agree	18	31.58%
Strongly agree	6	10.53%
Total	57	

Mean	3.11
Standard Dev.	1.16
Variance	1.35

Q33

The risk of restriction of the capital repayments and and exports or imports is high in UAE

Strongly disagree	9	16.07%
Somewhat disagree	15	26.79%
Neither agree nor disagree	20	35.71%
Somewhat agree	10	17.86%
Strongly agree	2	3.57%
Total	56	

Mean	2.66
Standard Dev.	1.07
Variance	1.14

Q34

The level of resource deficiency risk is high in international joint venture projects in UAE

Strongly disagree	7	12.96%
Somewhat disagree	11	20.37%
Neither agree nor disagree	12	22.22%
Somewhat agree	18	33.33%
Strongly agree	6	11.11%
Total	54	

Mean	3.09
Standard Dev.	1.23
Variance	1.52

Q35

In UAE, we suffer from lack or insufficient resources

Strongly disagree	9	16.07%
Somewhat disagree	16	28.57%

Neither agree nor disagree	7	12.50%
Somewhat agree	17	30.36%
Strongly agree	7	12.50%
Total	56	
Mean	2.95	
Standard Dev.	1.33	
Variance	1.76	

Q36

The risk of manpower, material, and machinery related resources is high in Internaional Joint Venture projects in UAE

Strongly disagree	9	15.52%
Somewhat disagree	16	27.59%
Neither agree nor disagree	10	17.24%
Somewhat agree	12	20.69%
Strongly agree	11	18.97%
Total	58	
Mean	3.00	
Standard Dev.	1.38	
Variance	1.89	

Q37

The design change due to lack of coordination is a significant risk associated with International Joint Venture projects in UAE

Strongly disagree	4	7.55%
Somewhat disagree	4	7.55%
Neither agree nor disagree	2	3.77%
Somewhat agree	20	37.74%
Strongly agree	23	43.40%
Total	53	
Mean	4.02	
Standard Dev.	1.22	
Variance	1.48	

Q38

The risk of supply chain breakdown and its influence on quality material supply is considerable in International Joint Venture projects in UAE

Strongly disagree	5	8.77%
Somewhat disagree	14	24.56%
Neither agree nor disagree	7	12.28%
Somewhat agree	24	42.11%
Strongly agree	7	12.28%

Total	57	
--------------	-----------	--

Mean	3.25
Standard Dev.	1.21
Variance	1.47

Q39

The level of construction risk is high in International Joint Venture projects in UAE

Strongly disagree	5	9.62%
Somewhat disagree	17	32.69%
Neither agree nor disagree	8	15.38%
Somewhat agree	14	26.92%
Strongly agree	8	15.38%

Total	52	
--------------	-----------	--

Mean	3.06
Standard Dev.	1.27
Variance	1.62

Q40

There is a need to assess the risks associated with International Joint Venture projects in UAE

Strongly disagree	1	1.82%
Somewhat disagree	1	1.82%
Neither agree nor disagree	2	3.64%
Somewhat agree	24	43.64%
Strongly agree	27	49.09%

Total	55	
--------------	-----------	--

Mean	4.36
Standard Dev.	0.80

Variance	0.64
----------	------

Q41

There is a need to implement and monitor the effective risk mitigation approaches to ensure best performance

Strongly disagree	2	3.45%
Somewhat disagree	0	0.00%
Neither agree nor disagree	1	1.72%
Somewhat agree	23	39.66%
Strongly agree	32	55.17%
Total	58	
Mean	4.43	
Standard Dev.	0.84	
Variance	0.71	

Raw Data:

Response ID	IP Address	Timestamp (MM/DD/YYYY)	Device Data	Time Taken to Complete (Seconds)	Response Status	Seq. Number
15293642	2.50.183.101	12/07/2014 04:25:52		0	Incomplete	
15294216	2.50.183.101	12/07/2014 04:36:52	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15333267	2.50.183.101	12/07/2014 21:52:24		0	Incomplete	
15333278	2.50.183.101	12/07/2014 21:52:38	DESKTOP/LAPTOP: Windows (other)	14	Complete	
15336269	2.50.183.101	12/07/2014 23:05:09	DESKTOP/LAPTOP: Windows (other)	31	Complete	
15341410	2.50.183.101	12/08/2014 00:44:57	DESKTOP/LAPTOP: Windows (other)	63	Complete	
15341886	2.50.183.101	12/08/2014 00:55:43	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15342011	2.50.183.101	12/08/2014 00:58:27	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15350216	2.50.183.101	12/08/2014 03:30:57	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15350494	2.50.183.101	12/08/2014 03:35:36	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15350641	2.50.183.101	12/08/2014 03:38:18	DESKTOP/LAPTOP: Windows (other)	38	Complete	
15351154	2.50.183.101	12/08/2014 03:47:18	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15351898	2.50.183.101	12/08/2014 04:01:39	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15559757	2.50.183.101	12/11/2014 02:43:38	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15566206	2.50.183.101	12/11/2014 04:45:45	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15754313	83.110.0.71	12/13/2014 22:34:51	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15755420	83.110.0.71	12/13/2014 23:10:54	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15755731	83.110.0.71	12/13/2014 23:21:07	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15754385	83.110.0.71	12/13/2014 22:37:28	DESKTOP/LAPTOP: Windows (other)	21	Complete	
15754642	83.110.0.71	12/13/2014 22:45:09	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15755123	83.110.0.71	12/13/2014 22:59:07	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15759239	83.110.0.71	12/14/2014 00:51:11	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15763808	83.110.0.71	12/14/2014 02:23:00	DESKTOP/LAPTOP: Windows (other)	173	Complete	
15817155	83.110.0.71	12/14/2014 23:19:55	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15822023	83.110.0.71	12/15/2014 01:06:27	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15822047	83.110.0.71	12/15/2014 01:06:48	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15822085	83.110.0.71	12/15/2014 01:07:32	DESKTOP/LAPTOP: Windows (other)	31	Complete	
15823976	83.110.0.71	12/15/2014 01:39:56	DESKTOP/LAPTOP: Windows (other)	61	Complete	
15827338	83.110.0.71	12/15/2014 02:46:13	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15960240	83.110.0.71	12/16/2014 22:58:46	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15980530	83.110.0.71	12/17/2014 05:13:40	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
16665998	78.100.106.26	12/28/2014 08:29:41	DESKTOP/LAPTOP: Windows 8	0	Incomplete	
16348129	92.99.170.72	12/22/2014 14:28:42	DESKTOP/LAPTOP: Windows (other)	38	Complete	
16780612	2.50.132.136	12/29/2014 21:40:51	DESKTOP/LAPTOP: Windows (other)	148	Complete	
16780628	2.50.132.136	12/29/2014 21:41:28	DESKTOP/LAPTOP: Windows (other)	197	Complete	
16668079	213.42.129.102	12/28/2014 01:24:21	DESKTOP/LAPTOP: Windows (other)	221	Complete	
16800074	94.77.239.85	12/30/2014 13:16:04	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
16805657	185.5.154.38	12/30/2014 07:17:53	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
16809629	14.99.96.88	12/30/2014 08:34:22	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
15823753	83.110.0.71	12/15/2014 01:35:45	DESKTOP/LAPTOP: Windows (other)	0	Incomplete	
16837971	2.50.132.136	12/30/2014 21:55:22	DESKTOP/LAPTOP: Windows (other)	563	Complete	

16730964	207.244.77.2	12/29/2014 03:05:21	DESKTOP/LAPTOP: Mac	0	Incomplete
16730964	207.244.77.2	12/29/2014 03:05:21	DESKTOP/LAPTOP: Mac	0	Incomplete
16796902	182.66.18.251	12/30/2014 12:10:40	DESKTOP/LAPTOP: Windows 8	0	Incomplete
16849137	2.50.132.136	12/31/2014 11:20:34	DESKTOP/LAPTOP: Windows (other)	0	Incomplete
16787329	182.66.32.232	12/30/2014 08:43:59	DESKTOP/LAPTOP: Windows (other)	512	Complete
16957638	59.177.100.192	01/02/2015 17:28:30	DESKTOP/LAPTOP: Windows (other)	252	Complete
15538716	80.120.2.197	12/10/2014 19:12:52	DESKTOP/LAPTOP: Windows (other)	356	Complete
15619697	94.59.77.133	12/12/2014 00:09:32	DESKTOP/LAPTOP: Windows (other)	610	Complete
15690269	80.120.2.197	12/12/2014 20:24:00	DESKTOP/LAPTOP: Windows (other)	660	Complete
15691352	94.201.233.70	12/12/2014 20:54:15	DESKTOP/LAPTOP: Windows (other)	5445	Complete
15693268	80.120.2.197	12/12/2014 21:43:02	DESKTOP/LAPTOP: Windows (other)	486	Complete
15695366	83.110.0.71	12/12/2014 22:34:28	DESKTOP/LAPTOP: Windows (other)	560	Complete
15705258	94.201.235.240	12/13/2014 02:36:31	DESKTOP/LAPTOP: Windows (other)	488	Complete
15754349	83.110.0.71	12/13/2014 22:36:02	DESKTOP/LAPTOP: Windows (other)	669	Complete
15754523	83.110.0.71	12/13/2014 22:41:28	DESKTOP/LAPTOP: Windows (other)	396	Complete
15754906	83.110.0.71	12/13/2014 22:51:49	DESKTOP/LAPTOP: Windows (other)	1243	Complete
15755254	83.110.0.71	12/13/2014 23:04:53	DESKTOP/LAPTOP: Windows (other)	441	Complete
15755872	83.110.0.71	12/13/2014 23:26:31	DESKTOP/LAPTOP: Windows (other)	892	Complete
15764897	83.110.0.71	12/14/2014 02:41:05	DESKTOP/LAPTOP: Windows (other)	260	Complete
15764967	83.110.0.71	12/14/2014 02:42:35	DESKTOP/LAPTOP: Windows (other)	401	Complete
15821581	83.110.0.71	12/15/2014 00:58:48	DESKTOP/LAPTOP: Windows (other)	411	Complete
15821650	83.110.0.71	12/15/2014 00:59:44	DESKTOP/LAPTOP: Windows (other)	597	Complete
15821802	83.110.0.71	12/15/2014 01:02:18	DESKTOP/LAPTOP: Windows (other)	417	Complete
15821825	83.110.0.71	12/15/2014 01:02:43	DESKTOP/LAPTOP: Windows (other)	718	Complete
15822105	83.110.0.71	12/15/2014 01:07:53	DESKTOP/LAPTOP: Windows (other)	788	Complete
15822437	83.110.0.71	12/15/2014 01:13:47	DESKTOP/LAPTOP: Windows (other)	544	Complete
15822728	83.110.0.71	12/15/2014 01:19:07	DESKTOP/LAPTOP: Windows (other)	610	Complete
15822901	83.110.0.71	12/15/2014 01:22:15	DESKTOP/LAPTOP: Windows (other)	1146	Complete
15823002	83.110.0.71	12/15/2014 01:23:58	DESKTOP/LAPTOP: Windows (other)	378	Complete
15823097	83.110.0.71	12/15/2014 01:25:31	DESKTOP/LAPTOP: Windows (other) DESKTOP/LAPTOP: Windows 8 TABLET: Windows 8	568	Complete
15823605	83.110.0.71	12/15/2014 01:33:02	DESKTOP/LAPTOP: Windows (other)	644	Complete
15823743	83.110.0.71	12/15/2014 01:35:40	DESKTOP/LAPTOP: Windows (other)	385	Complete
15823756	83.110.0.71	12/15/2014 01:35:51	DESKTOP/LAPTOP: Windows (other)	591	Complete
15825069	83.110.0.71	12/15/2014 01:59:05	DESKTOP/LAPTOP: Windows (other)	835	Complete
15827454	83.110.0.71	12/15/2014 02:48:42	DESKTOP/LAPTOP: Windows (other)	1541	Complete
15830472	83.110.0.71	12/15/2014 03:42:45	DESKTOP/LAPTOP: Windows (other)	406	Complete
15832150	37.216.216.178	12/15/2014 04:13:04	DESKTOP/LAPTOP: Windows (other)	476	Complete
15834259	83.110.0.71	12/15/2014 04:52:08	DESKTOP/LAPTOP: Windows (other)	671	Complete
15889049	83.110.0.71	12/15/2014 23:21:06	DESKTOP/LAPTOP: Windows (other)	295	Complete
15889834	2.50.137.35	12/15/2014 23:38:59	DESKTOP/LAPTOP: Windows (other)	904	Complete
15890601	2.50.137.35	12/15/2014 23:58:15	DESKTOP/LAPTOP: Windows (other)	220	Complete
15960453	83.110.0.71	12/16/2014 23:02:43	DESKTOP/LAPTOP: Windows (other)	412	Complete
15960582	83.110.0.71	12/16/2014 23:05:31	DESKTOP/LAPTOP: Windows (other)	444	Complete
15960854	83.110.0.71	12/16/2014 23:11:02	DESKTOP/LAPTOP: Windows (other)	1803	Complete
15962013	83.110.0.71	12/16/2014 23:36:06	DESKTOP/LAPTOP: Windows (other)	576	Complete
15968731	80.120.2.197	12/17/2014 01:49:33	DESKTOP/LAPTOP: Windows (other)	4068	Complete

15973123	83.110.0.71	12/17/2014 03:15:40	DESKTOP/LAPTOP: Windows (other)	998	Complete
15984169	83.110.0.71	12/17/2014 06:12:40	DESKTOP/LAPTOP: Windows (other)	1523	Complete
16032319	83.110.93.5	12/17/2014 21:30:57	DESKTOP/LAPTOP: Windows (other)	462	Complete
16033443	217.165.145.199	12/17/2014 21:58:26	DESKTOP/LAPTOP: Windows (other)	506	Complete
16034535	86.98.30.144	12/17/2014 22:23:34	DESKTOP/LAPTOP: Windows (other)	345	Complete
16286719	83.110.0.71	12/21/2014 21:58:23	DESKTOP/LAPTOP: Windows (other)	533	Complete
16360017	2.50.45.159	12/22/2014 20:57:41	DESKTOP/LAPTOP: Windows (other)	555	Complete
16450272	92.99.21.27	12/24/2014 07:09:44	SMARTPHONE: Android	408	Complete
16721472	2.50.176.94	12/28/2014 23:34:28	DESKTOP/LAPTOP: Windows (other)	376	Complete
16779975	2.51.139.208	12/30/2014 05:24:28	DESKTOP/LAPTOP: Windows (other)	2210	Complete
16781612	213.42.176.11	12/30/2014 06:10:52	DESKTOP/LAPTOP: Windows (other)	1084	Complete
16788134	182.66.32.232	12/30/2014 09:03:56	DESKTOP/LAPTOP: Windows (other)	3300	Complete
16797223	188.140.145.127	12/30/2014 12:17:31	DESKTOP/LAPTOP: Windows (other)	681	Complete
16837259	83.111.126.201	12/31/2014 05:30:27	DESKTOP/LAPTOP: Windows (other)	3083	Complete
16927295	192.168.88.4	01/02/2015 06:13:10	DESKTOP/LAPTOP: Windows (other)	488	Complete
17035680	27.59.7.63	01/04/2015 06:33:09	DESKTOP/LAPTOP: Windows (other)	1245	Complete
17167552	2.50.14.149	01/06/2015 13:27:08	DESKTOP/LAPTOP: Windows (other)	651	Complete
17211973	83.110.92.109	01/07/2015 07:27:02	DESKTOP/LAPTOP: Windows (other)	2611	Complete