RELATIONSHIP BETWEEN MULTICULTURAL TEAMS AND PROJECT PERFORMANCE

Evidence from GCC

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by
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ABSTRACT

Globalisation has always been researchers' main concern and interest over a long period of the time. One effect of globalisation is that the composition of project teams had become increasingly diverse. The differing national cultural backgrounds of members increases the complexity of team composition, which regulates the success of the project performance. Research has shown that diverse teams outperform homogenous ones. Other studies have investigated the impact of national culture on projects. But our knowledge of how effectively companies can manage a complex, multicultural team project is inadequate and limited. Furthermore, theoretical and empirical studies concerning how the national cultural diversity of teams can impact project performance are limited. Most of the studies are qualitative, either focusing on one country or discussing one aspect of culture, and mainly considering team performance. To fill this gap, this study investigates the national cultural factors that influence multicultural project teams and determine the cultural dimensions that impact on project performance. In particular, it examines the influence of five national culture dimensions developed by Hofstede on multicultural team complexity variables including integration, communication, trust and knowledge-sharing, and to recognise how these factors are related to project performance.

The territory chosen for this study was the Gulf Cooperation Council (GCC) countries, as all of these nations rely intensely upon an expat workforce because of the lack of both skilled and unskilled manpower in the local market. A survey instrument was extracted and developed from previously validated questionnaire scales. Pilot testing was conducted to ensure the scales, format and contents of the survey instrument were appropriate. A range of project team members were targeted, and 329 valid questionnaires were returned. The data obtained was analysed by using two widely used statistical software tools, SPSS and AMOS. The data analysis steps included reliability (Cronbach's alpha) and validity (Confirmatory Factor) analysis. Structural Equation Modelling (SEM) was used to test the entire model. By using SEM, it was possible to test the parsimonious nature of the model, identify the model,

determine whether it makes theoretical sense, and examine its fit to the data. The relationship between national culture, team performance and project performance was analysed using path analysis as part of the SEM.

The research outcome showed that national culture has a significant impact on the team performance, especially on integration, communication, trust and knowledge sharing, which will also moderate the relationship between national culture and project performance. The finding of this research study confirmed that there is a relationship between national cultural differences and project success. Understanding the cultural differences among team members, who are from different national cultural backgrounds, is an essential aspect of managing projects successfully. Moreover, mismanaging or ignoring cultural differences of the team members may lead to project failures. Furthermore, the outcomes have obviously shown that the optimal project performance is accomplished when the entire project team is thoroughly integrated and incorporated with the project purpose.

This study contributes to the literature by delivering a deeper understanding of the cultural issues that influence the performance of multicultural project teams in GCC countries. In addition, it provides greater insight into national culture within projects context, in particular providing empirical evidence that different nationalities have different cultural orientations and that these different cultural orientations are associated with different levels of performance. In practice, the findings will assist project directors and managers in similar countries to further recognise the role of national culture in the context of enhancing project performance. In particular, project directors and managers can undertake an assessment of their teams' national cultural background and based on that, forecast the probable team and project performance. Where necessary, action can be taken to manage or even change the cultural orientation in terms of the attitudes and behaviours of project teams. This research expressed the views of professionals who work in a multicultural environment on the extent to which national cultural dimensions may affect the outcome of a project.

KEYWORDS

Multicultural teams; Project; Culture; Project Performance; GCC Countries

DECLARATION

I hereby declare that no portion of the work in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or institution of learning.

ACKNOWLEDGEMENTS

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Chapter 1

INTRODUCTION

1.1 Research Background

Most project management literature treats all projects as essentially similar (Andersen, 2006). Empirical and experimental studies, however, confirm that projects are managed and controlled differently (Ochieng & Price, 2010). Theoretically, projects should be executed differently depending on how their aims and goals are defined. A project where neither the goal nor the method is well-defined will need a different approach from one of which the goal and method are clear (Turner & Cochrane, 1993).

Project management is a relatively new type of management study that has not been extensively practised in developing countries (Abbasi & Al-Mharmah, 2000; Stuckenbruck & Zomorrodian, 1987). According to Lock (1996), developing countries often encounter a severe and complicated issue when practising and managing projects. An increasing trend in empirical studies of cross-cultural management research suggests that Western management theories may be partially or wholly irrelevant and inapplicable to other cultures (Adler, 1983; Blunt, 1980; Blunt & Jones, 1997; Dia, 1991; Ronan & Nessan, 1993; Rondinelli, 1993).

Project management theories and models are mainly based on the experience of Western or North American countries (Alder, 1991; Chapman, 2004). Turner and Cochrane (1993) maintain that Western-oriented practices in project management are clear and uncomplicated procedures that can be taught and executed by anyone. However, there is increasing evidence that argues against the uncritical and indiscriminate transfer of Western-oriented practices and techniques to developing countries (Mendonca & Kanungo, 1996). Ramaprasad and Prakash (2003) argue that a project that is extremely successful in developed Western countries can fail in developing nations, not on account of any inherent unsuitability or deficiency of the project

itself, but because it was uncritically implemented without any consideration of its congruence to and compatibility with the internal work culture. Therefore, there will be significant cross-cultural issues in applying such an approach in developing or non-Western countries. Moreover, social settings and values at work are culturally based; in dealing with human behaviour, therefore, the cultural context must be recognised (Muriithi & Crawford, 2003).

Projects are planned and practised in a cultural, environmental and economic context that can have negative or positive impacts. Therefore, social, cultural, political, and physical environmental contexts should be considered independently in each project (PMI, 2013). Cultures vary from region to region and from one place to another, and even within the same place, and some cultural values may be efficient in one place but not in others (Nishii & Özbilgin, 2007). Work values and personal choices are culturally dependent (Muriithi & Crawford, 2003), and differ from place to place.

Management of a project, especially in a multicultural environment, is a critical and complicated issue. As Banks and Waisfisz (1993) have demonstrated, the costs of failing to manage cultural problems and differences will clearly affect the results. The consequences range from failure to win contracts, problems with employee communication and motivation, labour disputes, misunderstanding with clients leading to disputes and delays, and failure to build effective multinational teams.

1.2 Research Rationale

In an expanding global and international marketplace, companies are trying to prepare themselves to undertake more cross-border activities (Ochieng & Price, 2010). A growing number of international companies organise their activities by deploying multicultural teams made up of workers from culturally diverse backgrounds (Groves & Feyerherm, 2011). According to Higgs (1996), the literature on cultural differences within such teams reveals that

vast and complicated projects involving members from different cultural backgrounds often encounter major problems.

Earley and Mosakowski (2000) state that communication in multicultural project teams motivates the creation of an emergent team culture. Unlike a monoculture or homogenous team, a multicultural project team cannot easily fall back on a pre-existent identity because barely any commonalities exist among the team members. Thus, they rely on a team culture of performance expectations, individual perceptions, and straightforward rules. In addition, Earley and Mosakowski (2000) confirm that an efficient and effective multicultural project team has a solid influence on communication and performance. The trust generated, and a perception of positive results, can increase team effectiveness and enhance performance. Moreover, according to Pearson and Nelson (2003), effective interconnection and communication among project team members can assist the creation of a solid emergent team culture. According to Marquardt and Hovarth (2001), the most widespread and common challenges to multicultural teams are cross-cultural conflicts and managing cultural differences. Cultural problems among team individuals can be a source of poor performance, misunderstanding and conflict (Shenkar & Zeira, 1992).

Marquardt and Horvarth (2001) state that the five main challenges faced by project managers are managing cultural differences, diversity, and conflicts; handling dispersion of teams and geographic distance; preserving communication richness; enhancing team cohesiveness; and managing coordination and control issues. Project managers from different origins and cultural backgrounds are most likely to react differently to the same tasks or strategic issues as they have different insights and observation of environmental threats and opportunities. An awareness of cross-cultural issues is therefore essential to a manager's ability to address the challenges encountered by multicultural project teams, because a large number of projects fail as a result of multicultural teams' inability to communicate and work together (Simkhovych, 2009).

1.3 Statement of Research Problem

To cope with the increasing pace of globalisation, project and working teams are becoming more diverse in their composition, with team members from various countries and distinct cultural backgrounds working closely together (Adler, 2002; Hofstede, 1991; Maddox, 1993). Managing cultural diversity has become a significant element for today's organisations (Kochan, Bezrukova & Ely, 2003). Recently, there is a broad understanding on the necessity to deal with diversity in all kinds of organisations and to recognise the benefits and difficulties for different agents engaged (Dietz & Petersen, 2006; McKay, Avery & Morris, 2009).

While the use of multicultural teams is a growing organisational reality, several researchers (Bantel, 1994; Comu, Unsal & Taylor, 2010; Daily, Loveland & Steiner, 1997; Jackson, 1992; Watson, DeSanctis & Poole, 1988) claim that diverse teams have been shown to outperform homogenous ones. For instance, Bantel (1994) observed that diversity may improve team functionality and performance by providing members with a greater skill base and a broader range of visions. However, numerous researchers and authors who have investigated culture in projects (Barthorpe, Duncan & Miller, 2000; 1999; Lee, Scandura & Sharif, 2014; Levy-Leboyer, 1999; Kandola & Fullerton, 1998; Meek, 1998) assert that our knowledge of how to manage them most effectively and our understanding of cross-cultural management factors on multicultural project teams is inadequately developed. Furthermore, theoretical and empirical studies on the impact of cultural diversity on team performance are limited (Mannix & Neale, 2005; Moon, 2013; Nakui et al., 2011; Rees-Caldwell & Pinnington, 2013; van Knippenberg & Schippers, 2007).

Research shows a lack of literature on the cultural aspects of people management, and the specificity of managing effective multicultural project teams (Ancona & Isaacs, 2007; Rodrigues & Sbragia, 2013; Stahl et al., 2010). Moreover, the subject has been given less attention in the project management field (Henrie & Sousa-Poza, 2005; Leybourne, 2007) and our understanding of the dynamics of multinational and multicultural project teams is 'still in its infancy' (Stare, 2011). Ochieng and Price (2010) confirm that there is a need for further

study to investigate the influences and factors affecting project management teams. Furthermore, Irina and Vrânceanu (2014) note that there is a need to develop cultural methodologies to manage tasks and processes in multicultural teams in order to deliver high performance. In spite of several and continuing studies on multicultural teams (Brett, Behfar & Kern, 2006; Dahlin, Weingart & Hinds, 2005; Cheng et al., 2012; Earley & Mosakowski, 2000; Moon, 2013; Nakui et al., 2011; Rees-Caldwell & Pinnington, 2013; Rodrigues & Sbragia, 2013; Stahl et al., 2010), empirical studies and theoretical methodologies in this phenomena remain limited. This gap in the literature presents a challenge for researchers who need to integrate methods and theories designed in different disciplines in order to develop knowledge suitable to project management.

Given the exceptionality of culture, its significance to multicultural project teams, and its constant impact on projects and organisations, there is a need to determine the important performance-related factors that influence multicultural project teams, and understand the project manager competences required to handle such issues effectively. The objective of this research is to investigate the national cultural factors that influence multicultural team and project performance and explore the challenges involved in the development of an efficient multicultural team, and therefore to recognise how these factors relate to each other. By using this interrelation, this research aims to develop an overall strategy for developing framework that can be applied to enhance project performance. Furthermore, the outcome of this research should be of benefit to a wide variety of professionals and non-professionals working with multicultural project teams within the project management environment.

1.4 Aim and Objectives

The aim of this research is to investigate the national cultural factors that influence multicultural project teams and determine the cultural dimensions that impact on project performance, and to use the findings to develop a framework that can be applied to enhance project performance and deliver a successful project.

To achieve the research aim, the following objectives are established:

- Investigate the national cultural factors that influence project performance and identify their impact on team and project performance.
- Identify the main components of project team complexity and discover the key variables relating to the impact of national culture in a multicultural environment.
- Explore the challenges to the development of an efficient multicultural team.
- Develop a framework that can be applied in addressing cultural complexity within a project team in order to enhance its performance and deliver a successful project.
- Validate the proposed framework through a survey questionnaire supported by statistical analysis.

1.5 Statement of Research Questions

- What are the national cultural factors that affect the performance of multicultural project teams?
- What are the main components and complexities of the multicultural team that affect the team performance?
- What are the main challenges faced by the project manager or leader to developing an efficient multicultural team?

1.6 Contribution to Knowledge

Cross-cultural research is attaining growing importance in industry as a consequence of globalisation and diverse organisational workforces (Abdul-Rahman et al., 2012; Akiner & Tijhuis, 2007; de la Cruz et al., 2008). As illustrated in this research, a majority of projects across the world now draw on personnel from diverse cultural backgrounds and different

countries. Managing cultural diversity has therefore become a significant challenge for today's organisation (Kochan, Bezrukova & Ely, 2003).

One of the significant aspects that this research tries to deal with was to investigate the impact of cross-cultural complexity on project performance. It aims to provide industries with an understanding of how cultural factors affect project team performance. The proposed framework is based on current practices in the project industry. This research sought the views of professionals who work in a multicultural environment on the extent to which national cultural dimensions may affect the outcome of a project. This provides the project industry with the ability to examine its existing practices and structure them to boost the performance of project teams. Managing a multicultural team effectively reduces project costs and the risk of failure, while at the same time enhancing performance. Therefore, the findings of this study make a contribution to the literature by delivering a deeper understanding of cultural issues that influence multicultural teams' performance in projects in GCC countries. In practice, the findings will assist project directors and managers in similar countries to further recognise the role of national culture in the context of enhancing project performance.

1.7 Thesis Structure

Chapter 1

This is an introductory part that presents a general background and some aspects of the project management and the multicultural project team, and outlines the aims and objectives of this thesis.

Chapter 2

This chapter gives an overview of project management practices in general terms, particularly looking at teams that come from multicultural backgrounds. It also shows

the current practices from the literature and identifies a gap where further research is needed.

Chapter 3

This chapter reviews some of the challenges faced by project teams coming from multicultural backgrounds, and suggests a conceptual framework which is examined and validated in the further chapters.

Chapter 4

This chapter presents a detailed description of the research methodology used in this study and discusses the research design, including research types, sampling strategies, and data collection techniques.

Chapter 5

This chapter presents the findings and results obtained from the data collection process, in relation to the research objectives.

Chapter 6

This chapter contains a discussion analysing and validating the results reported in Chapter 5. It also shows how these results either confirm or contradict the conceptual framework. Therefore, it develops and integrates a framework guide for establishing an effective multicultural project team.

Chapter 7

This concluding chapter summarises the main findings of the research and suggests some recommendations for future work.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

In order to thoroughly investigate cultural complexity in projects, this chapter commences with an overview of project management. The essential concerns of project management theory are generally discussed. This is followed by a summary of project complexity and project performance. The primary thrust of this research is to investigate the challenges being experienced and encountered in the management of multicultural project teams.

2.2 Overview of Project Management

Achieving organisational strategic objectives is one of the crucial roles of project management, and is reflected in the project management literature and profession. Amaral and Araujo (2009) claim that project management is one of the major capabilities of an organisation in dealing with external difficulties and challenges, and maintaining a competitive advantage. Hurt and Thomas (2009) add that project management is regarded as an essential competency for organisations' tactics and strategies. In addition, the main role of project management is to meet the strategic objectives of the organisation and offer opportunities for development and innovation (Anantatmula & Rad, 2013).

Most project management literature treats projects as essentially similar (Andersen, 2006). Empirical and experimental researches confirm that projects are managed and controlled

differently and systematically. Theoretically, projects should be managed differently depending mainly on how the project aims and goals are defined. The project that neither the goal nor the method is clear and well-defined will need a different approach from the project, which the goal and method is clear and well-defined (Turner & Cochrane, 1993).

A large number of strategies and body of knowledge of project management have been developed in recent years; however, a review at the project management's literature of development shows that the current growth is still not sufficient to respond to the existing difficulties and challenges (Nidiffer & Dolan 2005). Most of these difficulties and challenges are due to the massive competition in the marketplace; and as a consequence of the exponential growth of the global economy as well as the huge market demand. Subsequently, they require from organisations to provide services and products cheaper, better and faster.

The research in project management continues to develop and grow. As a result of projects being created and developed in all sectors, demands on project management continue to change (Anantatmula, 2015). These kinds of changes alter the way in which project management is practiced and viewed, and this is clearly shown in the literature.

2.2.1 Project Management History

Project management is frequently experiencing new difficulties and challenges, as the methods, techniques, approaches as well as the ways to manage which is inherent to its discipline are generally used and applied to various regions, for various ends, in various cultures. As being an emerging subject, it is worth mentioning that project management is still growing and developing since its origins in the 1950s, with researchers and academics introducing new insights into the already broad range process options (PMI, 2013). According to Stretton (1994), the literature review shows that during the 1950s, the application and practice of planning techniques and

network analysis, such as Critical Path Method (CPM) and Programme Evaluation Review Technique (PERT) formed the actual concentration of development in project management. Research indicates that in the 1960s Cost/Scheduling Control System Criteria (C/SCSC) acquired recognition within the aerospace and defence industries. The development in the project management field in the 1960s as well as 1970s introduced the launching of the two major professional associations which are the Association of Project Management (APM) and the International Professional Managers Association (IPMA).

In the 1970s, the concentration of project management studies was on acquiring techniques and tools, specifically earned value analysis as well as critical path analysis. In the 1980s, the trend developed and there was more emphasis on success factors on projects, just before selecting suitable tools to control the project. It necessitated an awareness of factors that would affect success. In the 1990s, the attention changed to another trend, success criteria. Before evaluating the proper success factors, and thereafter the proper tools to be used, you should know how the project is going to be judged successful by the end, and have your entire project team concentrating on a single end goal (Stretton, 1994).

The development in project management signifies that the process of project management has continued at a constant pace. The actual rate where new ideas tend to be released into an industry is determined by several different factors. Pascale (1990), for instance, connected differences in this rate at the time of managerial panic and sagging fortunes. However, many would claim that this is an essential strategy, but the introduction of brand-new ideas to the management of the project may also be connected with the introduction of new application places and the inclusion of new researchers. Therefore, several researchers have launched new views and ideas, and challenged the present patterns of project management. As a result, Urli and Urli (2000) proposed that the discipline of project management went through crucial developments during the last decade, such as the growth and expansion of project management into new areas of practice.

2.2.2 Project Management Methodologies

One of the most distinguished management of project frameworks in the industry is *A Guide to the Project Management Body of Knowledge* (PMBOK Guide), published by the Project Management Institute (PMI, 2013). The PMBOK guide is 'a collection of processes and knowledge areas generally accepted as best practice within the project management discipline' (PMI, 2013). Moreover, it is a comprehensive term that explains the sum of knowledge within the profession of project management. The project management body of knowledge includes advanced practices and innovative practices that emerge in the profession (PMI, 2013). It states that projects consist of five process groups, which are classified in nine knowledge areas.

One further professional institute, the Association of Project Management (APM), has published a Body of Knowledge (APM, 2012). Presented in a less process-oriented way than the PMBOK guide, it includes some valuable techniques and tools, which help in managing and controlling projects, as well as social environment and people factors. Furthermore, continuing attempts to enhance project management performance are significant and remarkable. Project management, as determined in Association of Project Management (APM) and Project Management Institute (PMI), is defined as a set of procedures and processes, which are presented in Body of Knowledge (APM, 2012) and the PMBOK® Guide (PMI, 2013). These 'body of knowledge' frameworks suggest that by using these procedures and processes, projects can be maintained and managed successfully and effectively. Furthermore, it signifies that failure of project is a sign of insufficient attention to these procedures and processes. These frameworks also emphasise on the role of project managers and project professionals in enhancing project performance.

However, cultural management and cultural diversity management are not clearly stated and expressed. The PMBOK Guide focuses on a generalised knowledge technique so that it can be applied and used for any kind of projects in any industry. There is no clear attention to the emerging trends in project management field such as globalisation as well as the use and the employment of

the global resources. In particular, it does not incorporate culture as a core portion of communications management or human resource management but rather as an organisational and social environmental element. Nonetheless, the PMBOK Guide recognises that there is a need for a knowledge area extension that could be obtained from the cultural differences which confirming a call for further study (Eberlein, 2008). On the other hand, the APM Body of Knowledge has only one reference to culture suggests that the cultural background of the team members should be taken into consideration without any more explanation. Therefore, compared to PMBOK, the APM Body of Knowledge does not tackle some features of project management, especially in context of globalisation. Moreover, it does not take into consideration cultural management as a core discipline essential for project success and effectiveness (Eberlein, 2008).

At the present time, the formal bodies of knowledge seem limited and invalid concepts in developing project management. This comes as a result of the intuitive and non-rational of the project management, which are playing a very important factor for effective management of projects that are rarely recognised explicitly in bodies of knowledge (Morris et al., 2006). According to Winter et al. (2006), the project management body of knowledge has a hard system model view of the discipline, which very narrow efforts and concentration are used to deliver the project on the specified time and budget, while failing to treat effectively with other issues such as human and cultural factors.

Numerous project management theories have been developed in order to apply more investigation on the growing amount of complexity within projects. This allows the formulation of appropriate solutions that could help the processes involved in the project management and therefore overcome the difficulties encountered. These theories, however, do not deal with the great changes and developments that appeared, while a large number of professionals believe that the current theories are still rooted under the 'old' management ideas. Moreover, there are calls to move to the 'project management bodies of knowledge' which are being more subjected to criticism nowadays rather than the 'too narrowly focused' (Winter et al., 2006).

2.2.3 Project Management and Culture

Project management is comparatively a new type of management study which has not been practiced in developing countries as long as other type of management (Abbasi & Al-Mharmah, 2000; Stuckenbruck & Zomorrodian, 1987). According to Lock (1996), Developing countries, mostly encounter severe and very complicated issue in practicing and managing projects. There is an increasing trend in the empirical studies from cross-cultural management research states that Western management theories may be partially or wholly irrelevant and inapplicable to other cultures (Adler, 1983; Blunt, 1980; Blunt & Jones, 1997; Dia, 1991; Ronan & Nessan, 1993; Rondinelli, 1993). Project management theories and models are mainly based on experience of Western or North American countries (Chapman, 2004). Therefore, there will be significant cross-cultural issues in practicing the approach in developing countries or in non-Western countries. Moreover, social settings and values at work are culturally based; therefore, when treating with human behaviour, the cultural context must be recognised (Muriithi & Crawford, 2003).

Projects should be planned and practiced in a cultural, environmental, and economic context which have imposes negative and/or positive impacts. Therefore, social, cultural, political, and physical environmental contexts should be considered in each project independently (PMI, 2013). However, cultures vary from region to region and from place to another place, and within the same place as some cultural values can be efficient in one place but not in the others (Nishii & Özbilgin, 2007). As a result, values in social settings and at work vary and differ consequently. Work values and personal choices are culturally dependent (Muriithi & Crawford, 2003).

Management of project, especially in a multicultural environment is a critical and complicated issue. According to Banks and Waisfisz (1993), the costs of failing in managing the cultural issues and differences will be clearly appeared in results, ranging from failure to win contracts, problems with employee communication and motivation, labour disputes, misunderstanding with clients leading to disputes and delays, and failure to build effective multinational teams.

The majority of the managerial and organisational behaviour theories and models were developed from Western and American research (Alder, 1991). In the same way, project management theories and models are also mainly based on the experience of the Westerner and Northern American (Chapman, 2004). Turner and Cochrane (1993) observe that Western-oriented project management practices are clear and uncomplicated procedures that could be taught to and executed by anyone. However, there is evidence to argue against the uncritical and indiscriminate transfer of such Western-oriented practices and techniques to developing countries (Mendonca & Kanungo, 1996). Ramaprasad and Prakash (2003) argue that projects that are extremely successful in the developed Western nations can fail in developing countries, not due to any unsuitability or deficiency of a project; but because it was uncritically implemented without consideration of its congruence to, and compatibility with, the internal work culture. Therefore, there will be momentous cross-cultural issues in applying the same approach in non-Western countries (Muriithi & Crawford, 2003).

Stuckenbruck and Zomorrodian (1987) stress that the cultural issue is a primary concern in the literature and represents the 'bottom line' in any discussion concerning the transfer of management models or techniques from one country to another. The existence of several cultural, social, political and financial struggles in developing countries leads them to poor management performance. Thus, the project management implementation strategy in developing countries must be reliable and constant and cope with the cultural features of each particular inhabitant and configure with its political and economical administrative procedures (Abbasi & Al-Mharmah, 2000; Stuckenbruck & Zomorrodian, 1987). Anbari, et al. (2009) state that projects are usually performed in a cross-functional, multi-disciplinary and cross-cultural environment; this makes it more obvious in managing global organisations, outsourcing agreements, international projects, and other multicultural teams.

Moreover, Whitty (2005) has criticised the traditional practice of project management as followed by professional institutions. Whitty claims that the existing body of knowledge is replicating itself

and, moreover, that these ideas could possibly be wrong. He thus pursues a study of traditional project management research in a new method by adhering to traditional best practice guidelines and by developing the project management body of knowledge with emerging challenges and trends. One of these challenges and trends is globalisation.

Globalisation has an effect on project management strategies and it incites the necessity for project teams to deal with the difficulties resulting from the dynamic environment of projects. Gurung and Prater (2006) claim that the advantages of the globalisation in the projects are accessing a broader pool of expertise, potential cost reductions by employing cheaper manpower from the developing countries, enforcement of the internal competition and increasing the possibility of quality improvements. Dinsmore and Benitez Codas (2006) suggest that globalisation impacts on all types of projects, especially those that employ workers from different countries, particularly developing countries. They argue that it is critical to develop an efficient understanding and communication between project team members who are from different cultural backgrounds as this could affect the success and failure of projects.

To cope with the increasing pace of globalisation, project and working teams are getting to be more diverse in their composition, with team members from various countries and distinct cultural backgrounds doing work closely together (Adler, 1997; Hofstede, 1991; Maddox, 1993). Managing cultural diversity has become a significant element for today's organisation (Kochan, Bezrukova & Ely, 2003). Recently, there is a broad understanding on the necessity to deal with diversity in all kinds of organisations and to recognise the benefits and difficulties for different agents engaged (Dietz & Petersen, 2006; McKay, Avery & Morris, 2009).

2.2.4 Project Success and Project Performance

Since project performance seeks to improve the success of a project, it is essential to use a common body of reference in understanding and realising what constitutes project success. Success means something different to each individual; different stakeholders interpret success differently (Freeman & Beale, 1992), and each industry has its own understanding of success (Hartman & Ashrafi, 1996). Identifying whether the project is successful or not is a complicated concern; however, a project cannot always be recognised as a total failure or totally successful (Belassi & Tukel, 1996; Fowler & Walsh, 1999; Milis et al., 2003).

There is no one understanding or agreement of project success and to what it constitutes. Project success understanding has been changing with time (see Section 2.2.1). For instance, in the 1960s the focus was on the technical performance while in 1970s cost, time, and quality was the concern; in 1980s customer acceptance was the main consideration and in 1990s it has changed to organisational impact (O'Brochta, 2002). Furthermore, evaluating and examining some standard and criteria usually take quite a period of time and as a consequence, understanding of project success may possibly develop over a period of time. Milis et al. (2003) observed that the available criteria and standards are not consistent for all the projects; and commercial and financial success is the only common factor applied on all projects and considered significant.

Numerous definitions are there in the literature for project success. The most common of which are deviated from the standard iron triangle (cost, time and quality) which is embedded in the majority of the recent project management standards and methodologies; especially the PMBOK Guide from the Project Management Institute (PMI) and the BoK from the Association of Project Management (APM). Mahaney and Lederer (2006) suggested additional critical factors of project success, such as project quality, customer satisfaction and successful execution of the project work product.

The traditional technique to measure the success or failure of any project is to look at time, cost and quality (De Bakker et al., 2010). However, De Wit (1988) highlights the key difference between a project success criterion and project success factor. Project success criterion is a sort of standard that evaluate the project outcomes, whereas a project success factor is the input that play a role in the project performance. Thus, the project success criteria can be constantly enhanced and developed as individuals and organisations evaluate the project outcomes in accordance to their targets and objectives (Müller & Turner, 2007). On the other hand, project success factors are applicable for any kind of project and the factors might be equal in their impact on the project performance.

2.2.5 Project Success and Project Management Success

The expression 'project management success' is measured different from project success. Project success is assessed by the general objectives and goals of the project; on the other hand, project management success is evaluated and assessed by the traditional measures of performance, such as finishing the project within cost, time and quality (Cooke-Davies, 2002). The understanding of success has changed from the narrow focus of finishing within cost, time and quality to extend more by including the stakeholders requirement who have interest in the project including client, consultant, project management team and project users (Jugdev & Müller, 2005).

Project management is a challenging task, as the project manager as well as the project team have to manage and handle both internal and external challenges. Project managers' role is to deliver the project successfully, meeting all the expectations of key stakeholders who recognise the success or failure of the project. All these challenges should be taken into consideration and demand instant attention, as numerous projects fail (Williams, 2005). According to the Standish Group, project success rate in the world dropped from 34% to 32% from 2004 to 2009. However, a recent result

by the Standish Group (2013) shows a minor improvement in project success rate, with 39% of projects succeeding with required quality, within time and on budget.

Rad and Anantatmula (2010) introduced a framework for assessing the project success with three different kinds of characteristics, including the client view which is concentrated and assessed by client satisfaction, quality and scope; the team view which concentrates on the means of the created deliverables; and enterprise perspective which concentrates on the commercial and financial factors. Similarly, Cooke-Davies (2002) has investigated project success and has determined three levels of it including project management success, project delivery success and repeatable project delivery success. Of these three levels, repeatable project delivery success is overtaking the other two, as it is considered the most significant for long-term organisational success. Once an organisation can deliver successful projects repeatedly, it is already achieving the targets of the first two levels.

Kloppenberg et al. (2006) replicated previous research and examined four measurements of project success: 'project efficiency, impact on the customer, business success, and future potential'. Belassi and Tukel (1996), furthermore, categorised success factors into four different groups: factors related to the project; factors related to project managers and team members; factors related to the organisation; and external environmental factors. By reviewing and evaluating the term 'project success' over the past few years, Jugdev and Muller (2005) suggest that success must be identified and defined by the way it contributes to the overall organisational strategic objectives. For this research effort, project success factor is considered to be the aspect that contributes most to developing project performance.

2.2.6 Project Success and Project Performance Factors

The Project Management Institute (PMI) conducted research into the value of the discipline in 2008, which proved that 'management of project' adds value for an organisation and it can be easily recognised in organisations where project management operations tend to be more mature (Thomas & Mullaly, 2008a, 2008b). Moreover, Ibbs and Reginato (2002) confirmed that the project management maturity of an organisation led to organisational success. Basically, well established project management procedures and processes can contribute to the success of a project and therefore achieve its business value.

Past researches determined a number of factors that could improve project performance. These are including top management support for supplying of resources, clear and defined goals, comprehensive and precise plan, good communication process among the stockholders including the project team, and readiness to encounter risk and the ability to handle or overcome it (Pinto & Slevin, 1987; Schultz et al., 1987). Hartman and Ashrafi (2002) confirmed that top management support for supply of resources, clear and defined goals, a comprehensive and precise plan and good communication among the stakeholders, including the project team, are critical to project success. If one of these factors is lacking, it will have a negative impact on project performance (Lechler 1997). These two researches emphasise the significance of communication among stakeholders, especially project teams, to project success.

Moreover, different aspects of success factors are important for different sectors. Hartman and Ashrafi (1996) have identified ten success factors, which were ranked differently depending on the sector and industry. These factors are cost, time, quality, stakeholder satisfaction, achieving of business targets, communications, customer satisfaction, experience and technology expertise, project mission, and client approval. The first five factors have a strong influence on project success. The other factors are recognised as significant in different stages of a project. For example,

cost and time are considered significant for a project's commencement and execution stages, while on the other hand client satisfaction is considered significant at the project closeout stage.

Larson and Gobeli (1989) have conducted a research involving 500 development projects, and confirmed that these projects varied according to the type of project management structure used. In addition, the research showed that project structure has a substantial impact on success even though the other factors are considered. The critical success factors for development projects Larson and Gobeli (1989) have identified, among various factors, are top management support, clear project goal, and project team cohesiveness. These factors highlight the significance of cooperation culture and contribution in decision making as important influencing factors. With regard to project team, communication is regarded as critical success factor that have an essential impact on project performance. Moreover, communication is crucial to create an effective cooperation and collaboration among project stakeholder including project manager and project team members (Anantatmula & Thomas, 2010).

Project delivery often requires a solid teamwork as team performance is considered as a catalyst for achieving project success (Lechler, 1997). Furthermore, if conflicts arise and are not handled properly, they are likely to have a strong negative effect on project performance. It is clear that a good project execution needs to be positively involved in knowledge sharing, decision-making, and information delivery to all team members.

2.2.7 Project Success and Cultural Diversity (Differences)

In the rapidly changing business environment all over the world, understanding cultures and cultural issues is becoming an important requirement for overall business success (Walker et al., 2003). The significance of culture and cultural differences has grown to be more critical particularly for organisations working internationally or employing people from different cultures.

Since culture has the prospective to affect on the activities of business in the workplace, organisations have to take into their consideration the cultural aspects in day-to-day businesses in order to function successfully and effectively in the worldwide marketplace.

Managing cultural differences successfully can provide a company with a substantial competitive advantage and improve the organisational effectiveness. In contrast, failing in managing the cultural differences may cause in severe complications and difficulties such as reduction and decrease in productivity, and delay in the completion of the project. Therefore, to ensure that a project can perform successfully, managing and understanding cultural differences is becoming an extremely significant topic particularly in organisations and companies that having employees from diverse cultural backgrounds (Kivrak et al., 2009).

The project management literature has extensively examined the project success. Cost, time and quality are used as the traditional basic criteria to evaluate the project success. However, Yu et al. (2005) and Atkinson (1999) have criticised these criteria as being inadequate. Many researches have been issued that examined project success which includes different criteria such as customer's benefit and client satisfaction (Wang & Huang, 2006). Success criteria may vary from a project to another. According to Hyvari (2006), in general there is still unclear vision in the project management literature of what makes a successful project.

There is an increasing interest in the researches on culture and the impact of culture and cultural differences as well as the relationship between the project success and culture in the different industries. Prior research and studies in the project industry have demonstrated that cultural differences have an effect on the day-to-day business activities, either positive or negative; on the other hand, some have revealed no effect on projects even where cultural differences subsisted (Nummelin, 2005). A study by Murray-Webster and Simon (2004) on a joint Russian-British venture organisation has examined the relevance of cultural differences to project success. It showed that the cultural differences between these two organisations had a real impact on the

project success. Tukiainen et al. (2003) examined the implications of cultural dynamics on the outcomes of a worldwide engineering project. The findings demonstrated that the majority of the perceived differences, which were related to the diversity, are mostly socially constructed and require some sort of mechanism to merge.

2.3 Culture and Cultural Diversity

There are numerous definitions and descriptions of culture. Each research fields would have different understanding and definition to culture. From the organisation's point view, Hofstede (1984) defined culture as 'the collective programming of the mind which distinguishes one group from another'. Another definition has been introduced by Barthorpe et al. (2000) in an overview of the literature on the field of culture, which simply defines culture as 'what we are and what we do as a society'. Culture has various attributes and properties as it can be learned, shared, shapes behaviour, and may change as time passes (Barthorpe et al., 2000; Loosemore & Al Muslmani, 1999).

Managing cultural diversity has become a significant element for today's organisations (Kochan, Bezrukova, & Ely, 2003). Recently, a broad understanding has emerged on the necessity to deal with diversity in all kinds of organisations and to recognise the benefits and difficulties for the different agents engaged (Dietz & Petersen, 2006; McKay, Avery & Morris, 2009).

2.3.1 Dimensions of Culture (Cultural Theories)

In researching national cultures, many researchers have investigated the differences between cultures by analysing different cultural dimensions. The mostly used studies in the cross-cultural

literature were found Hall (1960), Hall and Hall (1990), Hofstede (1991), Hampden-Turner and Trompenaars (1993) and House et al. (2004).

In 1960, Hall introduced three cultural dimensions: Space (private/ public), Time (monochromic/polychronic) and Context (high/low). The principle of Hall's cultural dimensions is driven by the concept that people from different countries often tend to create and interpret their own communications considering the context within which they are operating. Hall presented time as a continuum which is attached to two temporal archetypes: monochromic versus polychromic. Monochromic is defined by Hall as people who do one thing at a time. On the other hand, Polychromic is referred to the people who prefer to do be engaged with many things at a time (Hall, 1960). According to Hall's (1960) model, people search for understanding are always influenced by the cultural values they were grown up with. Hall determined two categories of low and high context to explain his theory. In low context cultures, people from a low context society are generally verbal and explicit whereas, people from high context society are implicit in messages and language.

Hall (1995) suggested 'The Compass Model' which aims to determine the cultural styles of behaviour by two dimensions 'assertiveness' and 'responsiveness'. The outcome of this model is the 'resulting matrix' which shows four different cultural styles that are relative to the centre of the compass. Therefore, it will be relative also to the personal attitude and the beholder's perceptions. The dimension 'assertiveness' identifies to which extent a culture is forceful and direct. Responsiveness refers to which level the cultural behaviours are regarded as being emotionally depicted. Highly sensitive business culture concentrates on emotions instead of facts and therefore it tends to be very pleasant.

Hofstede (1991) has conducted a cultural factor analysis in a survey involving IBM employees from about 50 countries. Hofstede (1991) has derived four cultural dimensions at the organisational level:

- Power Distance: 'The extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally' (Hofstede, 1991).
- Individualism and Collectivism: 'Degree to which people in a society are integrated into groups' (Hofstede, 1991).
- Masculinity and Femininity: 'A preference in society for achievement, heroism, assertiveness and material rewards for success.' Its counterpart represents 'a preference for cooperation, modesty, caring for the weak and quality of life' (Hofstede, 1991).
- Uncertainty Avoidance: 'a society's tolerance for ambiguity' (Hofstede, 1991).

A fifth dimension has been added by Hofstede after a study of Chinese culture, namely, long-versus short-term orientation (LTO) which associates the connection of the past with the current and future actions/challenges. Based on these dimensions, Hofstede (1991) outlines cultural maps of the main groups of nations with similar cultural characteristics, and shows that undertaking work in one part of the world could be totally different from doing it in another.

Based on Hofstede's research, another research of cultural differences has been conducted by Hampden-Turner and Trompenaars (1993), which outlined seven specific variables. These 'Seven Cultures of Capitalism' are considered to be culturally related to the creation of wealth. The variables 'Universalism vs. Particularism' and 'Individualism vs. Communitarianism' differ from Hofstede's cultural dimensions.

House et al. (2004) has conducted a research program called 'The Global Leadership and Organizational Behaviour Effectiveness Research Program' (GLOBE) involving 17,000 managers from 62 different countries around the world. Nine cultural dimensions have been identified by House et al. (2004) as the following: 1-Power distance, 2-Uncertainty avoidance, 3-Institutional Collectivism, 4-in group Collectivism, 5-Gender, 6-Assertiveness, 7-Future orientation, 8-Performance orientation, 9-Human Orientation. The first six dimensions identified by GLOBE

study were motivated from Hofstede (1980) study. However, all studies conclude that different nations have different values rooted in their culture. The outcome of these studies results in a tendency to manage and control difficulties in methods and approaches specific to each culture.

2.4 Cultural Diversity and Team Performance

2.4.1 Team and Teamwork

Teams are widely-used and utilised in organisations practically in most industries and sectors because of the acceptance that they could outperform individuals working alone, particularly when performance demands for numerous judgments and skills (Hayes, 2002; Scarnati, 2001). Teams have become the fundamental building bricks for several business organisations (Brannick & Prince, 1997). In addition, according to Maslow and Frager's (1987) hierarchy of needs theory, teams can be used to fulfil the basic human desires of belonging and affiliation. Basically, the team is defined as a collection of people with a particular goal or identified objective to accomplish. This means that there has to be some kind of activity coordination among the individuals to achieve the team objective (Conti & Kleiner, 1997). Individual behaviours that provoke activities coordination and sharing of information within the team are together expressed as teamwork (Dickinson & McIntyre, 1997). This means that grouping individuals together does not assure that they will perform effectively as a team. There has to be a synergetic practice where the team members' efforts exceed their individual efforts (Scarnati, 2001).

Teamwork is the coordinated and cooperative works by people performing job together in order to pursuits their common goals. It necessitates the sharing of knowledge as well as the leadership and participating in different roles (Harris & Harris 1996; Ingram et al., 1997). It allows successful treatment and dealing with complicated issues by sharing of knowledge, experience and skills between the team members. In addition, it offers opportunities for the team members to acquire

more information with regard to their works through engagement and contribution in decision-making and problem resolution. Ordinary team members are consequently able to attain outstanding outcomes within the teamwork environment (Harris & Harris 1996; Scamati 2001).

Teamwork is among the commonly advised and encouraged methods for organisational change. It needs, as a result, to be supported by the main changes in systems, structure and culture to lead for success (Drew & Coulin-Thomas, 1996). Teamwork assists organisational interface and team decision-making, and enhances the quality of problem solving (Nesan & Holt, 1999). Teamwork has an effect on the quality of products or services generated by the work team, as well as productivity. Good quality teamwork influences the continuation of innovative developments and motivates individuals' commitments. Successful, productive teamwork creates a long-lasting competitive advantage and a sustainable organisational asset (Golestani & van Zwanenberg, 1996). Teamwork is therefore essential if an organisation's goals are to be attained.

Teamwork has to be understood as it is essential to success in an increasingly difficult and complicated environment (Larson & LaFasto, 1989). Successful teamwork could be assessed by individual and group outcomes, and regulated by management (Ingram et al., 1997). According to Conti and Kleiner (1997), the significance of the need for developing and enhancing the conditions and circumstances for successful teamwork in a company or any kind of organisation is obvious in our current challenging world.

Research into teams has considerably increased in the past few years (Constructing Excellence, 2004; Ochieng & Price, 2009; Smith & Offodile, 2008), all in response to the demanding improvement of performance in the construction industry. Most of the researches have adopted elements and factors that inspired by the improved performance of the manufacturing industry. The outcomes of such studies have showed that teams have potential prospect for improving productivity (Hayes, 2002) and often lead to substantial improvement of performance (Pagell & LePine, 2002), mostly because they could get better outcomes than where the work is individually

operated within specified job roles. The complex nature of projects in different industries as well as the presence of various skills and knowledge made the teams significant for the success of projects (Bower, 2003; Gould, 2011; Harris, McCaffer, & Edum-Fotwe, 2006) as the teams allow complimentary utilisation of available skills and knowledge to attain substantial productivity (Constructing Excellence, 2004; Conti and Kleiner, 1997).

2.4.2 Team Effectiveness

One of the vital challenges faced by teams within the project environment is how to ensure that all team members are aware of other individuals' contribution. The challenge increases further if one has to make sure that individuals propose better techniques for executing an activity, even if there is no direct advantage to themselves (Al-Rawi, 2008; Ankrah, Proverbs & Debrah, 2009). The theory of teams, though, depends on the existence of synergies among members to participate individually and collectively in the formation of an effective team atmosphere (Al-Rawi, 2008; Katzenbach & Smith, 1993). Individuals have to work flexibly in both functions and roles in order to acclimatise to working in a cooperative environment where targets are accomplished in a collaborative rather than a competitive way (Tarricone & Luca, 2002). According to Macaulay and Cook (1995), effective teamwork leads to careful application and management to enhance and maintain the team's strength, focus and commitment.

There is extensive literature related to the measurement of team effectiveness (Achieving Excellence in Construction, 2003; Al-Rawi, 2008; Dickinson & McIntyre, 1997; Macaulay & Cook, 1995; Smith, 2000; Tarricone & Luca, 2002). For instance, Constructing Excellence (Constructing Excellence, 2004) has developed a team effectiveness metric called the self-assessment matrix. The matrix identifies six important components for effective teamwork: team identity; communication; shared vision; issue negotiation and resolution; collaboration and participation; and reflection and self-assessment. The matrix allows teams to evaluate themselves

and it compasses some key factors of effective progress and teamwork that leads to best practice. It also necessitates for periodic reflection on the process rather than frequent reflection. The matrix is especially beneficial in benchmarking both the extent of teamwork and the team effectiveness. The obvious recognition of processes that are indicative of the progress level within each key factor also helps to make it much easier to differentiate the effectiveness of the teamwork within various teams.

2.4.3 Cultural Diversity and Team and Project Performance

Most of the task and project within organisations these days is being accomplished by team-based project structures (teamwork), aimed at assisting team's relationship and communications in an effort to encourage successful project completion (Cannon-Bowers, Salas & Converse, 1993; Chiniara & Bentein, 2017). This practice has proven increase in productivity and skills as well as minimise in workloads for individuals (Marks, Mathieu & Zaccaro, 2001; O'Connora et al., 2008). However, numerous teams tend to be unsuccessful and encountering failure for numerous reasons (Hackman, 1998).

According to Hall (1960s), Hofstede (1970s and 1980s), and Trompenaars (1990s), human interaction occurs in a social environment and is influenced by a sophisticated group of norms, values, policies and regulations, as well as rules and lows. It does not happen in an isolation or vacuum. Forming or being formed by these influencing mechanisms what we refer to as 'culture'. Culture appears and develops in response to interpersonal passions for answers to issues typical to all teams and groups (Hofstede, 1991). In order to be a part of a social and interpersonal identity, all project teams and groups need to bring answers to these problems and complexities.

Each individual from the project team holds different cultural background which are generally unconscious. However, our culture is not necessarily explainable or conscious of others as the

cultural values and norms are delivered and passed on from the past people to the current people (Hofstede, 1991). This confirms that there is no one culture is right and the other cultures are wrong, but for each cultural collection and grouping, regardless of whether ethnic or organisation, there is a propagated view of what is deemed and thought to be considered logical or illogical, right or wrong, reasonable or unreasonable.

Current changes with the manpower cultural composition have also triggered some sort of practical and functional concern with managing multicultural team, a project-oriented team consisting of individuals with different culture and from different countries (Marquardt & Horvath, 2001). With an increase of globalisation in the recent years, diversity in culture and in the national background is very popular in today's projects and organisations. These kinds of teams tend to be consisting of individuals from distinct national backgrounds, which probably speak distinct 'languages' and were grown in distinct places that could have distinct norms and values. Therefore, it is worth addressing that today's organisations should understand and recognise the possible effects of diversity on the team's performance (Nam, et al., 2009).

2.4.3.1 The Relationship between Cultural Diversity and Team and Project Performance

Individuals' cultural value orientations have a significant impact on the way they process and understand information (Adler, 2002; Hofstede, 1980) and it has an effect even on the preferred styles of social and interpersonal interactions with others (Bettenhausen & Murnighan, 1991; Earley, 1993; Zander, 1997). Once the individuals from diverse cultural backgrounds meet together in a team, they would present a great potential for prime team efficiency and performance by confining of different cultural views and perspectives. However, positive outcomes are not always obtained. Several cross-cultural researchers have contended that cultural diversity in teams creates obstacles and challenges that should be cautiously managed or overcome (Stahl et al., 2010).

Empirical research has so far disclosed an equivocal connection between cultural diversity and team performance (see Table 2.1); a number of research studies found this relationship and connection positive (e.g., Earley & Mosakowski, 2000; Thomas, Ravlin, & Wallace, 1996; Comu, Unsal & Taylor, 2010), and some researchers found it negative (e.g., Jehn & Mannix, 2001; Kirkman et al., 2004). According to Stahl et al. (2010), these cultural diversity findings tend to increase divergent and decrease convergent in team functions and processes. Divergent functions and processes impose various ideas and values into a team, which could lead to positive results and outcomes such as larger creativeness as well as negative results and outcomes such as higher uncertainty and interpersonal conflict. Convergent functions and processes keep the team focused on common goals, objectives, or commitments that guide them to positive results and outcomes such as improving the team cohesion and communication, or to negative results and outcomes such as group-think. However, different connections and relations between cultural diversity and team performance could be observed depending on how the team functions and operates (Cheng et al., 2012).

Researchers have often reported conflicting finding about the team's composition, whether the cultural diversity can affect on its performance and dynamics. For example, several researchers (Bantel, 1994; Daily, Loveland, & Steiner, 1997; Jackson, 1992; Watson, DeSanctis & Poole, 1988) claim that diverse teams have been shown to outperform homogenous teams. For instance, Bantel (1994) observed that diversity may improve team functionality and performance by providing team members with a greater skill base and a broader range of visions. Daily, Loveland and Steiner (1997) also noted that cultural diverse teams with distinct national background have a higher response rate in the Group Decision Support System (GDSS) in certain issues concern team with decision making, such as expression of thoughts and discussing issues. Comu et al. (2009) observed that the multicultural team in the initial stage of formation will have a negative impact on performance; however, sustained interaction of the culturally diverse team may in the long run result in outperforming the mono-cultural team. Moon (2013) asserts that cultural diversity impact

on performance differ on long and short-term. Moreover, this confirms Barthorpe, Duncan and Miller's (2000) study, which declares that in the long-term the benefits of multicultural teams can be a broader process of problem solving, improved problem-solving capability and greater creativity. Bebenova-Nikolova (2014) states that when cultural diversity managed well, it will be an asset and it will enhance the performance; and once it is ignored, it will increase the possibility of generating problems and reduces the productivity.

Table 2.1: The Relationship between Culture and Team and Project Performance

No.	Author	Year	Positive	Negative	Null
1	Watson, DeSanctis & Poole	1988	✓		
2	Ancona & Caldwell	1992		✓	
3	Jackson	1992	✓		
4	Bantel	1994	✓		
5	Smith et al.	1994			✓
6	Thomas, Ravlin, & Wallace	1996	✓		
7	Milliken & Martins	1996		✓	
8	Daily, Loveland, & Steiner	1997	✓		
9	Harrison, Price & Bell	1998		✓	
10	Hambrick et al.	1998		✓	
11	Lau & Murninghan	1998		✓	
12	Williams & O'Reilly's	1998			✓
13	Earley & Mosakowski	2000	✓		
14	Jehn & Mannix	2001		✓	
15	Kozlowski & Bell	2003		✓	
16	Kirkman, et al.	2004		✓	
17	Staples & Zhao	2006		✓	
18	Lee & Ma	2007		✓	
19	Kivrak, et al.	2009	✓	✓	
20	Comu, Unsal & Taylor	2010	✓		
21	Ochieng & Price	2010	✓	✓	
22	Stahl et al.	2010	✓	✓	
23	Cheng, et al.	2012	✓	✓	
24	Bebenova-Nikolova	2014	✓	✓	

In addition, numerous studies (Ancona & Caldwell, 1992; Milliken & Martins, 1996; Staples & Zhao, 2006) have confirmed that homogenous teams often avoid the loss in processes associated with poor communication among team members and also the extreme conflict that usually affect the diverse teams. Staples and Zhao (2006) observed that the heterogeneous teams were less cohesive and also got much more conflict than the homogeneous teams. Moreover, Harrison, Price and Bell (1998) found that there was clearly a negative relationship between performance and diversity, which means that team performance improved as diversity diminished. Negative issues of diversity in teams include communication problems, misunderstandings, increased conflict and decreased cohesion. These kinds of losses and failures may result in decreased satisfaction and performance (Hambrick et al., 1998; Lau & Murninghan, 1998). However, other research has claimed that there is a null relationship, which means that diversity has no relationship to team performance (Smith et al., 1994). For instance, Williams and O'Reilly (1998) reviewed about 40 years of diversity studies and came to a conclusion that there are no constant major effects of diversity on organisational effectiveness and performance. Nonetheless, by taking a look at the process variables, Jackson (1992) and Kozlowski and Bell (2003) agreed that team diversity has a negative effect on team cohesiveness. As a result, it is possible that homogeneous teams will demonstrate a greater degree of socially-oriented communication compared to heterogeneous teams. A study by Lee and Ma (2007) showed that cultural differences are the most significant factor affecting team performance.

One more source of the equivocal connection and relation between cultural diversity and team performance derived from the ways cultural diversity has been identified, which might possibly be sorted into 'surface-level' or perhaps 'deep-level' (Harrison, Price & Bell, 1998; Stahl et al., 2010; Wheeler, 2002). Surface-level involves differences in demographic indicators such as nationality or ethnicity (Jackson, May & Whitney, 1995; Williams & O'Reilly, 1998), while deep-level encompasses variances in norms, values and cultural attitudes (Jackson, Joshi & Erhardt, 2003). Though almost all research and studies so far have focused on analysing surface-level types of

cultural diversity (Oerlemans & Peeters, 2010), growing studies (Harrison, Price & Bell, 1998; Harrison, et al., 2002; Vodosek, 2007) report a significant impact of cultural diversity on work outcomes. A meta-analysis has been released by Taras, Kirkman and Steel (2010) of the impact of culture, demonstrates that the influence of cultural values suggested by team members to be the strongest for emotional outcomes, then attitudes, and lastly performance. The disagreement between these reviewed researches raises essential concerns in regard to the characteristics of this issue and how best to analyse and investigate it. To overcome this disagreement, this research will investigate the national cultural factors that influence project performance and identify their impact on team and project performance. In addition, it will also identify the main components of project team complexity and discover the key variables relating to the impact of national culture in a multicultural environment.

2.5 Project Complexity

Projects are a typical approach to execute various kinds of tasks, which are in numerous means unique. Although the complexity, scope and the number of projects are growing (ECI, 2006), the project as an approach of arranging and setting up activities retains its recognition and popularity. The growing development of projects, the need for health and safety within the working environment as well as the requirement for speedy execution together with the environmental challenges and technological advancement have all contributed in a spiralling growth in project complexity. It has reached a level in which all project managers have to take into consideration its impact upon a project's success (Koskela & Howell, 2002). Therefore, it could be said that all projects are unique and generally complex in their nature.

The increasing complexity of management of projects produced from the growing needs of owners and project developers, and the augment of multi-supply and multi-disciplinary chains that are

collected together to create the specified mega projects. The various goals and objectives across as well as within project teams result in a number of complex cases and diverse scenarios. Projects are inevitably complex in their nature, and become still more so day-by-day. Baccarini (1996) claims that the most complex ventures in the industry are the construction projects.

Morris (2000) stressed that the construction sector is encountering huge difficulty in controlling and managing the growing complexity of major projects. It is important to emphasise that the theory of project complexity has not been given enough in-depth consideration, especially in the project management literature. The literature review showed that some particular project features present a base for forming the managerial measures required to accomplish a project successfully (Turner, 1998; Winter et al., 2006). Complexity is one of the most significant project dimensions. According to Bennett (1991), professionals constantly express their projects as complex or simple when dealing with management problems. This indicates and gives an acceptance that complexity is important and makes a difference in project management. Furthermore, complexity in projects demands a high level of management and control, and the traditional techniques developed for ordinary projects have proved insufficient for complex projects (Morris & Hough, 1987). Project management complexity is usually in proportion to the complexity of the project in general. The literature shows that:

- Complexity has an impact on project time, cost, quality and scope; basically, once project complexity increases, time and cost will increase (Rowlinson, 1988).

- Project complexity hinders a clear understanding of the goals and objectives of the project (Morris, 2000).

- Complexity is usually used as a criterion in identifying appropriate project management procurement (Wozniak, 1993).

- Complexity is a significant critical factor in selecting a suitable organisational style (Bennett, 1991; Morris & Hough, 1987).

A typical technique to identify complexity is to evaluate it in several dimensions, including the number of units and stakeholders as well as the quantity of various resources. Baccarini (1996) has defined complexity based on systems theory. Baccarini's research into project complexity is derived from two dimensions: technological complexity and organisational complexity. It is important to underscore that project managers have to disclose which of these project complexity dimensions they pursue. Baccarini (1996) demonstrated how interdependency and differentiation arise through organisational and technological complexity. Baccarini further argued that organisational complexity by differentiation has two dimensions, vertical or horizontal. Vertical differentiation is identified by the depth of the organisational structure (hierarchy), whilst horizontal differentiation is defined by either the number of organisational units or task structure. The other characteristic of organisational complexity in major projects is the level of interaction and operational interdependencies between the organisational features of the project.

The other project complexity is technological complexity, which is also divided into differentiation and interdependencies. The technological complexity by differentiation is defined as the variety of inputs and/or outputs, tasks, and the number of specialities such as trades or subcontractors involved. Thompson (1967) identified three types of interdependencies of organisational and technological complexity which: pooled, sequential, and reciprocal. Baccarini (1996) stressed that the highest degree of complexity in both the organisational and technological categories occurs in the reciprocal interdependencies. Therefore, the operations of the organisational structure of a project consist of defining relationships in communication and reporting, distribution of duties and responsibilities, and authority for decision-making. According to Egan (2002), projects are basically classified according to the connection of the diverse contractors and project teams. This contributes to the creation and formation of a temporary multicultural project composition to handle and control the projects.

The challenge of complexity is a major issue in the current project management literature (Baccarini, 1996). Project complexity can be obtained from three elements: inside the project, outside the project and lastly outside the project environment. One of the important issues for project complexity variation is that project developers or owners (clients) have various expectations, objectives and interests that may derived from different levels. Another issue is that the process inside a project is mostly focused and concentrated. Transferring from one stage to another most likely signifies that the target is on the result rather than the process. Lastly, a third issue is that each project stage may drive different project factors.

2.5.1 Multicultural Team Complexity

Culturally diverse multicultural teams have many benefits. For instance, multicultural teams could most likely respond better to external challenges, particularly in today's complex, fast-developing and uncertain environment. In addition, solutions for older issues and challenges could possibly resolve as multicultural teams have a broader range of opinions and viewpoints. However, the differences among the team members could lead to communication problems and interpersonal conflicts. The multicultural team should take more control of the project challenges and process that cultural differences impose in order to minimise the possible loss of project resources, unsatisfactory outcomes, and missed opportunities (Chevrier, 2003; Schneider & Barsoux, 2003). Multicultural teams are likely to become the most efficient and effective compared to the other teams, but at the same time the least powerful (Adler & Bartholomew, 1992; Adler, 2002).

Earley and Mosakowski (2000) state that communication in multicultural project teams motivates the creation of an emergent and developing project team culture. Unlike a monoculture or homogenous team, a multicultural project team cannot be referred to a pre-existent identity because barely any comradeship exists among team members. Thus, they rely on a team culture of performance expectations, individual perceptions, and straightforward rules. In addition, Earley

and Mosakowski (2000) confirm that an efficient and effective multicultural project team has a solid influence on culture as team communication and performance. This proposes that the trust generated and the positive result perceived by the shared understanding can increase team effectiveness and enhance performance improvement. Moreover, according to Pearson and Nelson (2003), the effective interconnection and communication among the project team members can assist the creation of a solid emergent team culture. According to Marquardt and Hovarth (2001), the main widespread and common challenges to multicultural teams in general are cross-cultural conflicts and managing cultural differences. Cultural problems among team individuals can be a source of poor performance, misunderstanding and conflict (Shenkar & Zeira, 1992).

Successful utilisation of multicultural project teams can provide a new way of innovative thinking and experience to enhance the possibility of project success and offer a competitive advantage for the organisation. However, cultural variations and differences along with the associated complexities and conflicts can hinder the successful completion of projects especially in today's multicultural business organisations. To attain project objectives and get away from cultural misunderstandings, project managers need to be aware of cultural differences and encourage motivation and creativity through flexible leadership (Anbari et al., 2009). Anbari and colleagues (2009) concluded that multicultural project management can be successful when the leadership is culturally aware, and there is effective cross-cultural communication, mutual and shared respect and reconciliation. Anbari et al. (2009) claim that without taking these aspects into consideration, multicultural project management is likely to fail.

In spite of several and continuing studies on multicultural teams (Brett, Behfar, & Kern, 2006; Dahlin, Weingart & Hinds, 2005; Cheng et al., 2012; Earley & Mosakowski, 2000), empirical studies and theoretical methodologies into this phenomenon are still limited. Due to the interdependent dynamics associated with teams and teamwork, one significant problem that most teams encounter is coordination (Brannick et al, 1965; Van de Ven, Delbecq & Koening, 1976). Coordination can be accomplished when behaviours, knowledge and objectives are well aligned

among the team members (Rico et al., 2008). An essential process of team coordination is communication as well as planning within team (March & Simon, 1958). Coordination in the mono-cultural teams with a clear management and leadership could be directed by the team structure or norms given by the team leader or manager together with those enforced by the team members shared cultural values, practices and norms (Klimoski & Mohammed, 2002; Zaccaro, Rittman & Marks, 2001). Multicultural teams with clear management or leadership take advantage of managers or leaders who are experienced and knowledgeable in dealing with cultural variations to create a team structure and norms that could assist cross-cultural coordination and communication (Dickson, Den Hartog & Mitchelson, 2003).

Marquardt and Horvarth (2001) list five main challenges that managers face while managing project teams, including cultural differences, diversity and conflicts; handling dispersion of teams and geographic distances; preserving communication richness; enhancing team cohesiveness; and managing coordination and control issues. Project managers from different origins and cultural background are most likely to react in an alternative way to the same team tasks or strategic issues as they have different insights and observations of environmental threats and opportunities. The awareness of cross-cultural concerns is therefore a vital competence of a manager's capability, as many projects fail because of the inability of multicultural teams to communicate and work together (Simkhovych, 2009). According to Higgs (1996), literature review on cultural differences about the project team discloses that large and complex projects with several team members from different cultural backgrounds often encounter considerable problems and complexities.

2.5.2 Management of Complexity

The three key goals of management of project are to accomplish the project with the required objective, on time and within cost (Meredith & Mantel, 2011). All of these three goals are interrelated to each other and the main objective of the project managers in all projects including

construction projects is to handle and control those goals and the connection between them. There are often numerous approaches to accomplish the project's goals and objectives; however, the outcome of the project which to be within cost and on time is vary (Maylor, 2003). In addition, Maylor (2003) claims that the critical constraints of a project are time, cost, and quality. Quality is an aspect concerned with standards, which will determine the outcome of the project process. This aspect is usually viewed as project's scope. Moreover, all projects have time constraints by definition. Cost is related to the resources required to execute the project. Project time, cost, and scope are all dependent variables on each other. From the viewpoint of the project management, it is important for the project manager to connect the project management complexity to the project process. According to Meredith and Mantel (2011), it is critical to predict on how uncertainty could impact on the project delivery schedule, cost and performance at the beginning of the project. In project management, high levels of uncertainty are considered as causes of risk (Smith, 1999). However, project managers have to evaluate and decide what risk levels are acceptable in accordance with political, economical, social, and technological factors.

A project manager should have numerous methods to manage complexity. Baccarini (1996) suggested that structural complexity might be handled and controlled through the use of integration, that is, by control, coordination, and communication. It is essential to predetermine the order between activities and events. There is a risk that unforeseen events could maximise project complexity and make time delays hard to handle and monitor. Laufer, Denker, and Shenhar (1996) have addressed the application of integration to manage the complexity of projects. Project management styles are determined by and dependent on: managing functional project plans interdependently and consecutively, managing the project in turbulent atmosphere, from multidisciplinary teams, overlap design and execution, develop and preserve project communication, and maintain concurrent management, monitor simultaneously the using of means, the achievement of goals, and their validity (Laufer, Denker, & Shenhar, 1996).

The growing project management demands investigation of how complexity of project influences the project constraints of cost, time, and quality. Ochieng and Price (2010) stated that clients and project managers require for this knowledge and understanding in order to handle and manage the project complexity. As stated, it is significant that clients and projects managers develop plans throughout the project life cycle and standardise with the aim of handling and controlling project complexity in the best effective approach. According to Emmit and Gorse (2007), coordination and constant communication throughout the project's life cycle encourages effective project complexity management, which is maintained by Baccarini (1996), Laufer, Denker, and Shenhar (1996), and Williams (1999). Nevertheless, it is necessary to keep some space for team adjustments inside the standardised project management framework. This gives some flexibility for the project team to produce certain remedies in order to increase commitment on the level of individual, and therefore maximises project inspiration and project success.

The key purpose of culture within a project environment is to reduce ambiguity and uncertainty in day-to-day decision-making and interaction of project team. This can be obtained by providing a framework for situational interpretation and restraining alternate options for suitable behaviour and response. Cultures develop to meet social cravings for responses to a collection of problems that are common to all groups. To ensure project team survival and to exist as a social identity, every single project team, no matter how big or small, has to think of answers to these problems (Hofstede, 1991; Schein, 1985). The methods arrived at will later become characteristic of the group, differentiating it from others.

2.5.3 Team Integration

With the growing global and international marketplace, companies are trying to be established and prepared with more cross-border activities (Ochieng & Price, 2010). There is a critical concern to maintain multicultural project teams to perform work together efficiently and effectively due to the

lack of cultural differences and team integration. The use of project teams has obtained considerable reputation in companies, and a growing number of international companies organise their activities by deploying multicultural teams consisted of workers from culturally diverse backgrounds (Groves & Feyerherm, 2011). Project performance has been extensively investigated by means of quite a small number of researchers (Cheng et al., 2012; Kumaraswamy et al., 2004; Ochieng & Price, 2010), and the outcomes of these investigations have obviously shown that the optimal project performance is accomplished when the entire project team is thoroughly integrated and incorporated with the project purpose. According to Egan (2002), there is increasing evidence to suggest that integrated teamwork is key to enhancing product delivery within the project industry.

The understanding of having an integrated multicultural team working together in a single unit still continues to be the aspiration within the project industry (Ochieng et al., 2013). The different participants within the project team remain facing cultural difficulties. Egan (2002) argues that the integrated team working together as a team is the paramount to projects that personify cohesive whole life value and enhance performance. By working together over time, the integrated teams can deliver greater process efficiency, help eject the old style adversarial culture and offer more secure projects by utilising qualified skilled manpower. In addition, Egan (2002) claims that teams that are constructed for one project at the client's cost would not be as effective secure, productive, or even profitable as those that work regularly on similar activities and projects. Moreover, in spite of more than quarter of a century of associated experience, the project industry remains reporting critical difficulties in team integration. According to Ochieng et al. (2013), cooperatives and partnerships are increasingly being created; and also collaboration and integration have become typically accepted requirements for individuals and organisations to survive.

Multicultural team integration is a unique issue and a challenging problem for project managers and clients. Once the multicultural teams are established, it is claimed that they outperform the mono-cultural teams, especially in areas where they deal with problem identification and solving.

This is all due to its sheer strength of diversity (Early & Mosakowski, 2000). Each culture has its unique value, assumption, and concept, which differ from those of other cultures; understanding these and identifying cultural complexity are a core skill required of each project manager (Kang et al., 2006; Vonsild, 1996). Choosing not to identify and understand the cultural complexity limits the chance to control it. Project managers of multinational companies typically do not consider the cultural differences as an important issue, especially in areas where the individuals, who came from different department, are collected together to form a team. Moreover, the first analysis conducted by Hofstede (1980) proposed that 80 percent of cultural differences in employees' behaviours and attitudes are influenced by national culture, which still has resonance today.

Cultural differences indicate distinct expectations about the goal of the team and its operational approach, which is usually categorised into processes and tasks. The processes relate to team evaluation, conflict management, participation, language and team building. On the other hand, the task is related to the composition of the task, as well as the decision-making approach, roles and responsibilities. Culture has several different dimensions, and is considered as a subjective issue in management studies. Hofstede (1991) as well as Trompenaars (1997) outlined distinct levels of culture. For instance, Hofstede categorises it according to gender, social class, generation, regional and national, as well as organisational, levels; whereas Trompenaars categorises culture according to national, corporate and professional levels. In this research, the focus is on the multicultural project teams, to find out what type of difficulties and challenges occur when individuals from different nationalities and cultures are gathered together in a project team.

2.5.4 Team Communication

One of the most significant complexities faced by project managers in today's market is communication problems (Loosemore & Al Muslmani, 1999). Dieckmann (1996) highlights that communication is also considered to be one of the most neglected and overlooked areas of

international business. According to Pardu (1996), one of the biggest reasons for project failure cited in the literature is the lack of communication. Harris and Moran (2000) have defined cross-cultural communication as 'the process whereby individuals from different cultural backgrounds attempt to share meanings and feelings through the exchange of verbal and non-verbal messages'. Dinsmore and Benitez Codas (2006) state that globalisation impacts on all types of projects which employ labours from different countries. They sugguest that it is critical to develop an efficient understanding and communication between project team members who are from different cultural backgrounds as this could affect the success and failure of projects.

In order for cross-cultural communication to perform successfully among multicultural team individuals, Smith and Noakes (1996) noticed that it is necessary to understand the impact of cultural diversity on the social interactions between individuals in these teams. Developing effective communication is essential for the success of international projects, which ranges from extended cultural understanding in order to eliminate waste and motivate those involved. Encouraging successful communication is required to be task specific and personalised instead of 'broad-brush' (Feiner & Howard, 1992). Effective communication can lead to identify problems sooner (Dahle, 1997), may also assist to control uncertainty (Laufer, Kusek & Cohenca-Zall, 1997), and might develop ideas that contribute to create better solutions and problem solving (Dahle, 1997). Effective communication may increase motivation, encourage teamwork and ensure better engagement of the key stakeholders (Gannon, 1994). Pearson and Nelson (2003) agree with Earley and Mosakowski (2000) that communication in multicultural project teams motivates the creation of an emergent and developing project team culture. In addition, they confirm that an efficient and effective multicultural project team has a solid influence on culture as team communication and performance. With regard to project team, communication is regarded as critical success factor that have an essential impact on project performance. Moreover, communication is crucial to create an effective cooperation and collaboration among project stakeholder including project manager and project team members (Anantatmula & Thomas, 2010).

2.5.5 Team Trust

Creation and developing of trust is considered one of the crucial aspects of establishing multicultural project teams. Trust works as an invisible glue agent to hold the disrupted team together (Tenzer, Pudelko & Harzing, 2014). Teamwork is a significant and challenging area for the formation and maintenance of trust especially when more than one party are involved (Ochieng & Price, 2010). Trust has been defined by Lipnack and Stamps (1997) as the confidence or belief in organisation or individual's reliability, fairness and integrity. According to Mayer, Davis and Schoorman (1995), trust represents the behaviour of the risk-taking towards the trustee; therefore, trust comes with the sensation that the trusted entity would not take advantage and make use of the other (Porter, Lawler, & Hackman 1975; Webster & Wong, 2008).

Trust and culture are usually reviewed and examined on different levels; trust on a team or individual levels, and culture on a national or organisational level. Numerous researchers (Huff & Kelley, 2005; Issa & Haddad, 2008; Whitener et al., 1998) observed that there are correlations between these levels as a whole, proposing that culture on national and/or organisational levels have an impact on trusting behaviours between team individuals. Researchers also examined the cultural dimensions that have been proposed by Hofstede (1980), for instance individualism vs. collectivism (Huff & Kelley, 2005; Kuwabara et al., 2007) and power distance (Khan & Maalik, 2011) as having an influence on trust. Doney et al. (1998) emphasised that collectivist cultures have more interest in engaging in trusting behaviours compared to the individualist cultures, which indicates that in collectivist cultures, people are seeking for more collective interests and try to maintain group beliefs and values and are most unlikely to be motivated or encouraged by self-interest. On the other hand, Huff and Kelley (2005) observed that managers and leaders who come from individualist cultures such as the United States had a higher tendency to trust compared to managers and leaders from collectivist cultures such as Asian nations. In addition, it is significant to notice that there are certain commonalities concerning both of these aspects of trust and culture. Both trust and culture require sufficient time to develop as they are associated with interpersonal

and cultural interactions and establish the nature of relationships (Wiewiora et al., 2014). However, trust bound to specific actors and relationships and seems to be more context-dependent (Issa & Haddad, 2008).

Trust has an influence in reducing complexity and assists in building up and developing teams. The trust holds a different kind of certain characteristics as it is considered intangible, fragile and hard to measure in general, but it is fundamental to the success of the teamwork especially multicultural team (Ochieng & Price, 2009). The reason that makes trust substantially more complex is the existence of a cultural effect in which an individual could consider an act as trust while the other feel exactly the opposite (Rowlinson et al., 2008). Mutual respect and good interpersonal skills between project managers or leaders and project team members can cultivate trust. Trust should be developed and planned especially, in situations that involve more than one party because it cannot be self-generated. According to Lau and Rowlinson (2011), the ideal approach to facilitate teamwork is to build an in-group environment to facilitate teamwork, the ideal approach is to create an in-group by developing among project team members a collective decision-making process, a common goal and problem-solving attitudes. The main concern is to break the professional or organisational boundary and barrier towards mutual understanding and promote respect among the team members; therefore, to encourage them to get benefit from each other expertise in order to contribute to the team effort. Moreover, frequent interaction among the project team members is consequently essential for obtaining meaningful communication and mutual understanding in order to establish knowledge-based trust. This proposes that the trust generated and the positive result perceived by the shared understanding can increase team effectiveness and enhance performance improvement (Earley & Mosakowski, 2000; Klimoski & Mohammed, 1994; Lee & Ma, 2007).

Trust can be established among project team members from the beginning of a project. Ochieng and Price (2010) stressed that all team members within multicultural projects need to understand and trust each other in order to obtain a fully integrated one. This might be attained through team effectiveness and team development training activities. In order to start, develop, and maintain trust

within the project team members, the nucleus should observe behaviour and project managers should raise and deal with any matter that threatens to break that trust.

2.5.6 Team Knowledge Sharing

Knowledge is considered one of the most significant assets for any organisation (Nonaka & Takeuchi, 1995). Recognising the way to manage knowledge effectively is essential to the survival and growth of companies (Al-Ghassani et al., 2006; Kale & Karaman, 2011). Knowledge has been defined by Davenport and Prusak (1998) as 'a fluid mix of framed experience, values, contextual information and expert insight'. There are a number of categories of knowledge, including tacit and explicit, internal and external, and practical and theoretical. Polanyi (1967) introduced the category of tacit and explicit knowledge, explaining that tacit knowledge is context-specific and highly personal. Thus, it is difficult to communicate and formalise. In contrast, explicit knowledge can be made available to others as it can be maintained and stored in a sort of procedures and written documents.

Knowledge management is concerned with producing, securing, recording, coordinating, incorporating, locating, and distributing knowledge. According to Tserng and Chang (2008), the most significant objective of knowledge management is knowledge sharing. Knowledge sharing creates an opportunity for the creation of new knowledge by utilising the exchange of know-how between the team members. Thus, it is important and significant to an organisation's success (Tserng & Chang, 2008; Egbu, 2005). National culture is considered to be one of the most critical aspects that may hinder knowledge sharing. Previous research has revealed that knowledge sharing could be substantially affected by individuals' cultural values (Hutchings & Michailova, 2004). This is most likely the case particularly in international and multicultural projects that consist of individuals from different cultural backgrounds.

Cross-cultural research is of growing importance in industry as a consequence of globalisation and diverse workforces (Abdul-Rahman et al., 2012; Akiner & Tijhuis, 2007; de la Cruz et al., 2008). However, research into the impact of national culture on knowledge sharing is somewhat limited (Michailova & Hutchings, 2006; Pauleen et al., 2007; Kivrak et al., 2014). This research aims to contribute to the field of knowledge sharing in a cross-cultural context.

2.6 Research Gap

Numerous studies have been conducted investigating the impact of culture on performance. A research study conducted by Stare (2011) was particularly focused on the role that organisational culture plays in project performance. While a study by Lee & Ma (2007) and another by Ochieng & Price (2010) investigated how cultural differences in a multicultural team can influence the team performance. Additionally, several research studies on team performance have assessed the effect of national culture (Comu, Unsal & Taylor, 2010; Ochieng & Price, 2010; Cheng et al., 2012; Rees-Caldwell & Pinnington, 2013), Intercultural effectiveness (Simkhovych, 2009), Cultural intelligence (Moon, 2013), Intercultural competences (Bebenova-Nikolova, 2014) and how these can influence and impact directly or indirectly on performance. These research studies are summarised in Table 2.2 below, showing the main dimensions that have been investigated previously and their effect on performance.

Almost all the issues of culture and its influence on performance have been studied before. However, the reviewed research studies do not cover thoroughly other aspects of culture, such as the individuals' national culture background and how it influences the project performance; and how the national culture dimensions' impact on not only the team performance but even the project performance especially in the multicultural environment.

Table 2.2: Previous studies on Culture and Performance

No.	Author	Year	Dimension	Relation /Impact
1	Lee & Ma	2007	Cultural Diversity	Team Performance
2	Ochieng & Price	2009	Cultural Diversity	Project Performance
3	Kivrak, et al.	2009	Cultural Differences	Project Success
4	Simkhovych	2009	Intercultural Effectiveness	Team Performance
5	Comu, Unsal & Taylor	2010	National Culture	Team Performance
6	Isah, Kirkham & Ling	2010	Cultural Diversity	Project Management
7	Ochieng & Price	2010	National Culture	Team Performance
8	Stahl et al.	2010	Cultural Diversity	Team Performance
9	Stare	2011	Organisational Culture	Project Performance
10	Cheng, et al.	2012	National Culture	Team Performance
11	Moon	2013	Cultural Intelligence	Team Performance
12	Rees-Caldwell & Pinnington	2013	National Culture	Project Management
13	Bebenova-Nikolova	2014	Intercultural Competences	Team Performance

The researches in the area of people management show that there is a lack of study of the cultural aspects of management of people and it appears as an emerging topic and the current literature not taking into consideration the specificity of managing effective multicultural project teams (Ancona & Isaacs, 2007; Rodrigues & Sbragia, 2013; Stahl et al., 2010). Moreover, the subject has been given less attention in the project management field (Henrie & Sousa-Poza, 2005; Leybourne, 2007) and our understanding of the dynamics of multinational and multicultural project teams is 'still in its infancy' (Stare, 2011). Ochieng & Price (2010) confirm that there is a need for further study to investigate the influences and factors affecting the project management teams. Furthermore, Irina & Vrânceanu (2014) added that there is a need to develop cultural methodologies to manage the tasks and processes among the multicultural teams in order to deliver a high performance team. In spite of several and continuing studies on multicultural teams (Brett, Behfar & Kern, 2006; Dahlin, Weingart & Hinds, 2005; Cheng, et al., 2012; Earley & Mosakowski, 2000; Moon, 2013; Nakui et al., 2011; Rees-Caldwell & Pinnington, 2013; Rodrigues & Sbragia,

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2013; Stahl et al., 2010), empirical studies and theoretical methodologies in this phenomena is still limited. Moreover, none of the above-mentioned studies covered how national culture of the project team impact or influence project performance, especially in a multicultural environment.

To fill this gap, this research will investigate the national cultural factors that influence project performance and identify their impact on team and project performance. In addition, it will also identify the main components of project team complexity and discover the key variables relating to the impact of national culture in a multicultural environment. This study will contribute to the theory by delivering a deeper understanding of the cultural issues that influence the performance of multicultural project teams. In addition, it will provide greater insight into national culture within projects context, in particular providing empirical evidence about the relationship between the multicultural team with team performance and how it is associated with different levels of performance.

2.7 Summary

The literature review in this chapter confirmed the claim that there is a lack of empirical study with regard to project complexity within the project management field. Furthermore, it proposes that research into the claim is necessary.

This chapter has reviewed the relationship between the project management and culture and examined the impact of culture on the project performance especially in the multicultural environment. The literature showed how national cultural factors impose some sort of complexity on the project and its influence the on the team performance. The literature review in this chapter confirmed the claim that there is a lack of empirical study with regard to project complexity and project performance within the project management field. Further, it proposes that the research into the claims is necessary. While there are few empirical and theoretical studies into this phenomenon,

this research wanted to recognise the interconnections between cultural characteristics and multicultural project management teams that have already been reviewed. In the next chapter, a conceptual framework will be defined in order to explore the cultural factors that impact on project performance in general and project teams in particular.

Chapter 3

CONCEPTUAL FRAMEWORK

3.1 Introduction

The previous chapter has shown that there are grounds for hypothesising that national culture does have an impact on team and project performance. It is necessary to have a conceptual framework in order to investigate the empirical relationship between the national culture and team and project performance as the framework can provide in a rational way all the crucial factors to be investigated, and presents appropriate variables and aspects of reference for investigating national culture within the context of projects field. This chapter aims to develop such a conceptual framework and focus on the development of appropriate hypotheses. This chapter therefore discusses the forth objective of this research which is developing a framework which can be applied in addressing cross-cultural complexity in multicultural project teams and examine the relationship between national culture and team and project performance.

3.2 Conceptual Framework

A brief literature review research was presented in the first part of this thesis, from which the theoretical assumptions related to the aim and the research problem of this research were extracted, and that was the basis of the research framework. Based on the literature review, a conceptual framework is developed as shown in figure 3.1. The framework shows the relationship between the cultural dimensions and team dynamic performance, and how these cultural dimensions can impact on the project performance in general and its dimensions in particular.
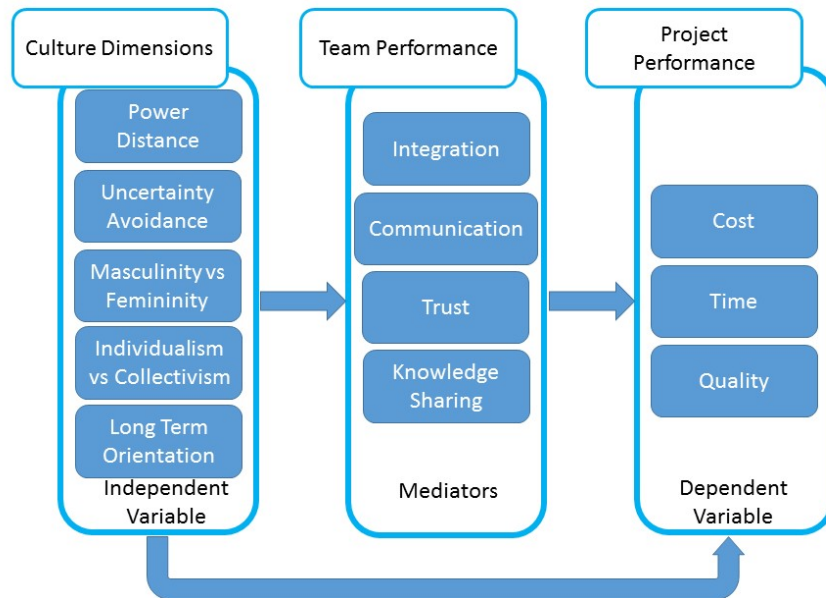
Figure 3.1: Conceptual framework emerged from the literature

3.2.1 National Culture

The theorised framework of this research study takes into consideration Hofstede's cultural dimensions (1991), which are Power Distance, Individualism and Collectivism, Masculinity and Femininity, Uncertainty Avoidance and Long-Term Orientation and their relationship to project performance. According to Hofstede (1991) culture appears and develops in response to interpersonal passions for answers to a couple of issues typical to all teams and groups. In order to be a part of a social and interpersonal identity, all project teams and groups need to come with answers to these problems and complexities.

Each individual from the project team is rooted in a different cultural background, and this is generally unconscious. However, our culture is not necessarily explainable to others, as cultural

values and norms are passed down from generation to generation (Hofstede, 1991). This confirms that there is no one culture is right and the other cultures are wrong, but for each cultural collection and grouping, regardless of whether ethnic or organisation, there is a propagated view of what is deemed and thought to be considered logical or illogical, right or wrong, reasonable or unreasonable.

Current changes with the manpower cultural composition have also triggered some sort of practical and functional concern with managing multicultural team, a project-oriented team consisting of individuals with different culture and from different countries (Marquardt & Horvath, 2001). With an increase of globalisation in the recent years, diversity in culture and in the national background is very popular in today's projects and organisations. These kinds of teams tend to be consisting of individuals from distinct national backgrounds, which probably speak distinct 'languages' and were grown in distinct places that could have distinct norms and values. Therefore, it is worth addressing that today's organisations should understand and recognise the possible effects of diversity on the team's performance (Nam et al., 2009).

Prior research and studies in the project industry experienced that cultural differences have an effect on the day-to-day business activities, either positive or negative, and on the other hand some researches show that there is no effect on projects although the cultural differences Subsisted (Nummelin, 2005). The first analysis conducted by Hofstede (1980) proposed that 80 percent of the cultural differences in employees' behaviours and attitudes are influenced by national culture, and his argument still has resonance today. Based on this discussion, Hofstede's cultural theory is adopted for this framework.

3.2.2 Relationship between National Culture and Team Performance

Researchers have often reported conflicting finding about the team's composition, whether the cultural diversity can affect its performance and dynamics. For example, several researchers (Bantel, 1994; Daily, Loveland, & Steiner, 1997; Jackson, 1992; Watson, DeSanctis & Poole, 1988) claim that the diverse teams have shown to outperform the homogenous teams. For instance, Bantel (1994) observed that diversity may improve team functionality and performance by providing team members with a greater skill base and a broader range of visions. Bebenova-Nikolova (2014) states that when cultural diversity managed well, it will be an asset and it will enhance the performance; and once it is ignored, it will increase the possibility of generating problems and reduces the productivity.

In addition, numerous studies (Ancona & Caldwell, 1992; Milliken & Martins, 1996; Staples & Zhao, 2006) have confirmed that homogenous teams often avoid the loss in processes associated with poor communication among team members and also the extreme conflict that usually affect the diverse teams. Staples and Zhao (2006) observed that the heterogeneous teams were less cohesive and also got much more conflict than the homogeneous teams especially in the early stage of team forming. Moreover, Harrison, Price and Bell (1998) found that there was clearly a negative relationship between performance and diversity, which means that team performance improved as diversity diminished. Negative issues of diversity in teams include communication problems, misunderstandings, increased conflict and decreased cohesion. These kinds of losses and failures may result in decreased satisfaction and performance (Hambrick et al., 1998; Lau & Murninghan, 1998).

Multicultural teams respond better to the external challenges, particularly in the complex uncertain and fast developing environment. Moreover, multicultural teams are good in resolving older issues and challenges as they have a broader range of opinions and viewpoints (Stahl et al., 2010). The multicultural team should take more control on the project process and challenges that cultural

differences impose in order to avoid possible losses of project resources, unsatisfactory outcomes, and missing opportunities (Chevrier, 2003). To attain project objectives and get away from cultural misunderstandings, project managers need to be aware of cultural differences and encourage motivation and creativity through flexible leadership (Anbari et al., 2009). Throughout the life-cycle of the project the project managers require better knowledge and understanding of sources of complexities of the project related to cost, time, and quality (Ochieng & Price, 2010). The following Table 3.1 summarise the aspect of complexities considered by academic literature.

Table 3.1: Main Team Performance Cultural Complexity Dimensions

No.	Author Name	Year	Integration	Communication	Trust	Knowledge Sharing
1	Harrison, Price & Bell	1998		✓		
2	Earley & Mosakowski	2000		✓	✓	
3	Egan	2002	✓			
4	Koivu, Levitt & Pulido	2003		✓	✓	
5	Staples & Zhao	2006		✓		
6	Lee & Ma	2007		✓	✓	
7	Kivrak, Ross & Arslan	2008		✓		✓
8	Kivrak et al.	2009		✓		✓
9	Ochieng & Price	2010		✓	✓	
10	Stare	2011		✓		✓
11	Cheng, et al.	2012		✓		
12	Schermerhorn et al.	2012		✓		✓
13	Loosemore et al.	2012	✓			
14	Ochieng et al.	2013	✓			
15	Kivrak et al.	2014				✓
16	Naoum, Alyousif & Atkinson	2014		✓		✓
17	Tenzer, Pudelko & Harzing	2014			✓	
18	Wiewiora et al.	2014			✓	

Integration can control complexity by proper coordination, and communication (Baccarini, 1996). The best project performance is accomplished when the entire project team is thoroughly integrated and incorporated with the project objectives (Egan, 2002 and Loosemore et al., 2012).

Communication is considered the most significant of contemporary complexities faced by project managers in today's market (Loosemore & Al Muslmani, 1999), and is also considered to be one of the most overlooked areas in international business (Dieckmann, 1996). It is critical to develop an efficient understanding and communication between project team members who are from different cultural backgrounds as this could affect the success and failure of projects (Dinsmore & Benitez Codas, 2006). Effective communication can lead to identify problems sooner (Dahle, 1997), may also assist to control uncertainty (Laufer, Kusek & Cohenca-Zall, 1997), and might develop ideas that contribute to create better solutions and problem solving (Dahle, 1997).

Trust, which is intangible, fragile and hard to measure, has an influence in reducing multicultural team complexity and assists in building up and developing teams (Ochieng & Price, 2009).

Trust and Culture are usually reviewed and examined on different levels; trust on a team or individual level, and culture on a national or organisational level. There are correlations between these levels as a whole, proposing that culture on national and/or organisational levels have an impact on trusting behaviours between team individuals (Huff & Kelley, 2005; Issa & Haddad, 2008; Whitener et al., 1998). Both trust and culture require sufficient time to develop and establish relationship as they are associated with interpersonal and cultural interactions (Wiewiora et al., 2014).

Knowledge is considered one of the most significant assets for any organisation (Nonaka & Takeuchi, 1995). Knowledge has been defined by Davenport & Prusak (1998) as 'a fluid mix of framed experience, values, contextual information and expert insight'. Knowledge management is concerned with producing, securing, recording, coordinating, incorporating, locating, and distributing knowledge. According to Tserng & Chang (2008), the most significant objective of

knowledge management is knowledge sharing. Knowledge sharing creates an opportunity for the creation of new knowledge by utilising the exchange of know-how between the team members. Thus, it is important and significant to an organisation's success (Tserng & Chang, 2008; Egbu, 2005). National culture is considered to be one of the most critical aspects that may hinder knowledge sharing. Previous research has revealed that knowledge sharing could be substantially affected by individuals' cultural values (Hutchings & Michailova, 2004). This is most likely the case particularly in international and multicultural projects that consist of individuals from different cultural backgrounds.

From the above discussion, it can be concluded that there is a huge gap in the existing literature about a complete team complexity model in a multicultural project environment. Therefore, the following hypotheses are proposed:

H1a: There is a negative relationship between power distance and team performance.

H2a: There is a positive relationship between individualism and team performance.

H3a: There is a negative relationship between masculinity and team performance.

H4a: There is a negative relationship between uncertainty avoidance and team performance.

H5a: There is a positive relationship between long-term orientation and team performance.

3.2.3 Relationship between National Culture and Project Performance

In the growing pace of change in the business environment all over the world, understanding cultures and cultural issues are getting to be important and a requirement for overall business success (Walker et al., 2003). The significance of culture and cultural differences has grown to be more critical particularly for organisations working internationally or employing people from

different cultures. Since culture has the prospective to affect the activities of business in the workplace, organisations have to take into their consideration the cultural aspects in day-to-day businesses in order to function successfully and effectively in the worldwide marketplace.

Managing cultural differences successfully can provide a company with a substantial competitive advantage and improve the organisational effectiveness. In contrast, failing in managing the cultural differences may cause in severe complications and difficulties such as reduction and decrease in productivity, and delay in the completion of the project. Therefore, to ensure that a project can perform successfully, managing and understanding cultural differences is becoming an extremely significant topic particularly in organisations and companies that having employees from diverse cultural backgrounds (Kivrak et al., 2009).

The project management literature has extensively examined the project success. Cost, time and quality are used as the traditional basic criteria to evaluate the project success. According to Atkinson (1999), it is obvious that the cornerstone of performance measurement are the measures of time, cost and quality, known as the 'Iron Triangle'. These measures are a regular feature of almost all the frameworks examined by Ankrah and Proverbs (2005), despite the fact that time, cost and quality are not generally an accurate representation of performance due to the fact that some projects are justifiably delayed or over-budget (Tam & Harris, 1996). However, these three measures still express the most significant and ultimate project performance measures (Belout, 1998; Chua, Kog & Loh, 1999; Xiao and Proverbs, 2003).

There is an increasing interest in research on culture and the impact of culture and cultural differences, as well as the relationship between project success and culture. Prior research and studies in the project industry experienced that cultural differences have an effect on the day-to-day business activities, either positive or negative, and on the other hand some researches show that there is no effect on projects, although the cultural differences subsisted (Nummelin, 2005). A study by Murray-Webster and Simon (2004) on a Russian-British joint venture organisation has

examined the relevance of cultural differences to project success. It showed that the cultural differences between these two organisations have a real impact on the project success. Based on this discussion, the following hypotheses are proposed:

H1b: There is a negative relationship between power distance and project performance.

H2b: There is a positive relationship between individualism and project performance.

H3b: There is a negative relationship between masculinity and project performance.

H4b: There is a negative relationship between uncertainty avoidance and project performance.

H5b: There is a positive relationship between long-term orientation and project performance.

3.2.4 Relationship between Team Performance and Project Performance

According to Ankrah and Proverbs (2005), performance within a project is considered as how well the project team pursue the project objectives, while performance measurement is the process of evaluation of the final outcome in relation to the initial input (Takim, Akintoye & Kelly, 2003). Performance measurement provides the techniques to determine aspects of unnecessary costs in the project process; therefore, through the improvements in processes, implementation of change, project output and outcomes could be attained (Cain, 2004).

Numerous performance measurement frameworks and performance measures exist for the aim of measuring performance. The most notable among which are the Constructing Excellence KPIs, the 'Star of David' and the 'Iron Triangle' (Ankrah & Proverbs, 2005; Chan, Scott & Lam, 2002). A detailed review of the literature on performance measurement was conducted by Griffith et al. (1999), and Ankrah and Proverbs (2005) concluded that there is no evidence for 'one-fits-all' approach. Therefore, in this research study, it is argued that the selection of the frameworks and

performance measures should be based on the purpose or motivation of the measurement. In this study, which attempts to examine the extent to which national culture influences the project team and project performance, it is argued that the best suited process will be to concentrate on those performance measures that evaluate the outcomes of a project that are associated with the dimension of culture.

In determining the proper measures to be utilised in this research study, the current performance frameworks showed useful insights. According to Atkinson (1999), it is obvious that the cornerstone of performance measurement are the measures of time, cost and quality which called the Iron Triangle. These mentioned measures are a regular feature of almost all the frameworks that have been examined by Ankrah and Proverbs (2005). Despite the fact that time, cost and quality or the 'Iron Triangle' are not generally an accurate representation of performance due to the fact that some projects are justifiably delayed or over-budget (Tam & Harris, 1996). However, these three measures still express the most significant and ultimate project performance measures (Belout, 1998; Chua et al., 1999; Xiao & Proverbs, 2003). As it is argued that these measures indicated the bottom line measures of project performance, they should be highlighted and utilised as the project performance dimensions and measurement in this study as well. Based on this discussion, the following hypotheses are proposed:

H6: There is a positive relationship between integration and project performance.

H7: There is a positive relationship between communication and project performance.

H8: There is a positive relationship between trust and project performance.

H9: There is a positive relationship between knowledge sharing and project performance.

3.3 Summary

The literature review discloses that the sources of conflict imposed by the cultural differences can be settled or at least addressed by many techniques including accommodation, avoidance, collaboration or compromise if it identified at the earlier stage of team formation. Managing cultural differences successfully found to be one of the significant elements that leads to project success. In contrast, mismanaging or ignoring cultural differences within teams is considered to be one of the major causes of project failure (Kivrak et al., 2009). Choosing not to identify and understand cultural differences limits the chance of control their effects. Project managers of multinational companies typically do not consider cultural differences an important issue, especially in areas where individuals are collected together from different backgrounds to form a team. Moreover, the first analysis conducted by Hofstede (1980) proposed that 80 percent of the cultural differences in employees' behaviours and attitudes are influenced by national culture, which still has resonance today.

Table 3.2: Hypotheses Summary

Variable List				
	Name of Variable	**Definition**	**Source**	**Hypothesis**
National Culture	Power Distance	The extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally.	Hofstede 1980, 1991	H1a: There is a negative relationship between power distance and team performance. H1b: There is a negative relationship between power distance and project performance.
	Individualism vs Collectivism	Degree to which people in a society are integrated into groups		H2a: There is a positive relationship between individualism and team performance. H2b: There is a positive relationship

				between individualism and project performance.
	Masculinity vs Femininity	A preference in society for achievement, heroism, assertiveness and material rewards for success.' Its counterpart represents 'a preference for cooperation, modesty, caring for the weak and quality of life.		H3a: There is a negative relationship between masculinity and team performance. H3b: There is a negative relationship between masculinity and project performance.
	Uncertainty Avoidance	a society's tolerance for ambiguity		H4a: There is a negative relationship between uncertainty avoidance and team performance. H4b: There is a negative relationship between uncertainty avoidance and project performance.
	Long vs Short-term Orientation	This dimension associates the connection of the past with the current and future actions/challenges		H5a: There is a positive relationship between long-term orientation and team performance. H5b: There is a positive relationship between long-term orientation and project performance.
Team Performance	Integration	The best project performance is accomplished when the entire project team is thoroughly integrated and incorporated with the project objectives.	Cheng et al., 2012; Kumaraswamy et al., 2004	H6: There is a positive relationship between integration and project performance.
	Communication	Communication is regarded as critical success factor that have an essential impact on project performance	Pearson & Nelson (2003); Earley & Mosakowski (2000)	H7: There is a positive relationship between communication and project performance.

	Trust	Trust generation can increase team effectiveness and enhance performance improvement.	Earley & Mosakowski (2000); Ochieng & Price, (2010)	H8: There is a positive relationship between trust and project performance.
	Knowledge Sharing	Knowledge sharing creates an opportunity for the creation of new knowledge by utilising the exchange of know-how between the team members. Thus, it is important and significant to an organisation's success	Kivrak, et al. (2014)	H9: There is a positive relationship between knowledge sharing and project performance.
Project Performance		The cornerstone of performance measurement are the measures of time, cost and quality which called the 'Iron Triangle'	Ankrah, Proverbs & Debrah (2009) and Atkinson (1999)	

Based on the literature review, a conceptual framework is developed showing the relationship between the cultural dimensions and team performance, and how these cultural dimensions can impact on the project performance. This conceptual framework is a clear interpretation of the aim of this research, which is to investigate the impact of the cultural differences within teams on project performance and to recognise the relationship between project performance and multicultural teams. Table 3.2 shows a summary of the different variables of the conceptual framework, which represent different constructs and their definitions. followed by the related research hypotheses. An empirical study will be undertaken to validate this framework in next chapter.

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Chapter 4

RESEARCH METHODOLOGY

</div>

4.1 Introduction

This chapter presents a detailed description of the research methodology used in this research and discusses the philosophical stance which led to the selection of the ontological perspective, research strategy and research approach adopted. The chapter discusses further the data collection methods and the justification of the adopted method, namely a questionnaire, which is discussed at length. Then, the chapter discusses the development of the questionnaire, the pilot study, sampling technique employed in this research, location of the sample and finally sample size.

4.2 Research Philosophy

The research philosophy is defined as the group of beliefs regarding the nature of the reality being investigated and explored (Bryman, 2012). It is the fundamental meaning of the nature of knowledge. The presumptions developed by the research philosophy present the clarification and the justifications for the way the research will be attempted (Flick, 2011). Research philosophies may vary on the objectives of research studies and on the ultimate approach that could be accustomed to accomplish these objectives (Goddard & Melville, 2004). These philosophies are not essentially in line with each other, however the selection of research philosophy is determined by the kind of knowledge being examined in the research study (May, 2011). Consequently, realising the research philosophy being employed might assist clarify the assumptions concerned with the research study process and how this suits the methodology being employed.

4.2.1 Philosophical Considerations

There are numerous considerations that support the philosophical position of any research study. A variety of viewpoints exist on these positions and the controversy remains in the research community upon which position can represent an apposite research approach and design. The social research consists mainly from two philosophical positions, which are ontological and epistemological considerations (Bryman, 2012). This thesis demonstrates the philosophical position considered throughout the research study.

4.2.1.1 Ontological Consideration

Ontology is a philosophical study, which involves the logical exploration of the various ways where different kinds of things are thought to exist as well as the types of existence, being or becoming and their relations. Fitzgerald and Howcroft (1998) show that there are two main ontological positions, realist and relativist. The philosophy supporting this research study at the ontological level is the realist position, which is discussed in Section 4.2.1.3.

The realist position at the ontological level adopts the notion that the external world consisted of tangible and predefined hard structure. This structure exists independently and separately of a person's capability to obtain knowledge. According to Fitzgerald and Howcroft (1998), this particular position is pragmatic and not interested in the idealistic view of life.

At the ontological level, the relativist position supports the idea of multiple existences of realities. The researcher in this position should make sense of the subjective and the socially constructed meanings of the mind about the phenomenon being researched. The understanding of reality is guided by socially transmitted terms and differs in accordance with culture and language. For instance, the aspects that show the truth and falsehood, goodness and badness, or right and wrong

are, consequently, not certain, but vary from situation to situation and culture to culture (Fitzgerald & Howcroft, 1998).

4.2.1.2 Epistemological Consideration

Epistemological aspect concerns with what is considered acceptable knowledge in a discipline. Epistemology is about 'how we know' and the techniques by which knowledge are attained. There are two significant epistemological positions, positivist and interpretivist. The philosophy underpinning this research at the epistemological level, discussed in Section 4.2.1.3, is the positivist position.

The positivist philosophy at the epistemological level supports the stance of the natural scientist and their approach to study of social reality. This position prefers to collect data about a noticeable reality and try to search for a regularity or a causal relationship to generate a law-like generalisation similar to those created by scientists (Gill & Johnson, 2010). This philosophy supports the belief that the world is conformed to predetermined laws of effects and causes, and complicated aspects could be handled by the use of fundamental or simplified technique. The philosophy concentrates on measurement, objectivity, and repeatability. Therefore, it is feasible for the practitioners to be objective from a separate position of the research condition. However, neutral observation of reality should be conducted without bias from the practitioner (Bryman, 2012; Fitzgerald & Howcroft, 1998).

The interpretivist epistemological position is critical of the positivist position and to the natural scientist with their approach to study of social reality. The interpretivist position supports the missing of a universal truth and keeps more focus on the realism of context. It advocates that it is essential for the researcher to interpret and understand the differences in the social reality from his or her perspective or point of reference. In this position, the researcher is submerged in the research

environment and the beliefs and values of the researcher function as a motivator in the interpretation and understanding of the findings (Bryman, 2012; Fitzgerald & Howcroft 1998).

4.2.1.3 Philosophical Position of this Research

Ontologically, this research is based on the belief in a realist position as specified in the previous section. This is because the structure of a team already exists. However, team members do not always follow and recognise the process and procedures that make them perform effectively. The identification and investigation of these pre-existing structures is essential if processes and procedures are to be implemented to ensure that a multicultural project team is to work together effectively. At the epistemological level, this research is based on the idea that the complicated relationships and interactions among diverse members of a project team might be investigated using a systematic and simplified piecemeal method. The approach can be accomplished without any bias. Moreover, the targeted conclusions can be attracted from the collected data from a detached position. The epistemological position adopted in the study was, consequently, positivist.

4.3 Research Strategy

In addition to the philosophical considerations supporting this study, it is necessary to clarify the orientation and position of the researcher to the conduct of research. It is the method by which the study aim is questioned (Bryman, 2012). There are two main well-known strategies for conducting a research study, qualitative and quantitative. These two strategies differ in several ways. However, they could enhance and improve each other (Neuman, 2003). The choice to adopt any specific strategy depends typically on the aim of the study, and the availability and type of information

(Naoum, 2002). This research study adopts a quantitative strategy. In order to clarify this decision, the two strategies are discussed below.

4.3.1 Qualitative Research

The qualitative approach is drawn from the interpretive paradigm (Denzin & Lincoln, 2005). This approach necessitates the researcher to cease imposing their own perception about the phenomenon being studied. Instead, it requires the researchers to understand the socially constructed and subjective meaning expressed about the researched phenomena (Bryman & Allen, 2011). The qualitative approach associated with the inductive technique with regard to theory. This approach concentrates on words instead of quantification in the analysis of the collected data. The objective is to examine how the research participant interprets the reality themselves (Bryman & Allen, 2011). This reveals the difficulty of producing a methodology that is formulated by the research participant rather than by the study researcher.

There are three main types of methods for collecting data that qualitative researchers tend to use; which are written documents, direct in-depth observations, and open-ended interviews. These result excerpts, descriptions, and quotations which can be semi-structured or unstructured (Patton, 2002). The qualitative approach data considered to be soft, deep and rich which ascertain what things exist instead of how many there are. Therefore, the strategy of the qualitative approach is more attentive to the nature and the needs of research situations (Fitzgerald & Howcroft, 1998). The reliability of qualitative approach relies on the competence and skill of the researcher (Patton, 2002).

There are several reasons for adopting the qualitative research strategy and some of which are:

- If there are no existing data for on the subject being researched and the best suitable measurement unit is not specific; and
- If the aspects that would be researched are examined on a nominal scale, without having any certain demarcation and involve discovering attitudes or attitudes.

However, qualitative research strategy has also criticisms from researchers. Bryman (2012) identified some of the qualitative research strategy critics and some of which are:

- It is hard to imitate as it is depending on unstructured information and it has no standardised procedure to follow as well as the quality relies on the ingenuity of the researcher;
- The qualitative research strategy is too subjective and impressionist and the analysed findings are derived from unsystematic views in regard to what is significant and important;
- It is lacking in transparency because of the problem which can be raised from the formation of what the qualitative researcher essentially has done and how the research findings were arrived at;
- It has a generalisation problem for the reason that the qualitative research scope is generally limited and constrained.

4.3.2 Quantitative Research

Quantitative research strategy is concerned with quantitative data as the name suggests (Flick, 2011). It follows a deductive technique with regard to theory and focuses on design measurement and sampling. The strategy retains a number of recognised mathematical and statistical techniques for the approach validity; such as the number of participants that are needed to develop a significant statistical result (Goddard & Melville, 2004). The quantitative research strategy follows the norms and practices of natural scientific style and specifically, positivism. It views the social reality as an objective and external reality. Therefore, the quantitative research strategy is objective in nature

and depends on assessing hypotheses or theory consisted of variables (Fitzgerald & Howcroft, 1998; Naoum, 2002). This approach can be best used in circumstances where there are quite a large number of participants available, where mathematical and statistical techniques of analysis could be utilised, and where the data could be properly analysed by using quantitative methods (May, 2011).

Quantitative techniques aim to collect real data and examine interactions between facts and how these facts and interactions conform with theories. The style of quantitative strategy is typically a logical structure where theories identify the research study problem, which is introduced as a statement or a hypothesis of a proposed connection and relationship, which is subjected to a test (Bryman, 2012). Quantitative strategy is primarily based on the positivist approach. The explanatory nature of this approach makes it fundamentally deductive. This strategy presumes that the study researcher works away from the social world and the way it should be measured shall be through objective methodologies.

Frechtling (1997) classified the regular data collection types of methods employed in quantitative studies as existing databases, tests and questionnaires. The quantitative data collected should be reliable and it should emphasise on quantification. The quantitative research samples collected should be large to be representative of the total population and can be generalised within an acceptable error (Bryman, 2012). Some of quantitative methods examples are surveys and experiments.

According to Naoum (2002), the quantitative research strategy can be used and chosen for:

- obtaining facts and information about an attribute, a question or a concept; and
- collecting actual information and examining the connections between the facts as a way to arrive at a specific hypothesis or theory.

However, quantitative research strategy has also attracted criticism from researchers. Bryman (2012) identified some of these criticisms as follows:

- quantitative researchers' failure to differentiate social institutions and people from the natural world;
- dependence on procedures and instruments that effect the correction between everyday life and research; and
- development of a static view of social life which is independent of people's daily life and the relationships between variables.
- an artificial sense of precision and accuracy not proceeding from the claimed source.

4.3.3 Strategy Adopted in this Research

A quantitative strategy was adopted in this research study for reasons discussed below.

- The research was explanatory and aimed to develop a holistic approach that could be applied in addressing cultural complexity in multicultural project teams through examining the relationship between national culture and team and project performance. The subsequent conclusions and findings used in the research to recommend a final course of action. The research involves subsequent testing and creation of hypothesises, which are related to quantitative research as recognised by Bryman (2012).
- The research identified the cultural factors that influence project team performance and therefore project performance. The research also gathers factual data and study relationships between relationships and facts in regards to theory and discussed issues, which involve numerous descriptions.
- The data available in the research were from questionnaire and survey obtained. They were hard, structured and large sample size and should be analysed by using statistical methods.

The data collection had to be undertaken using techniques such as questionnaires, tests and existing databases. The data were analysed using statistical techniques (Fellows & Liu, 2008).

4.4 Research Design

In the previous section, the research strategy is discussed by giving a wide direction to the research study and distinguishing between qualitative and quantitative approaches. Having adopted the quantitative strategy for conducting this research study, the current section outlines the different research design methods intended for the collection of data and analysis.

Research design is the general structure for any research study, and describes how the research process will be accomplished. It directs the implementation of the collection and analysis of data to reach to a solution to the research problem (Flick, 2011; Sekaran, 2003). The research design can be described as a framework that comprises all the research methods that could be employed. It helps the researcher to investigate the possible connection of the empirical data to its conclusions, in a rational manner towards the primary research question of the research study (Bryman, 2012).

According to Bryman (2012), there are four major research designs that are consistently used in any research study: experiment, action, case study, and survey research. The selection of the most suitable research method depends on several factors including population type, sampling, questioning content and format, costs, duration of data gathering and eventually the rate of responding (Aaker et al., 2011).

4.4.1 Experiment

Experimental research design is ideally used to bounded problems or issues where the variables involved are pre-identified and initial hypothesis exist. Laboratory settings are best suited the experimental design approach. The most commonly used features are measurement, manipulation and control. The main aim is to the presentation of the cause and effect relationship (McQueen & Knussen, 2002). The aim of the experiments in the research design study is testing and developing of practical theory and evaluation of intervention. One of the most used feature in an experiment to test the relationships between the dependent variable and the other variables is manipulation. Experiments are generally not utilised particularly in social research, but only as a measuring stick to which non-experimental research can be evaluated (Bryman, 2012; Fellows & Liu, 2008). The advantage of the experimental research design can be specified in its trustworthiness and robustness of causal findings. However, some phenomena are considered too complicated to be properly investigated and tested under experimental conditions. The results generalisation generated could be restricted and may not represent the realities of the examined research case (McQueen & Knussen, 2002).

4.4.2 Action research

In the action research, the investigator or researcher becomes part of the study, which involves a review of the current problem, collaborative diagnosis, generation of hypotheses about the effects and causes of the problem and acts on these and evaluate the impacts or changes (Bryman, 2012; Fellows & Liu, 2008). According to McQueen and Knussen (2002), action research is used to suggest and validate solutions to certain issues that lie within a research category. This kind of research design is more likely to be used by industrialists, practitioners and professionals who identify the problem within their work course and investigate and suggest a change to enhance the

process. Qualitative and quantitative data collection could be used in action research, which is a complicated practice including formulation of the investigated problem, generation of hypothesis, diagnostic and implementation cycle (Bryman, 2012; Fellows & Liu, 2008). In this study, action research is not fit for purpose, as there is not any existing process to improve or change.

4.4.3 Case study

Case studies are an in-depth investigation of certain circumstances within the research area. Case studies basically involve the intensive and detailed analysis of a particular case, and are focused on all the unique nature and complexity of the investigated cases (Naoum, 2002). Case studies are often descriptive in their nature. They come in several forms such as observations and video material, interview notes, records and documents. The process is unlikely to involve experimentation in the normal sense of the term, but it is more likely to creation of hypotheses than testing (McQueen & Knussen, 2002). According to Naoum (2002), there are three kinds of case study designs specifically: analytical, descriptive and explanatory.

The analytical case study share the same principle of the analytical survey which involve relationship, association and counting; the descriptive case study share the same principle of the descriptive survey which involve counting, while the explanatory case study mainly concerned with the theoretical methods to the issue and problem. It attempts to present linkages among the elements of the research study and try to explain causality. In case of having small sample, then the relationship is only able to be discussed intellectually, but if the sample is large enough then the relationship can be examined statically. On the other hand, exploratory case study is used when there is a limited amount of knowledge available to the researcher about the research subject and required a precise and clearer statement of the identified problem (Naoum, 2002).

According to Robson and McCartan (2016), the main disadvantages of the case study approach are:

- No control over confounding variables, making causal inferences impossible;
- The impossibility of testing the hypothesis;
- Additional time taken compared with other research design techniques;
- Difficulty of discussing and arguing for the generalisation of the study from sample to population and from individual to society.

4.4.4 Survey

Surveys are an extensively recognised tool of research design, which consist of producing information from participants through interviews or questionnaires. Surveys could be longitudinal (data collected for a duration of time) or cross-sectional (data collected at one point of time). Research studies using interviews or questionnaires for collection of data with the aim of maximising the representativeness from statistically selected samples of a larger population (Creswell, 2007). Surveys range between unstructured interviews of highly structured questionnaires and the research subject theme must be introduced to the participants no matter which process adopted (Fellows & Liu, 2008).

Surveys consist of two types available specifically analytical and descriptive surveys (Naoum, 2002). The analytical survey intends to generate relationships and associations between the independent to dependent variables of a subject theme. On the other hand, the descriptive survey is concerned with counting the total number of participants sharing certain attitudes and/or opinions with regard to a particular object. Which would therefore be analysed to illustrate or compare trends and reality. Robson and McCartan (2016) propose that there are some significant advantages of survey design, including:

- Minimisation of personal influence;
- The findings are allowed for generalisation especially if the sample is representative of the total population;
- Utilisation of statistical techniques for testing hypotheses from large amount of standardised data; and
- this survey design has numerous techniques of systematic data collection.

4.4.5 Design adopted in this research

In this research study, the preferable choice is a survey because of its potential to collect data from a considerably large number of participants within a short period of time frame. It can include participants from widely dispersed geographical locations and relatively inexpensive compared to the other research designs. Surveys improve the replications and enhance observations reliability due to the nature of sampling procedures and standardised measurement. Moreover, the type of collection of data in survey deals with attitudes and perception of people with should be taken into consideration in depth in this research. They permit generalisation of data to a larger population and allow statistical testing, which keeps them able to be suitable for management research (Oppenheim, 2000).

4.5 Research Process

The previous section discussed the philosophical viewpoint, research strategy and research design. Having adopted a quantitative strategy for the conduct of the research, this section outlines the research processes adopted to meet the objective of the research (see figure 4.1).
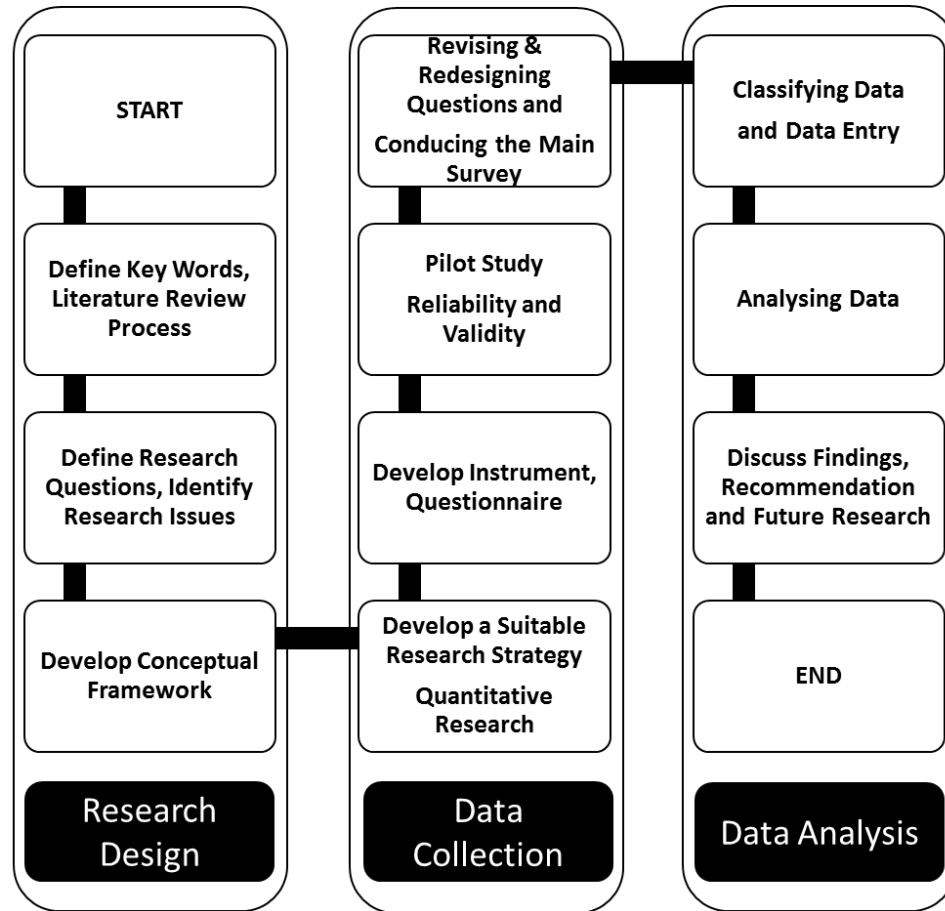
Figure 4.1: Research Process

4.5.1 Time Horizon

There are two types of time horizon used in research studies, cross-sectional and longitudinal study. Cross-sectional time horizon is defined by Fink (2002) as 'a cross sectional design provides a portrait of a group during one time period now or in the past', and it might take weeks to months to be completed depending on the sample size and type of the research. On the other hand, the longitudinal design study is to be conducted over a long-time period and it needs to have premeasured and post measures as it consists repetitive measurement in different time period

(Fitzmaurice et. al, 2004; Mark sanders et. al., 2003). The time horizon used for this research is cross-sectional because of the time constraints this study has to be completed. The study was conducted over a limited time period, commenced October, 2014, and should be submitted at the end of October, 2017. Thus, longitudinal design will not be used in this research, as it consists of repetitive measurement over different time periods, which does not fall within the scope of this study.

4.5.2 Questionnaire Development

The survey is one of the most widely used methods of scientific data gathering. The most used technique for data collection for conducting surveys is the self-administrative questionnaire (Fellow & Liu, 2008; Lenard et al. 1997; Naoum, 2002; McBurney, 1998). The questionnaire is used for both analytical and descriptive surveys with the intention to discover views, opinions and facts to investigate and examine the research subjects. An essential element of developing any questionnaire is to obtain the most possible successful return of the questionnaire to allow a significant analysis to be performed (Abdul-Kadir, 1996). Moreover, it has to show a broad coverage regarding the subject concerned and the questions asked should be based on the literature review (Naoum, 2002).

Based on the literature review reported in Chapter two, national culture dimensions and team performance variables were extracted and their relationship with the project performance were discussed which formed the basis for the questionnaire survey instrument (Appendix 1). The questionnaire was designed based on the literature by adopting some questions from Hofstede (1980; 1991) for national culture theory, Ochieng & Price (2009; 2010) for integration, communication and trust, Kivrak et al. (2014) for knowledge sharing and Ankrah, Proverbs & Debrah (2009) and Atkinson (1999) for project performance. The development of the survey instrument has been based on the relationship and concepts between variables identified by many

authors. Therefore, it was practical to extract the already validated questions to be used in the survey instrument developed in this research. With accordance to the purpose of the study, there was an attempt to construct a questionnaire clear, simple, clear, brief and meaningful in order to overcome ambiguity. The sections of the questionnaire were developed by taking into account the information required relating to the subject areas of the research study.

The questionnaire as the main collection tool for this study was designed to be respondent friendly, to help maximising the response rate. According to Xiao (2002), it is broadly accepted that the response rate is being particularly low in the management researches. It is widely recognised that well prepared questionnaire design is essential for the success of data collection (Babbie, 1990; Fellows & Lui, 2008; Creswell, 2007). Therefore, extensive work was dedicated towards this discipline.

As discussed earlier, the focus of the analysis in this study is the projects. With the purpose of obtaining all the data necessary to address the research hypotheses, participants working on projects with multicultural environment were required. Therefore, the questionnaire was developed and participants were invited to respond to the survey by using their completed project. The reason behind this was to obtain reasonably accurate assessment of the performance of the completed projects they were engaged with. The questionnaire was designed essentially to generate information firstly about the participants' national culture and then about information on team performance and project performance outcomes. Therefore, the relationships between these can be investigated and discovered with the aid of suitable statistical approaches.

The questionnaire is divided into four main sections. The first section deals with the general personal information about the participants including gender, age, sector, job title, experience, experience in multicultural environment and lastly the country of work. The second section deals with one major issue: national culture. The questions in this section were developed to represent five main dimensions of national culture, namely power distance, individualism vs collectivism,

uncertainty avoidance, masculinity vs femininity and lastly long vs short-term orientation. The third section consists of four main sub-sections: integration, communication, trust and knowledge sharing. These four sub-sections questions are meant to represent the mediation of the framework as discussed before which is the team performance. Lastly, the forth section asked for some details about the project performance with some concentration on the three essential project performance measure which are cost, time and quality. Prior to data collection process, the guidelines and procedures provided by the University's Code of Research Ethics are considered and followed in the questionnaire development stage. The Research Ethics Committee approval was obtained on 14 July 2016.

4.5.3 Pilot Study

One of the significant step to determine content validity of any survey instrument is pilot testing (Creswell, 2007). According to Sapsford and Jupp (2006), pilot testing is considered as a pre-test and a small-scale trail for the main survey instrument and need to be performed on a sample that share the same characteristics with the final population on which the questionnaire would be applied. Another crucial reason of pilot testing is the refinement process that the questionnaire will go through which will lead to elimination of the difficulties if any, for the participants, while answering the questionnaire (Saunders et al. 2009). As an optimum sample size for a pilot study, Zikmund (2003) suggests that from 25 to 50 participants is acceptable. Bell and Steel (2005) suggest that the purpose of the use of pilot survey is to:

1. Determine the clearness of the questionnaire instructions.
2. Discover the ambiguousness of the questions if any.
3. Get feedback from the participants about difficulty of answering the questions, if any.
4. Assess whether the layout was attractive and clear.
5. Examine how long it takes from the participant to answer the questionnaire.

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6. Identify whether there were any important subject omissions from the opinion of the participants.

7. Obtain any other comments proposed by the participants.

The pilot study in this research was conducted to a about 50 people who are working in projects within multicultural environment in GCC countries. Of 50 questionnaires sent out, 40 valid responses were received – an 80% response rate. In each one of the projects that were targeted the majority of the respondents were project engineer and project manager (see table 4.1). No questionnaire was sent to a position lower than supervisor in this study. The pilot study survey was administrated in GCC countries during the month of July 2016 over a period of one month. after refining the received responses, reliability and validly tests were performed. In accordance to the feedbacks and responses received from the participants from different project sector and different position (see Table 4.2 and Table 4.3), some minimal modifications were conducted on the questionnaire. The detailed reliability and validity test analysis of the collected data from the pilot study survey are presented in next chapter.

Table 4.1: Job Title of Pilot Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Project director	1	2.5	2.5	2.5
	Project Manager	7	17.5	17.5	20.0
	Project Planner	2	5.0	5.0	25.0
	Project Engineer	24	60.0	60.0	85.0
	Civil supervisor	2	5.0	5.0	90.0
	Assistant professor	2	5.0	5.0	95.0
	Design Engineer	1	2.5	2.5	97.5
	Project Coordinator	1	2.5	2.5	100.0
	Total	40	100.0	100.0	

Table 4.2: Nationality of Pilot Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bahrain	10	25.0	25.0	25.0
	Saudi Arabia	6	15.0	15.0	40.0
	UK	1	2.5	2.5	42.5
	Philippines	6	15.0	15.0	57.5
	India	2	5.0	5.0	62.5
	Bangladesh	6	15.0	15.0	77.5
	Nepal	8	20.0	20.0	97.5
	Pakistan	1	2.5	2.5	100.0
	Total	40	100.0	100.0	

Table 4.3: Sector of Pilot Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Construction	29	72.5	72.5	72.5
	Manufacturing	4	10.0	10.0	82.5
	IT	1	2.5	2.5	85.0
	Engineering	3	7.5	7.5	92.5
	Academia	2	5.0	5.0	97.5
	Oil & Gas	1	2.5	2.5	100.0
	Total	40	100.0	100.0	

4.5.4 Sampling Technique employed

Sampling is defined as the process of selecting an appropriate number of elements from the entire population (Easterby et al, 2003), which therefore can be used to get some understanding of the attribute or feature of the whole population. Williman (2005) suggests that sampling is a way of

selecting people from a particular group (population). This selection is important because interviewing every person in a large population is very difficult, so a sample is selected to represent the whole population. The sample size of the selected population is the main feature that measures the accuracy and the variability of the findings.

There are three main types of sampling techniques widely used in research defined by Gill and Johnson (2002): 'probability or random sampling', 'simple random' and 'stratified sampling'. The decision for the selection which type of sampling techniques to be used in the research is dependent upon ensuring that the participants are a true representative of the research population so that the research findings can be generalised with confidence to that target population. Random sampling involves selecting a list of population members from which a random sample could be taken. It is important to mention that any systematic discrepancy between the sampling frame and the research population could raise problems and could be a key source of error because it could show that the whole target population is inappropriately represented. According to Oppenheim (2003), simple random sampling can be employed when the population is accessible and a good sampling technique is in place. This includes selecting participants from the target population completely random so that each participant could have an equal opportunity of being selected for the sample. Another type of sampling technique explored is the stratified sampling. In this sampling technique, the researcher should be aware of the structure of the population from which a random sample is to be taken. For instance, the researcher would have the knowledge that there could be some specific characteristics such as gender or colour which will make the random sampling from within the sub-group that shows this specific characteristic necessary to draw a proper conclusion in case the sample is to be representative. This technique is particularly important when a researcher needs to know the characteristics of the population that could have a systematic impact upon any important factors or the dependent variable. In this research, the concentration was on eliciting information from a different set of project directors, project managers, engineers and supervisors in a cross-section of multicultural projects managed.

According to Oppenheim (2003), to ensure obtaining reliable, unambiguous and accurate conclusions, the population must be clearly defined so that research conclusions could only be properly applied to the target population. Considering the above discussion, this research adopted a simple random sampling to make sure each participant had an equal chance of being selected from the population.

4.5.4.1 Location of sample

The massive oil and gas reserves of the Gulf Cooperation Council (GCC) countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) have kept these countries among the wealthiest countries in the world. The commencement of oil production in the 1940s activated rapid economical, financial and social transformations in GCC countries. In their effort to develop and modernise their countries and create the base of superior civil societies, the GCC countries from the 1950s on, built modern hospitals, educational institutions, and roads by using concrete technology and employing expats (Abdalla & Al Homoud, 2001). There were fast transformations in the political and economic structures of these states after oil production. This and the continuing growth in the GCC countries (Ellaboudy, 2010) contribute to the high importance of project management in the GCC countries.

Project execution engages project parties from diverse cultural backgrounds. This is especially valid for substantial projects in the GCC countries and has a significant collision on project management in that region (Jaeger & Adair, 2013). Most project managers working in various industries in GCC countries have business interactions and communications with professionals from diverse backgrounds and different national cultures, which often enhance ethical variety and increase the cultural diversity within the project organisation, and thus produce new managerial difficulties. Delivering projects, from creation to handover, demands diverse teams of experts who

combine hard work with considerable responsible commitment to attain the project goals (Walker, 2002).

Due to the lack of both skilled and unskilled manpower in the GCC countries' local market, almost all rely intensely upon expat manpower, in both the oil and gas industries and the construction industry (Wilkins, 2001). For instance, Abed et al. (1996) estimate that expats in United Arab Emirates (UAE) account around 90 per cent of the labour force. According to Hofstede's (1984) review, the GCC countries share many cultural characteristics, findings recently reaffirmed by Kartam et al. (2000) and Ellaboudy (2010). None the less, little research has been conducted regarding organisation and project culture in Middle East countries in general and the GCC in particular (Dedoussis, 2004; Javidan et al., 2006).

Given the sample to be drawn from the population for this research is top and middle management including managers, engineers, supervisors and anyone who is involved in projects, it was important to approach individuals who have worked in project within multicultural environment. The main technique used for determining potential information sources was the researcher's network on connections in the project management area. None of the project directors and managers contacted in the GCC countries refused to participate in the research study.

4.5.4.2 Sample size

In order to avoid sampling bias or errors and ensure that a simple random sample can be generalised, an adequate sample size needs to be obtained (Gill & Johnson, 2002). The number of participants included in the sample depends on a number of issues. However, the sample size must always be chosen in accordance with the complexity of the population, the purpose of the research and the types of statistical manipulation that will be employed in data analyses. According to Brewerton and Millward (2001) and Gill and Johnson (2002), while larger sample sizes minimise

the sampling error, it does not decrease proportionally with the number of participants. Various statistical formulas can be used in determining the sample. Nonetheless, simplicity of reading the tables created to calculate the sample size is the most important aspect in the quantitative data analysis. Moreover, the magnitude of acceptable error, the population variance and the type of analysis to be employed should all be taken into consideration. The selection of the simple random sampling technique suggests that a required sample size to be obtained to allow generalisation to the target population. According to Sekaran (2003), obtaining an appropriate sample size is one of the most important aspects when the study aim is yield generalisable findings. Moreover, numerous researchers have proposed sample size preferences as a rule of thumb, some of which are shown in Table 4.4.

Table 4.4: Sample size requirements

Researcher/s	Size of Population	Sample size	Remarks
Comrey and Lee (1992)	0-100	100%	10% of large populations and 20% of small populations as minimums
	101-1,000	10%	
	1,001-5,000	5%	
	5,001-10,000	3%	
	10,000+	1%	
Gay (1987)	-	Size: 100	Poor
		Size: 200	Fair
		Size: 300	Good
		Size: 500	Very good
		Size: 1000	Excellent
Roscoe (1975)	-	Size: 30-500	For most research
		Size: Minimum 30	For sub-samples
		Preferably 10 times or more in comparison to the number of variables in the study	Applicable to multivariate research

There are numerous formulae for calculating the sample size with respect to the target population, which are deemed applicable only when the population size is below 5,000 (UNFCCC/CCNUCC, 2012). This argument is guided by the premise that there would be only a minimal difference between the exact calculation obtained from one of the formulae and the approximation introduced by the rule of thumb figures (UNFCCC/CCNUCC, 2012). Therefore, for this research, as the population size was estimated at about 10,000 projects from different industries spread over all the GCC countries, the sample size figure would be 300 individuals representing different projects. This number is supported by the information provided in Table 4.4 as it shows this sample size is considered appropriate for most research purposes.

Sampling method is another essential feature of any research. According to Saunders et al. (2009), probability and non-probability are the most common sampling methods. The probability sampling method is also known as representative sampling, indicating that the chosen sample fully reflects the characteristics of the population from which it is drawn. Probability sampling method is the most frequently used in the survey research. On the other hand, the non-probability sampling method, also known as non-random sampling which requires the judgment of the researcher in the selection of participants for inclusion in the sample. Case study is a clear example of where the non-probability sampling method is used, where a small portion from the whole sample is selected to develop an in-depth research study (Saunders et al. 2009). In the present study, a probability-sampling method was adopted, even though the data was gathered through a survey, as the sample included a significant number of managers, engineers, and supervisors (or any other team members at top and middle management levels) involved in the multicultural projects. In addition to the sample size determination and sample selection, it was essential that the sample was representative of the entire population, which was ensured by collecting data on different projects and different industries, and by working in different GCC countries, while surveying participants with similar characteristics holding similar positions.

4.5.4.3 Data Collection

According to Sapsford and Jupp (2006), in most research studies, both primary and secondary data is used. Primary data pertain to new information collected specifically for the research study, whereas secondary data comprise of extant information, usually sourced from pertinent literature. Secondary data is obtained and analysed to facilitate the current research and support its findings (Saunders et al., 2009). In the present study, primary data was collected through using a data collection instrument developed specifically for this research.

The target population for the present investigation comprised of projects as a part of which individuals from different cultural backgrounds across the GCC countries worked together. The required data was collected via web-based survey instrument, the links to which were also provided via email and various social media applications. The target sample size for this research was 300 individuals representing different projects. All approached individuals from different projects and industries were randomly selected. Through this process, 329 valid responses were received and were used in analyses.

The total valid number of responses collected was 329. The data was collected between September and December 2016. The details of the responses received is provided and discussed in the next Chapter 5. The response rate of 329 was considered appropriate and can enable the researcher to achieve the aim and objectives of this research. After data collection, the next section discusses the data analysis features in depth and more detail.

4.6 Summary

This chapter presents the methodology of this research. It consists from several sections beginning with the philosophical position of this research and discusses the available research strategies. It

shows the strategy and the research design adopted in this research. Lastly, it presents the research process including the time horizon, questionnaire development, pilot study and sampling technique employed in this research.

Chapter 5

ANALYSIS & FINDINGS

5.1 Introduction

This chapter presents the results and findings obtained from the data collection process, which is related to the research objectives. It consists of two main sections, preliminary analysis and main analysis. The first section presents the descriptive statistics and the preliminary analysis of reliability and validity. The second presents the main model analysis, including the model fit, and lastly the path analysis.

5.2 Section A: Preliminary Analysis

5.2.1 Descriptive statistics

The research on the relationship between multicultural teams and project performance was conducted on a sample of 329 participants from different projects spread over all the GCC countries, namely Bahrain, Saudi, Kuwait, UAE, Qatar and Oman. Project members at levels varying between project directors and supervisors were approached and given a survey questionnaire that produced data that was utilised to measure the latent variables.

5.2.2 Gender

The number of participants in the research questionnaire was 329 and they were mainly males with a total value of 92.1%; females were 7.9% of the total respondents (see Table 5.1 below). In this research, it is assumed that performance is not influenced by gender and it is characterised as constant.

Table 5.1: Gender

		Frequency	Valid Percent	Cumulative Percent
	Male	303	92.1	92.1
Valid	Female	26	7.9	100.0
	Total	329	100.0	

5.2.3 Age

The response from the survey questionnaire revealed that the respondents belonged to a different age groups, with the majority in the age group 30 to 34 years, which represents about 30% of the total response (see Table 5.2). The second largest age group was from 25 to 29 years, representing 21% of the total response. While the participants belonging to other age groups were fewer, overall there was a variety of age groups working in multicultural teams. However, age as a variable is not considered to influence the performance as the age range of the participants is seen to vary extensively between 25 to 49 years. It is therefore assumed that performance is not influenced by the age as a variable, so age is treated as a constant.

Table 5.2: Age of respondents

	Years	Frequency	Valid Percent	Cumulative Percent
	20-24	14	4.3	4.3
	25-29	69	21.0	25.2
	30-34	97	29.5	54.7
	35-39	60	18.2	72.9
Valid	40-49	52	15.8	88.8
	50-59	31	9.4	98.2
	60-above	6	1.8	100.0
	Total	329	100.0	

5.2.4 Sector

The response from the survey questionnaire revealed that the respondents belonged to different sectors. with the majority belonging to construction, which represented about 54.1% of the total response (see Table 5.3). The second largest sector was IT, followed closely by manufacturing, with a total value of 17.9 and 12.8 respectively. While fewer participants belonged to other sectors, a variety of different sectors were represented among participants working in multicultural teams. Thus, sector is considered as a variable that may influence performance. Therefore, it is assumed that performance is influenced by the sector, so it is treated as a control variable.

Table 5.3: Sector

		Frequency	Valid Percent	Cumulative Percent
	Construction	178	54.1	54.1
Valid	Manufacturing	42	12.8	66.9
	IT	59	17.9	84.8

	Frequency	Valid Percent	Cumulative Percent
Engineering	21	6.4	91.2
Academia	13	4.0	95.1
Oil & Gas	16	4.9	100.0
Total	329	100.0	

5.2.5 Position held by the respondent in the project

Table 5.4 shows that most of the participants who responded in the survey questionnaire were in the category Project Engineers, with a total value of 33.4%, which represents 110 participants, followed closely by the Project Manager category, with a total value of 31%, which represents 102 participants. While respondents belonging to the other job categories were fewer, overall there was a spread amongst different job categories. Job category therefore is not considered as a variable which can affect the performance, and thus can be treated as constant in this research.

Table 5.4: Job title

		Frequency	Valid Percent	Cumulative Percent
Valid	Project director	35	10.6	10.6
	Project Manager	102	31.0	41.6
	Project Planner	10	3.0	44.7
	Project Engineer	110	33.4	78.1
	Supervisor	25	7.6	85.7
	Assistant professor	9	2.7	88.4
	Design Engineer	6	1.8	90.3
	Project Coordinator	32	9.7	100.0
	Total	329	100.0	

5.2.6 Experience

Table 5.5 shows the years of experience for the participants, and Table 5.6 shows the level of experience in a multicultural environment. From both tables, it can be seen that the range of experience of the respondents in both their work and the multicultural environment is widespread, meaning that the participants' experience ranges from a minimum of less than a year to more than 20 years. Therefore, the data collected from the participants show variety with regard to the years of experience the participants have. Thus, it is assumed in this research study that the responses collected are free from the influence of years of experience as a variable.

Table 5.5: Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 1	21	6.4	6.4	6.4
	1-5	79	24.0	24.0	30.4
	6-10	104	31.6	31.6	62.0
	11-15	63	19.1	19.1	81.2
	16-20	24	7.3	7.3	88.4
	> 20	38	11.6	11.6	100.0
	Total	329	100.0	100.0	

Table 5.6: Multicultural experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 1	41	12.5	12.5	12.5
	1-5	96	29.2	29.2	41.6
	6-10	108	32.8	32.8	74.5
	11-15	41	12.5	12.5	86.9

16-20	19	5.8	5.8	92.7
> 20	24	7.3	7.3	100.0
Total	329	100.0	100.0	

5.2.7 Level of education

The minimum level of education of the targeted respondents was a diploma certificate. Thus, the respondents all have a higher qualification background. The responses received from such groups provide a strength of the research study, as it is anticipated that the respondents have understood the survey questions well before answering the questionnaire, as well as having the experience necessary to give their answers. Therefore, it is reasonable to assume that the level of education is not a variable that determines the project performance process, and it is considered as a constant.

5.2.8 Country of work

The data related to the country of working were collected; the aim was to approach participants who work across the GCC countries as these countries share the same multicultural environment in project execution. Table 5.7 below shows the country of work of the respondents who participated in this research study, with the majority (about 71.7% of the total) working in Bahrain. Although data on the place of work were collected through the survey questionnaire, because the GCC countries share the same cultural environment, it is assumed that performance in not affected by the country of work as a variable.

Table 5.7: Country of work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bahrain	236	71.7	71.7	71.7
	Saudi Arabia	49	14.9	14.9	86.6
	Qatar	3	.9	.9	87.5
	UAE	15	4.6	4.6	92.1
	Kuwait	3	.9	.9	93.0
	Oman	23	7.0	7.0	100.0
	Total	329	100.0	100.0	

5.2.9 Nationality

The data related to nationality were collected through the survey questionnaire. The aim was to approach participants who work across the GCC countries as these countries share the same multicultural environment in project execution. Table 5.8 below shows the nationality of the respondents who participated in this research study. The majority were from Bahrain, a total value of 30.7%, which represent 101 of the total participants. This was followed by India, with a total value of 19.5%, which represents 64 participants. While respondents belonging to other nationalities were fewer, overall there was a spread amongst different nationalities. Nationality therefore is considered as a variable which can affect performance, and thus can be treated as controlled variable in this research.

Table 5.8: Nationality

		Frequency	Valid Percent	Cumulative Percent
Valid	Bahrain	101	30.7	30.7
	Saudi	44	13.4	44.1
	UAE	1	.3	44.4
	Kuwait	3	.9	45.3
	Oman	20	6.1	51.4
	UK	2	.6	52.0
	Philippines	22	6.7	58.7
	India	64	19.5	78.1
	Bangladesh	21	6.4	84.5
	Nepal	33	10.0	94.5
	Pakistan	7	2.1	96.7
	Egypt	2	.6	97.3
	Canada	2	.6	97.9
	Jordan	2	.6	98.5
	South Africa	1	.3	98.8
	Sri Lanka	1	.3	99.1
	Iraq	1	.3	99.4
	Sudan	1	.3	99.7
	Syria	1	.3	100.0
	Total	329	100.0	

Table 5.9 presents the fact that most of the participants who responded in the survey questionnaire were from the same country of birth, with a total value of 98.5%, which represents 324 respondents of the total. Respondents who held a different nationality at birth were much fewer. Nationality at birth therefore is not considered a variable that can affect performance, and thus it can be treated as constant in this research.

Table 5.9: Nationality if different at birth

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	5	1.5	100.0	100.0
Missing	System	324	98.5		
Total		329	100.0		

5.3 Preliminary analysis of reliability

The internal consistency test using Cronbach's alpha was conducted for all interval scale items used in the survey questionnaire. According to Hills (2005) and Pallant (2011), values of Cronbach's alpha greater than 0.7 are considered good and acceptable. Tabachnick and Fidell (2007) also agree with the other researchers and confirm that to be reliable the scale should be greater than 0.7, while Nunnally (1978) suggests a modest reliability scale for Cronbach's alpha test in the range of 0.50 to 0.60. Based on that, the reliability values using Cronbach's alpha generated by SPSS were tested with reference to the abovementioned values. The values varied from one construct to another, and the highest was for communication, with a value of 0.839, followed by the integration with a value of 0.837. The lowest was for uncertainty avoidance, with a total value of 0.330, which according to the abovementioned values is not acceptable (see Table 5.10). These values were obtained after assessing inter-item and item-to-total correlations as well.

According to Robinson, Shaver and Wrightsman (1991), the inter-item correlation values would be considered acceptable if they exceed 0.3, whereas item-to-total correlation values would be acceptable if they exceed 0.5. Cohen (1988) categorises correlation values into three main categories, which are:

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* Small correlation will be considered if the value is in the range of +/-0.1 to +/-0.29.

* Medium correlation will be considered if the value is in the range of +/-0.3 to +/-0.49.

* Large correlation will be considered if the value is in the range of +/-0.5 to +/-1.

Table 5.10: Summary of reliability values

Srl.	Construct		Cronbach's alpha	Inter-Item Correlation Matrix > 0.3		Item-Total Statistics > 0.5	
				min	max	min	max
1	National Culture	Power Distance	0.690	0.975	0.978	0.526	0.526
		Individualism	0.720	0.300	0.462	0.474	0.543
		Masculinity	0.759	0.322	0.619	0.427	0.640
		Uncertainty Avoidance	0.330	0.219	1	0.219	0.219
		Long-term Ori.	0.590	0.418	0.418	0.418	0.418
		ALL	0.857	0.300	0.619	0.116	0.652
2	Team Performance	Integration	0.837	0.272	0.644	0.479	0.690
		Communication	0.678	-0.009	0.672	0.135	0.569
		Trust	0.691	0.014	0.639	0.262	0.486
		Knowledge Sharing	0.634	-0.001	0.746	0.159	0.611
3	Project Performance	ALL	0.738	0.210	0.517	0.464	0.553

The abovementioned values are used as a reference to measure the internal consistency of the instrument in this research. Table 5.10 above shows the inter-item and item-to-total correlations for all the constructs of this research study after refining and deleting the values not in range. Table 5.11 below shows the questions deleted in order to improve the consistency of the research instrument. As it can be seen after refining and deleting the questions that affect on the reliability of each construct, and to keep a maximum number of questions that represent the highest Cronbach's alpha, the correlation improved. The reason for deleting these questions was based on the judgement of the correlation between questions.

Table 5.11: Question deleted to improve the reliability

Srl.	Const.		Quastions	Cron. Alpha	Question Deleted
1	National Culture	PDI	Q2,7,23,26	0.69	Q23,26
		IDV	Q1,4,6,9	0.72	
		MAS	Q3,5,8,10	0.759	
		UAI	Q15,16,18,20	0.33	Q15,Q16
		LTO	Q24,25,27,28	0.59	Q24,27
		ALL		0.857	Q23,26,15,16,24,25,27,28
2	Team Performance	Integration	T3.1.1--13	0.837	T3.1.1,2,3,4,5,6
		Communication	T3.2.1-- 9	0.830	T3.2.1,2,3,5,9
		Trust	T3.3.1-- 9	0.713	T3.3.1,2,3,5,6,7
		Knowledge Sharing	T3.4.1--13	0.758	T3.4.1,2,6,8,9,10,11,12,13
3	Project Performance	ALL	P4.1,2,3	0.738	P4.3.1

Table 5.12 reveals a comparison between the reliability values (Cronbach's alpha) between the pilot and the main survey. The values for the main survey were found to be better than those obtained during the pilot survey except for uncertainty avoidance, which was 0.33, and trust, which was slightly reduced but still more than 0.7. Therefore, the data collected for this research study can be considered reliable except for the construct uncertainty avoidance, which will not be considered in further analysis. Having lack of reliability of the observed variables could lead to an error in the estimation of the model (Schreiber et al. 2006). The good and acceptable reliability values indicate that questions under that particular construct are correlated and that these questions are independent measures of the same construct, which therefore show the accuracy of the measurement in the survey (Sekaran, 2003).

Table 5.12: Comparison of Cronbach's alpha values between pilot and main survey

Srl.	Construct		Cronbach's alpha	
			Pilot	main
1	National Culture	Power Distance	0.334	0.69
		Individualism	0.419	0.72
		Masculinity	0.713	0.759
		Uncertainty Avoidance	0.509	0.33
		Long-term Ori.	0.273	0.59
		ALL	0.732	0.857
2	Team Performance	Integration	0.791	0.837
		Communication	0.718	0.830
		Trust	0.746	0.713
		Knowledge Sharing	0.639	0.758
3	Project Performance	ALL	0.702	0.738

Although Table 5.10 shows that the internal consistency of some constructs was slightly below the targeted value of the inter-item correlation values of 0.3 and item-to-total correlation values of 0.5 as these items could improve, the questions were not deleted at this stage because this will be based on the researcher judgment and not on the intensive data analysis. More intensive tests such as confirmatory factor analysis were to be performed, so the questions were maintained for further examination.

After assessing the reliability features of the instrument and the data, the next section will examine the validity of the instrument.

5.4 Preliminary analysis of validity

According to Sekaran (2003), there are three main criteria used for data validity in research: content validity, criterion validity and construct validity. In this research study, all of these criteria were utilised to determine the validity of the data.

5.4.1 Content validity

Content validity refers to the extent to which a measure represents all items or questions of a given construct. It can be examined by determining the correspondence between the fundamental process through ratings obtained by experts in the area and the individual items under a construct as well as the pretesting process through the pilot survey (Hair et al., 2010). In this research study, an initial questionnaire was exposed to some experts in the area of the research and slight modification was made before conducting the pilot study survey. Based on the pilot survey, the questions that fall under each variable (construct) were reviewed again and adjustment was made before conducting the main survey. Therefore, content validity was accomplished in this research study.

5.4.2 Convergent validity

The second validity criterion is criterion or convergent validity (Zikmund, 2003). According to Straub et al. (2004), convergent validity is a subtype of construct validity. The convergent validity is established when all the questions or items in the measurement scale is highly correlated with the latent construct it is related to and correlational analysis can be utilised to assess the convergent validity (Gefen & Straub, 2005). High correlations between the items in the construct lead towards better measuring scales of the intended theoretical construct (Hair et al., 2010). However, inter-

item correlations with low values could be maintained for further examination during the SEM analysis and then the decision could be taken. With regard to the inter-item correlations measured for all variables (constructs) in this research study were higher than 0.3 (refer to Table 5.10) except for the constructs Integration which has one with a value of 0.272 and Project Performance with a value of 0.210. The lowest inter-item correlation noted was 0.210 for the project performance. Moreover, the item-to-total correlation for all the variables (constructs) were higher than 0.5 except for some construct which were recording more than 0.4 with the lowest for the Long-Term orientation with a value of 0.418 (see Table 5.10). These low correlations would be investigated further in the SEM analysis in order to take appropriate decisions about them. However, only minor deviations of the correlation values were noticed and it can be deduced that the measuring instrument satisfies the convergent validity criterion.

5.4.3 Discriminant validity

The other criterion for measuring construct validity is discriminant validity (Zikmund, 2003). In general, the validity of a measure relates to its accuracy in representing the variable or construct it is intended to measure (Holmes-Smith et al., 2006). Discriminant validity was tested using Confirmatory Factor Analysis (CFA). In the Section 5.5.3 later in this chapter, a detailed discussion on discriminant validity is presented.

An overview at the discussions above can reveal that the variables or construct observed for this study to develop a framework to achieve the aim and objective of the research can stand the statistical tests analysis of the reliability and validity at the preliminary phase except for some questions (items) that require further detailed investigation which will be accomplished in the next section. Therefore, the presented preliminary analysis provided the basis on which to conduct the intensive statistical analysis that will be provided next in Section B.

5.5 Section B: Main analysis

In the previous section, the significant factors that influence the performance in projects brought out. This section investigates the affect of the national culture dimensions on the team performance variables and whether there is a direct impact on the project performance as well as what are other variables affecting project performance and their related hypotheses.

In order to assess these stated issues, this research framework developed in Chapter 3 was tested. The result of the tests was utilised to modify the framework by examining the model fit through statistical process. It is anticipated that the modified framework together with the interpretations will assist the managers and leaders in projects with multicultural environment to use the framework in their respective projects. Subsequently, the project manager or leader is expected to be in a better position in building their teams from different cultural background.
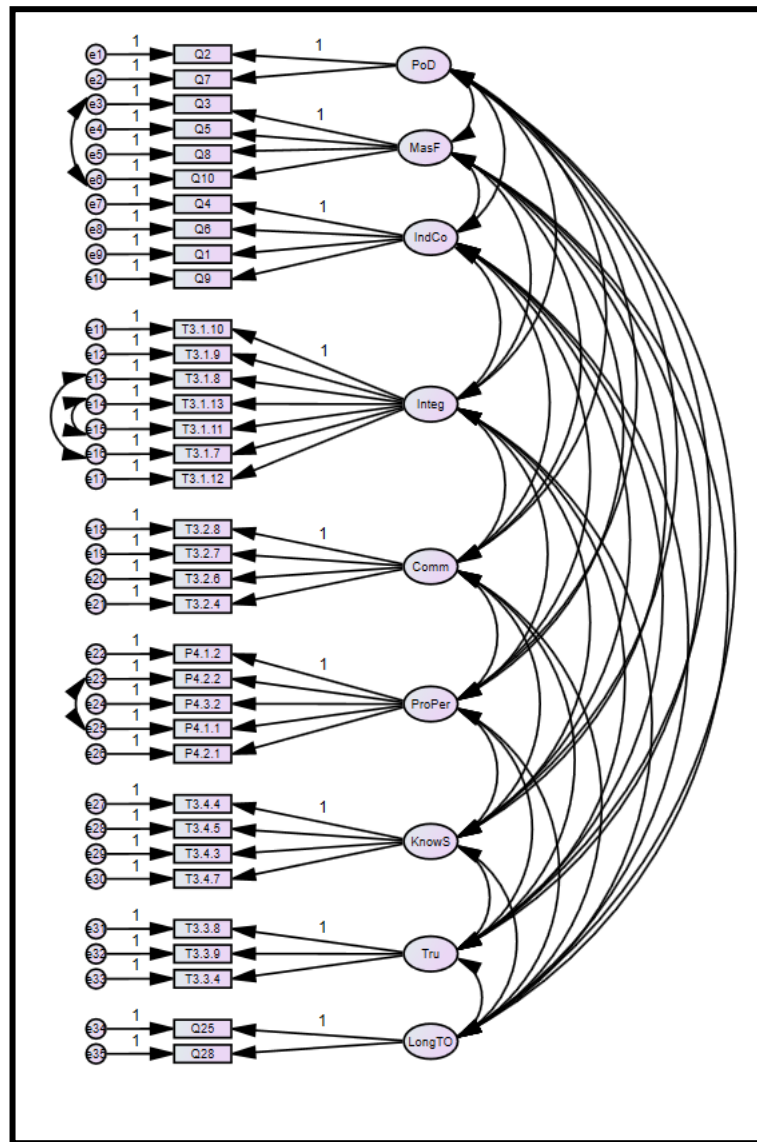
Figure 5.1: Main Framework (Model) Covariance

Figure 5.1 above shows the covariance model that was tested using AMOS. Further examination was performed using the SEM method proposed by Hair et al. (2010).

5.5.1 Constructs of the model

The framework developed in Chapter 3 in this research consisted from nine latent constructs. Four of these were exogenous constructs (variables) and the other five were endogenous constructs. Table 5.13 has a detailed explanation on latent including exogenous and endogenous constructs. Based on the literature review conducted on Chapter two of this research, the exogenous and endogenous constructs were defined. The measuring of each construct was based on a least four questions, but after refining the model some of the items (questions) were deleted to maintain the balance representing the construct. For the current model (framework) the minimum number of items measuring the construct was two, with a maximum of seven. The detailed number of constructs used in this research is shown in Table 5.13.

Table 5.13: Constructs of Research Framework

Construct	Construct Number	Code	Number of Items	Questions (Items)
National Culture	1*	Power Distance (PoD)	2	Q2; Q7
	2*	Individualism (IndCo)	4	Q1; Q4; Q6; Q9
	3*	Masculinity (MasF)	4	Q3; Q5; Q8; Q10
	4*	Long-term Orientation (LongTO)	2	Q25; Q28
Team Performance	5**	Integration (Integ)	7	T3.1. 7--13
	6**	Communication (Comm)	4	T3.2. 4; 6; 7; 8
	7**	Trust (Tru)	3	T3.3. 4; 8; 9
	8**	Knowledge Sharing (KnowS)	4	T3.4. 3; 4; 5; 7
Project Performance	9**	(ProPer)	5	P4.1.1; 2, P4.2.1;2, P4.3.2
* Exogenous Construct ** Endogenous Construct				

A total of 35 items (Questions) were used to measure the nine constructs out of which 12 represented exogenous and 23 represented endogenous while 18 of these endogenous items were used as mediators. Structural Equation Modelling was performed in two stages as suggested by Kline (1998). The initial stage included the assessment of the measurement model to ensure that the exogenous and endogenous construct measures were sufficient. The second stage including testing and assessing the model by structural modelling, which presented the relationships between the constructs.

As stated in the earlier section that Confirmatory Factor Analysis will be used in the data analysis to measure the reliability and validity of the research instrument. The factor analysis can be utilised to discover the small group of factors and also called unobserved variables or latent variables, which can illustrate for the covariance amongst the larger group of observed variables. This method is significant in measuring of the internal consistency and the validity of a group of measures instead of a single variable. Thus, in order to measure the reliability and validity of the common latent constructs, the reliability and validity should be tested gradually by estimating the model parameters, which therefore needed to be analysed and identified (Bollen, 1989). Moreover, it is important to ensure that both the reliability and the validity of the model are valid, as it is possible that the model is reliable but will fail the validity test (Holmes-Smith et al., 2006). Confirmatory Factor Analysis makes it possible to conduct both the reliability and validity test, which fulfil the conditions of the covariance among all the manifest and latent variables. The latent variables in the research relationship model developed in this research have been identified as Power Distance, Individualism, Masculinity, Long-term Orientation, Integration, Communication, Trust, Knowledge Sharing, and Project Performance. Table 5.13 shows the details of each of these constructs and its accounted number of observed variables. In order to confirm that these observed variables are measuring the constructs, it is necessary to assess the latent variables (construct) reliability and validity. In the next subsection, the construct reliability will be measured.

5.5.2 Construct reliability

According to Hair et al. (2010), construct reliability measures the level of variance between the latent construct and the observed variable in which the latent construct can be measured. Having lack of reliability of the observed variables could lead to an error in the estimation of the model (Schreiber et al. 2006). One of the methods used to measure construct reliability is by measuring the Squared Multiple Correlations between the constructs as well as the questions (items). Other ways that could be utilised include composite reliability (CR) and average variance extracted (AVE), inter-item and item-to-total correlations (Jassen et al, 2008). Inter-item and item-to-total correlations have already been examined in the earlier Section 5.2 (Preliminary analysis). In this stage, Squared Multiple Correlation was utilised as a part of Confirmatory Factor Analysis, which is in accordance with Johari et al. (2011). Squared Multiple Correlation (SMC) is defined as the square of the standardised loading of the observed variable on the latent construct. According to Holmes-Smith et al. (2006), the SMC value should not be less than 0.3 while the value exceeding 0.5 is considered good. Table 5.14 below shows that all the SMC values for all the nine latent constructs defined in this study are above the threshold value of 0.3 except for one item under the construct Integration.

Table 5.14: Squared Multiple Correlations

Items	Estimate	Items	Estimate	Items	Estimate	Items	Estimate
Q28	0.498	P4.2.1	0.379	T3.1.12	0.330	Q6	0.523
Q25	0.351	P4.1.1	0.530	T3.1.7	0.390	Q4	0.418
T3.3.4	0.454	P4.3.2	0.301	T3.1.11	0.569	Q10	0.423
T3.3.9	0.481	P4.2.2	0.375	T3.1.13	0.483	Q8	0.303
T3.3.8	0.349	P4.1.2	0.434	T3.1.8	0.388	Q5	0.488
T3.4.7	0.516	T3.2.4	0.500	T3.1.9	0.265	Q3	0.462
T3.4.3	0.315	T3.2.6	0.534	T3.1.10	0.550	Q7	0.550
T3.4.5	0.693	T3.2.7	0.564	Q9	0.394	Q2	0.503
T3.4.4	0.463	T3.2.8	0.613	Q1	0.328		

Only one item in all was observed to have a value less than 0.3 of SMC with reference to the threshold. This item was T3.1.9 (0.265), which is part of the Integration construct. The values of SMC were obtained from AMOS version 23. The item that found less than 0.3 was deleted in order to improve the construct reliability of the constructs.

Table 5.15: Composite Reliability and AVE

Construct	CR	AVE
Individualism vs Col.	0.739	0.416
Integration	0.836	0.425
Masculinity vs Fem.	0.739	0.416
Communication	0.832	0.553
Project Performance	0.769	0.402
Knowledge Sharing	0.785	0.484
Trust	0.691	0.428
Long-term Orie.	0.604	0.424
Power Distance	0.690	0.527

Composite Reliability (CR) was measured for each construct to examine the internal consistency as well as the Average Variance Extracted (AVE), which is the overall amount of variance in the indicators accounted for by the latent construct using the formulas shown below:

$$CR = \frac{\left(\sum_{i=1}^{n} Li\right)^2}{\left(\sum_{i=1}^{n} Li\right)^2 + \left(\sum_{i=1}^{n} ei\right)} \qquad AVE = \frac{\sum_{i=1}^{n} Li^2}{n}$$

Note: 'λ represents factor loadings (standardized regression weights) and *i* represents the total number of items, and δ represents the error variance term for each latent construct'.

Table 5.15 shows the values of the CR and AVE of the main constructs of the model, which is another way to measure the construct reliability in this research. According to Hills (2005), the values of Composite Reliability (CR) greater than 0.7 were considered good whilst Nunnally

(1978) suggests that the modest reliability scale for Cronbach's alpha test is in the range of 0.50 to 0.60. According to Fornell and Larcker (1981), the AVE should be higher than 0.5 but even 0.4 can be accepted if the composite reliability is higher than 0.6. However, Malhotra and Dash (2011) argue that AVE is often too strict, and reliability can be established through Composite Reliability alone. Based on that, the composite reliability values generated by the formula above were tested with reference to the abovementioned values. The values were varying from one construct to another and the highest construct was for Integration with a value of 0.836 and the lowest was the Long vs Short-term Orientation with a value of 0.604. With regard to the Average Variance Extracted (AVE) the values were varying as well from construct to another with the highest value for the Communication with a value of 0.553 and the lowest value was for Project Performance with a total value of 0.402 which means according to the abovementioned values acceptable.

5.5.3 Discriminant validity

The accuracy of a measure plays a crucial role in the validity of the any measure, and it can only be valid if it is truly representing the construct or variable or factor it meant to measure (Holmes-Smith et al., 2006). Specifically, discriminant validity measures difference in a model up to level two, for instance, the level of difference between two constructs in the correlation value and whether this difference is significant (Janssens et al., 2008). According to Holmes-Smith et al. (2006), any correlation between latent variables larger than 0.8 is considered large and indicate deficiency in discriminant validity. In this study, discriminant validity was examined using Confirmatory Factor Analysis (CFA). Discriminant validity can be tested also by comparing the AVE values for any two constructs with the square correlation estimate between these two constructs. When the AVE value is greater than the squared correlation estimates between constructs, the discriminant validity would be significant. Table 5.16 shows the results and highlights a noticeable level of discriminant validity.

Table 5.16: Discriminant Validity Test

	CR	AVE	IndCo	Integ	MasF	Comm	ProPer	KnowS	Tru	LongTO	PoD
IndCo	0.728	0.402	**0.634**								
Integ	0.828	0.411	0.357	**0.641**							
MasF	0.728	0.403	1.075	0.330	**0.635**						
Comm	0.822	0.536	-0.402	-0.598	-0.406	**0.732**					
ProPer	0.762	0.393	-0.034	0.190	0.036	0.022	**0.627**				
KnowS	0.774	0.468	-0.490	-0.587	-0.450	0.704	0.037	**0.684**			
Tru	0.671	0.407	-0.387	-0.533	-0.348	0.805	-0.041	0.714	**0.638**		
LongTO	0.576	0.407	0.435	0.418	0.480	-0.580	0.105	-0.490	-0.486	**0.638**	
PoD	0.683	0.519	0.945	0.309	0.929	-0.394	-0.028	-0.392	-0.390	0.567	**0.720**

Table 5.16 shows clear discriminant validity, with the square root of the AVE for some constructs less than at least one of the absolute value of the correlations with another factor. With regard to the cultural dimensions, there seems to be a discriminant validity issue between Power Distance (PoD), Individualism vs. Collectivism (IndCo) and Masculinity vs. Femininity (MasF). On the other hand, Communication (Comm), Trust (Tru) and Knowledge Sharing (KnowS), which represent the Team Performance construct, have the same issue with the discriminant validity. For instance, the square root of the AVE for Masculinity vs Femininity (0.635) is less than at least one the absolute value of the correlations with another factor, which was with Individualism vs Collectivism (1.075) and Power Distance (0.929). Moreover, the square root of the AVE for Trust (0.638) is less than at least one the absolute value of the correlations with another factor which was with Communication (0.805) and Knowledge Sharing (0.714). According to Holmes-Smith et al. (2006), this indicates deficiency in discriminant validity. However, these items measure theoretically different constructs. Although the dropping of some items did reduce a bit of the correlation between latent factors, but it was not sufficient to eliminate the discriminant validity concerns. The only viable solution seems to be to drop the whole construct that is highly correlated with the other, or model a second-order factor with three first-order factors. Kohring and Matthes (2007) used this technique when evaluating a model of trust in news media.

In this research, it was decided to use the second-order-factor for the three-team performance constructs, which are Communication, Trust and Knowledge Sharing, because as per the literature these three items do influence each other (Wiewiora et al., 2014). On the other hand, of the cultural dimensions that were highly correlated, namely Power Distance, Individualism and Masculinity, it was decided to drop two of these constructs for the first model and then use one of the dropped constructs for a second model, and the same for the third, as these items measure theoretically different constructs. The following subsections thoroughly explain the model analysis for each construct.

5.5.3.1 Power Distance

Figure 5.2: Power Distance CFA Model

Composite Reliability (CR) was measured for each construct to examine the internal consistency as well as the AVE using the formulas mentioned earlier. Table 5.17 shows the values of the CR and AVE of the main constructs of the Power Distance model (Figure 5.2), which is another way to measure the construct reliability in this research. According to Hills (2005), values for Composite Reliability (CR) greater than 0.7 were considered good. According to Fornell and Larcker (1981), the AVE should be higher than 0.5, but even 0.4 can be accepted if the composite reliability is higher than 0.6. Based on that, the composite reliability values generated by the formula above were tested with reference to the abovementioned values. The values were varying from one construct to another and the highest construct was for the newly added second-order-factor which represent Communication, Trust and Knowledge Sharing (KnowS) with a value of 0.876 and the lowest was the Power Distance (PoD) with a value of 0.689. With regard to the Average Variance Extracted (AVE), the values also varied from one construct to another, with the highest value for the newly added second-order-factor that represents Communication, Trust and Knowledge Sharing (KnowS) with a value of 0.701, and the lowest value was for Project Performance (ProPer) with a total value of 0.402, which according to the abovementioned values is acceptable.

Table 5.17: Reliability and Validity Test for Power Distance Model

	CR	AVE	PoD	Integ	ProPer	KnowS
PoD	0.689	0.528	**0.727**			
Integ	0.788	0.483	0.350	**0.695**		
ProPer	0.760	0.402	-0.031	0.202	**0.628**	
KnowS	0.876	0.701	-0.448	-0.681	0.021	**0.837**

According to Holmes-Smith et al. (2006), any correlation between latent variables larger than 0.8 is considered large and indicate deficiency in discriminant validity. In this study, discriminant validity was examined using Confirmatory Factor Analysis (CFA). Discriminant validity tested by comparing the AVE values for any two constructs with the square correlation estimate between

these two constructs. When the AVE value is greater than the squared correlation estimates between constructs, the discriminant validity would be significant. Table 5.17 shows the satisfactory results of discriminant validity of the Power Distance Model (Figure 5.2).

5.5.3.2 Individualism vs Collectivism

Figure 5.3: Individualism vs Collectivism Model
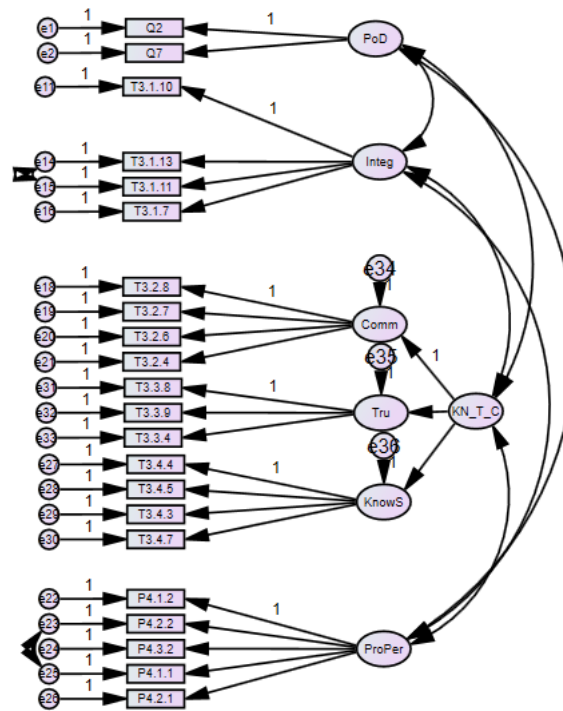
Composite Reliability (CR) was measured for each construct to examine the internal consistency as well as the Average Variance Extracted (AVE), which is the overall amount of variance in the indicators accounted for, by the latent construct using the formulas mentioned earlier. Table 5.18 shows the values of the CR and AVE of the main constructs of the Individualism vs Collectivism Model (Figure 5.3) that is another way to measure the construct reliability in this research. According to Hills (2005), the values of Composite Reliability (CR) greater than 0.7 were considered good. According to Fornell and Larcker (1981), the AVE should be higher than 0.5 but even 0.4 can be accepted if the composite reliability is higher than 0.6. Based on that, the composite reliability values generated by the formula above were tested with reference to the abovementioned values. The values were varying from one construct to another and the highest construct was for the newly added second-order-factor which represent Communication, Trust and Knowledge Sharing (KnowS) with a value of 0.875 and the lowest was the Individualism vs Collectivism (IndCo) with a value of 0.707. With regard to the Average Variance Extracted (AVE) the values were varying as well from construct to another with the highest value for the for the newly added second-order-factor which represent Communication, Trust and Knowledge Sharing (KnowS) with a value of 0.700 and the lowest value was for Project Performance (ProPer) with a total value of 0.402 which means according to the abovementioned values acceptable.

Table 5.18: Reliability and Validity Test for Individualism Model

	CR	AVE	IndCo	Integ	ProPer	KnowS
IndCo	0.707	0.401	**0.615**			
Integ	0.789	0.484	0.399	**0.695**		
ProPer	0.760	0.402	-0.039	0.202	**0.628**	
KnowS	0.875	0.700	-0.534	-0.683	0.021	**0.837**

According to Holmes-Smith et al. (2006), any correlation between latent variables larger than 0.8 is considered large and indicate deficiency in discriminant validity. In this study, discriminant validity was examined using Confirmatory Factor Analysis (CFA). Discriminant validity tested by

comparing the AVE values for any two constructs with the square correlation estimate between these two constructs (see Table 5.18). When the AVE value is greater than the squared correlation estimates between constructs, the discriminant validity would be significant. Table 5.18 shows satisfactory results of discriminant validity of the Individualism vs Collectivism Model (Figure 5.3).
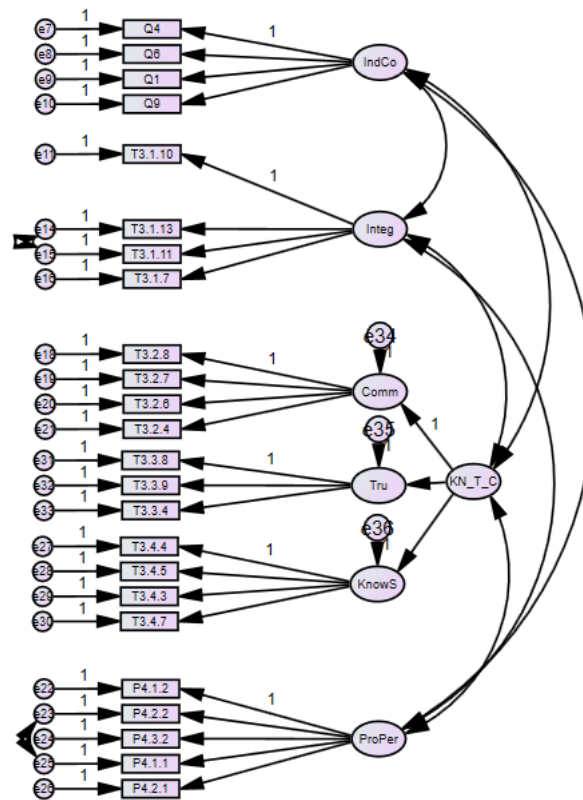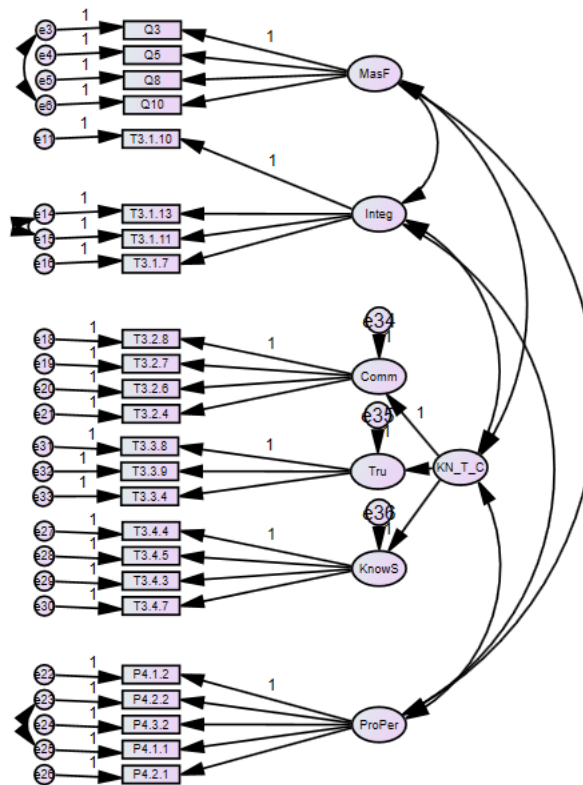
5.5.3.3 Masculinity vs Femininity

Figure 5.4: Masculinity vs Femininity Model

Composite Reliability (CR) was measured for each construct to examine the internal consistency as well as the Average Variance Extracted (AVE), which is the overall amount of variance in the indicators accounted for by the latent construct using the formulas mentioned earlier. Table 5.19 shows the values of the CR and AVE of the main constructs of the Masculinity vs Femininity Model (Figure 5.4) that is another way to measure the construct reliability in this research. According to Hills (2005), the values of Composite Reliability (CR) greater than 0.7 were considered good. According to Fornell & Larcker (1981), the AVE should be higher than 0.5 but even 0.4 can be accepted if the composite reliability is higher than 0.6. Based on that, the composite reliability values generated by the formula above were tested with reference to the abovementioned values. The values were varying from one construct to another and the highest construct was for the newly added second-order-factor which represent Communication, Trust and Knowledge Sharing (KnowS) with a value of 0.875 and the lowest was the Project Performance (ProPer) with a value of 0.761. With regard to the Average Variance Extracted (AVE) the values were varying as well from construct to another with the highest value for the for the newly added second-order-factor which represent Communication, Trust and Knowledge Sharing (KnowS) with a value of 0.700 and the lowest value was for Project Performance (ProPer) with a total value of 0.402 which means according to the abovementioned values acceptable.

Table 5.19: Reliability and Validity Test for Masculinity Model

	CR	AVE	ProPer	Integ	MasF	KnowS
ProPer	0.761	0.402	**0.628**			
Integ	0.789	0.484	0.203	**0.695**		
MasF	0.766	0.526	0.008	0.350	**0.725**	
KnowS	0.875	0.700	0.021	-0.682	-0.468	**0.836**

According to Holmes-Smith et al. (2006), any correlation between latent variables larger than 0.8 is considered large and indicate deficiency in discriminant validity. In this study, discriminant validity was examined using Confirmatory Factor Analysis (CFA). Discriminant validity tested by

comparing the AVE values for any two constructs with the square correlation estimate between these two constructs (see Table 5.19). When the AVE value is greater than the squared correlation estimates between constructs, the discriminant validity would be significant. Table 5.19 shows satisfactory results of discriminant validity of the Individualism vs Collectivism Model (Figure 5.4).

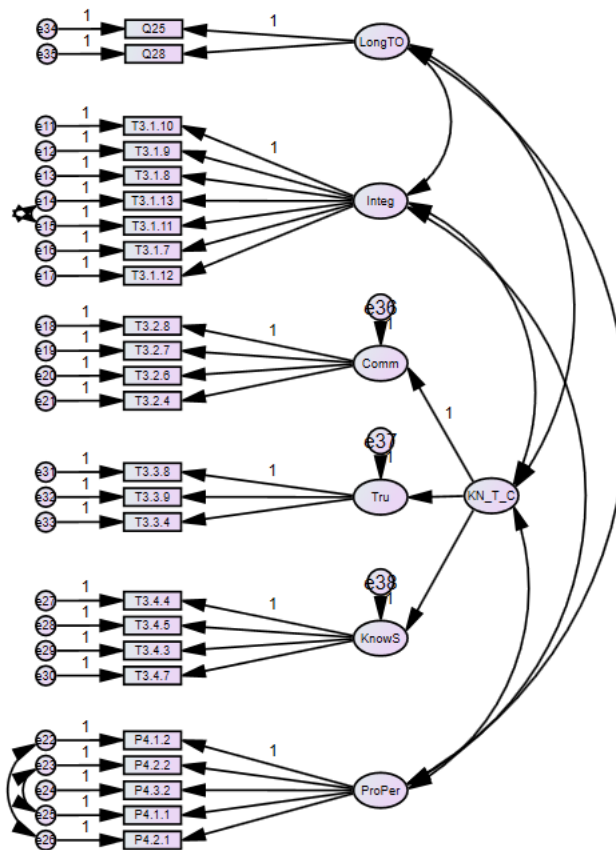### 5.5.3.4 Long vs Short-term Orientation

Figure 5.5: Long vs Short-term Orientation Model

Composite Reliability (CR) was measured for each construct to examine the internal consistency as well as the Average Variance Extracted (AVE), which is the overall amount of variance in the indicators accounted for, by the latent construct using the formulas mentioned earlier. Table 5.20 shows the values of the CR and AVE of the main constructs of the Long vs Short-term Orientation Model (Figure 5.4), which is another way to measure the construct reliability in this research. According to Hills (2005), the values of Composite Reliability (CR) greater than 0.7 were considered good. According to Fornell and Larcker (1981), the AVE should be higher than 0.5 but even 0.4 can be accepted if the composite reliability is higher than 0.6. Based on that, the composite reliability values generated by the formula above were tested with reference to the abovementioned values. The values were varying from one construct to another and the highest construct was for the newly added second-order-factor which represent Communication, Trust and Knowledge Sharing (KnowS) with a value of 0.875 and the lowest was the Long-Term Orientation (LongTO) with a value of 0.605. With regard to the Average Variance Extracted (AVE) the values were varying as well from construct to another with the highest value for the for the newly added second-order-factor which represent Communication, Trust and Knowledge Sharing (KnowS) with a value of 0.700 and the lowest value was for Project Performance (ProPer) with a total value of 0.402 which means according to the abovementioned values acceptable.

Table 5.20: Reliability and Validity Test for Long-term Orientation Model

	CR	AVE	LongTO	Integ	ProPer	KnowS
LongTO	0.605	0.426	**0.653**			
Integ	0.788	0.482	0.468	**0.695**		
ProPer	0.762	0.402	0.101	0.208	**0.627**	
KnowS	0.875	0.700	-0.609	-0.681	0.017	**0.837**

According to Holmes-Smith et al. (2006), any correlation between latent variables larger than 0.8 is considered large and indicate deficiency in discriminant validity. In this study, discriminant validity was examined using Confirmatory Factor Analysis (CFA). Discriminant validity tested by

comparing the AVE values for any two constructs with the square correlation estimate between these two constructs (see Table 5.20). When the AVE value is greater than the squared correlation estimates between constructs, the discriminant validity would be significant. Table 5.20 shows satisfactory results of discriminant validity of the Individualism vs Collectivism Model (Figure 5.5).

5.5.4 Common Method Bias

Common Method Bias takes place when the measurement instrument presents systematic error variance shared among variables measured (Doty & Glick, 1998). It refers to a bias in the data due to something external to the measure such as collecting data by using only one single (common) method. For instance, using an online survey could impose systematic response bias that could either deflate or inflate responses. In addition, if both variables, dependent and independent, are obtained from a single (common) method from the same respondent bias may introduced. A dataset that has significant Common Method Bias means that the majority of the variance could be explained by one factor. There are different methods to test for a common method bias, the best and most current of which is the Zero-Constrained method (Podsakoff et al., 2003). This test work by including Common Latent Factor to the model and conduct a chi-square difference test between the fully constrained to zero model and a model where all paths from the Common Latent Factor are unconstrained. This method examines whether the amount of shared variance among all the items is significantly different from zero and if it is different, it means that the method bias does exist in the measurement instrument. Therefore, the Common Latent Factor should be retained and impute composites from factor scores and move to the structural model and this is the method that this research followed.

5.5.4.1 Power Distance

Figure 5.6: Power Distance Model with CLF

Common Method Bias test was conducted using Amos 23 software (Figure 5.6). The Zero-Constrained method was adopted which compares the unconstrained common method factor to the fully constrained zero constrained common method factor model. The unconstrained model was with a chi-square value of 286.8 and 176 degree of freedom and on the other hand, the fully constrained zero constrained common method factor model was with a chi-square value of 382.2 and 198 degree of freedom. The chi-square test obtained to be significant in (difference in chi-square 95.4 and 22 df). The groups are different at the model level, which means that there is a

significant share variance. Therefore, the Common Latent Factor should be retained and imputed before moving to the structural model.

5.5.4.2 Individualism vs Collectivism
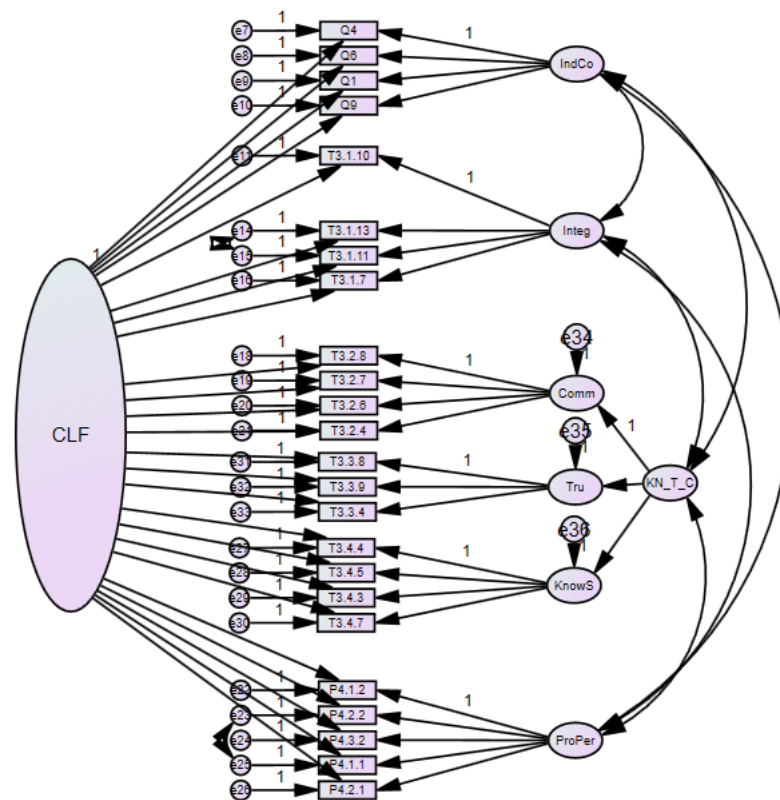
Figure 5.7: Individualism vs Collectivism Model with CLF

Common Method Bias test was conducted using Amos 23 software (Figure 5.7). The Zero-Constrained method was adopted which compares the unconstrained common method factor to the fully constrained zero constrained common method factor model. The unconstrained model was with a chi-square value of 367.7 and 217 degree of freedom and on the other hand, the fully

constrained zero constrained common method factor model was with a chi-square value of 479.6 and 241 degree of freedom. The chi-square test obtained to be significant in (difference in chi-square 111.9 and 24 df). The groups are different at the model level, which means that there is a significant share variance. Therefore, the Common Latent Factor should be retained and imputed before moving to the structural model.

5.5.4.3 Masculinity vs Femininity
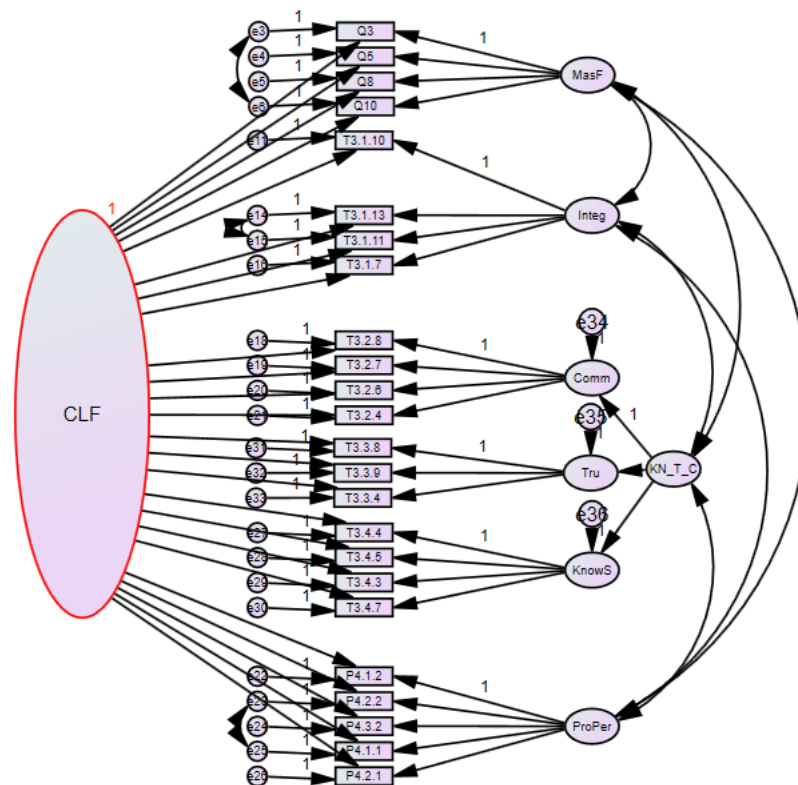
Figure 5.8: Masculinity vs Femininity Model with CLF

Common Method Bias test was conducted using Amos 23 software (Figure 5.8). The Zero-Constrained method was adopted which compares the unconstrained common method factor to the fully constrained zero constrained common method factor model. The unconstrained model was with a chi-square value of 343.6 and 216 degree of freedom and on the other hand, the fully constrained zero constrained common method factor model was with a chi-square value of 445 and 240 degree of freedom. The chi-square test obtained to be significant in (difference in chi-square 101.4 and 24 df). The groups are different at the model level, which means that there is a significant share variance. Therefore, the Common Latent Factor should be retained and imputed before moving to the structural model.

5.5.4.4 Long vs Short-term Orientation
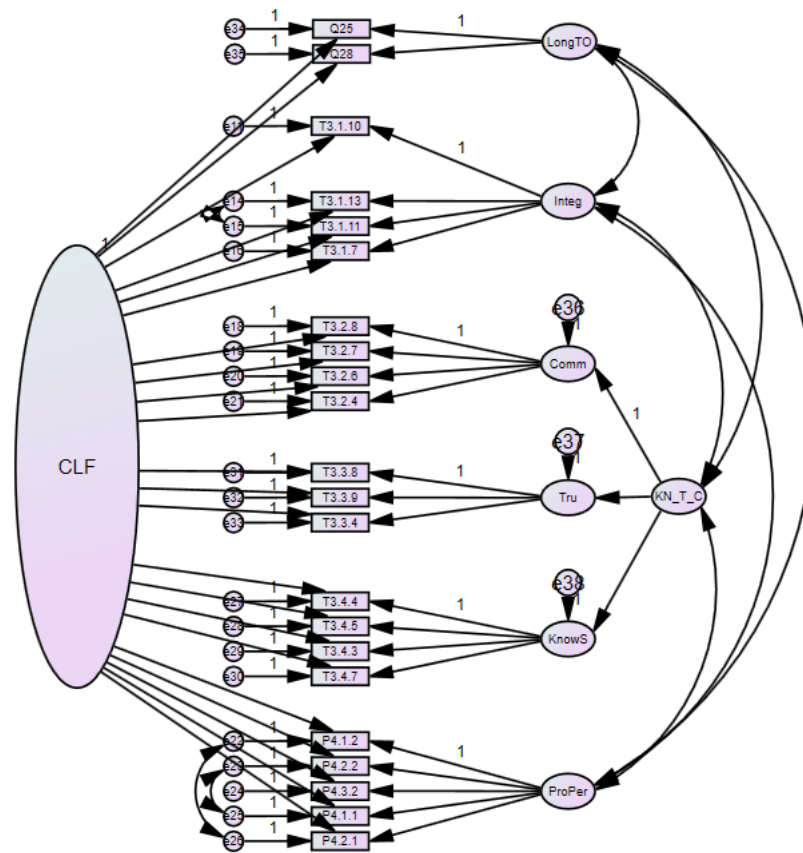
Figure 5.9: Long vs Short-term Orientation Model with CLF
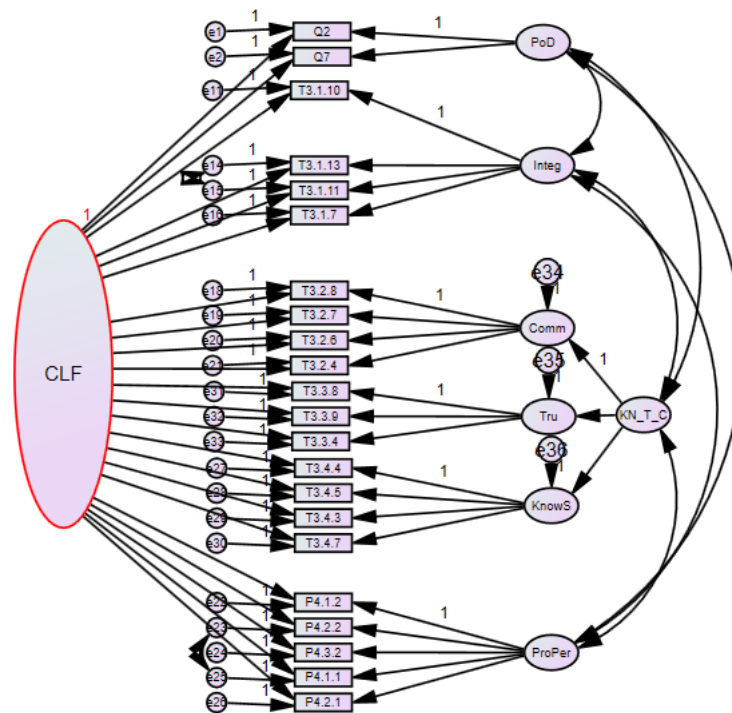
Common Method Bias test was conducted using Amos 23 software (Figure 5.9). The Zero-Constrained method was adopted which compares the unconstrained common method factor to the fully constrained zero constrained common method factor model. The unconstrained model was with a chi-square value of 283.3 and 175 degree of freedom and on the other hand, the fully constrained zero constrained common method factor model was with a chi-square value of 377.8 and 197 degree of freedom. The chi-square test obtained to be significant in (difference in chi-square 94.4 and 22 df). The groups are different at the model level, which means that there is a

significant share variance. Therefore, the Common Latent Factor should be retained and imputed before moving to the structural model.


5.5.5 Model Fit Test of the Covariance Model

According to Papke-Shields and Malhotra (2001), Model Fit is a standard process while conducting Confirmatory Factor Analysis (CFA) in empirical studies related to management studies. It identifies to which level a covariance model fits the sample data. Examining the model fit is a significant method that allows the researchers to specify the final model. However, Schermelleh-Engel et al. (2003) argue that there are no instructions or clear guidelines provided by the researchers in their different studies on what are the least requirements that should be achieved to reach an adequate fit.

Model Fit of any model is generally measured by several tests which include Chi-square ($x2$) prescribed at a particular Degree of Freedom (DF) and p-value not less than 0.05 in order to reject the null hypotheses, CMIN/DF ratio ($x2$) measurement, Root Mean Residual (RMR), Goodness Fit Index (GFI), Adjusted GFI (AGFI), Normed Fit Index (NFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Root Mean Square Error Approximation (RMSEA) and PClose which gives test of 'close fit'. Several indices have been developed to examine the model fit as mentioned above. However, not all of these indices are used or measured by the researchers. The general practice is to have as many indices to fit the model and there is no consensus and general agreement amongst researchers on the number of the indices to be used in a research (Schermelleh-Engel et al., 2003). As per Schermelleh-Engel et al. (2003), many researchers agree and assert that reporting all fit indices should be avoided in a research and they only disagree on which one of these indices requires to be reported in a certain research. With regard to these arguments, this research reports $x2$/df measurement, RMR, SRMR, GFI, AGFI,

NFI, IFI, TLI, CFI, RMSEA and PClose measures. Table 5.21 shows some information about generally measured indices and the proposed values that are used as reference for empirical research.

Table 5.21: Commonly Reported Indices Used to Measure the Model Fit (Arbuckle & Wothke, 1999; Byrne, 2001; Kline, 2005; Schreiber et al. 2006)

Test Statistics	Abbreviation	Critical Value	Interpretation
Chi-squared Tests			
Chi-squared goodness of fit test.	CMIN (x 2)	Chi-squared= n.s.	Good fit to the justified model.
Normal chi-squared test.	CMIN/df	(Chi-squared/df) ≤ 3	Good fit to the justified model.
Test Statistics Using Independence Matrix			
Root mean square residual	RMR	Smaller the better	0 indicates perfect fit
Standard RMR	SRMR	≤ 0.8	Good model fit
Goodness or fit index.	GFI	0.9 < GFI < 1	Good fit to the justified model.
Adjusted goodness of fit index.	AGFI	0.9 < AGFI < 1	Good fit to the justified model.
Standardized root mean squared residual.	SRMR	0 < SRMR < 0.05	Good model fit.
Normed fit Index	NFI	0.9<NFI<1.0	Percent improvement over null model.
Tucker-Lewis Index	TLI	0.9<TLI<1.0	Percent improvement over null model.
Comparative fit Index	CFI	0.9<CFI<1.0	Percent improvement over null model.
Incremental fit Index	IFI	0.9<IFI<1.0	Percent improvement over null model.
Root mean square error of approximation	RMSEA	0 < RMSEA < 0.08	Good model fit.
PClose	PClose	0.05 ≤ Pclose	Close fit

Testing the covariance models created in AMOS given in Figure 5.6, Figure 5.7, Figure 5.8 and Figure 5.9 produced the measures of the model fit indices. A summary of the results for each model is shown in Table 5.22 below. As shown in Table 5.22, for the Power Distance model, out of eleven indices measured, eight indices met the reference values set for this research which are RMR=0.040

close to zero, SRMR=0.045 less than 0.08, GFI=0.925, TLI=0.941, CFI=0.955, IFI=0.956 more than 0.9, RMSEA=0.044 less than 0.08, and Pclose=0.874 more than 0.05 for close fit. While CMIN/DF=1.621 (p-value=0.000) is not found adequate enough to reject the null hypothesis because of p-value being significant at 0.000 which is much lower than the reference value of 0.05, AGFI=0.892 and NFI=0.893 are close to the reference value of 0.9.

For the Individualism vs. Collectivism model, out of eleven indices measured, eight indices met the reference values set for this research which are RMR=0.045 close to zero, SRMR=0.049 less than 0.08, GFI=0.915, TLI=0.927, CFI=0.943, IFI=0.944 more than 0.9, RMSEA=0.046 less than 0.08, and Pclose=0.788 more than 0.05 for close fit. While CMIN/DF=1.691 (p-value=0.000) is not found adequate enough to reject the null hypothesis because of p-value being significant at 0.000 which is much lower than the reference value of 0.05, AGFI=0.883 and NFI=0.874 are close to the reference value of 0.9.

Table 5.22: Model Fit indices for each Research Model

	CMIN/DF	P-value	RMR	SRMR	GFI	AGFI	NFI	TLI	CFI	IFI	RMSEA	Pclose
PDI	1.621	0.000	0.040	0.045	0.925	0.892	0.893	0.941	0.955	0.956	0.044	0.874
IND	1.691	0.000	0.045	0.049	0.915	0.883	0.874	0.927	0.943	0.944	0.046	0.788
MAS	1.667	0.000	0.045	0.050	0.921	0.888	0.886	0.936	0.950	0.951	0.045	0.820
LTO	1.614	0.000	0.040	0.046	0.926	0.894	0.893	0.941	0.956	0.957	0.043	0.882

For the Masculinity vs. Femininity model, out of eleven indices measured, eight indices met the reference values set for this research which are RMR=0.045 close to zero, SRMR=0.050 less than 0.08, GFI=0.921, TLI=0.936, CFI=0.950, IFI=0.951 more than 0.9, RMSEA=0.045 less than 0.08, and Pclose=0.820 more than 0.05 for close fit. While CMIN/DF=1.667 (p-value=0.000) is not found adequate enough to reject the null hypothesis because of p-value being significant at 0.000 which is much lower than the reference value of 0.05, AGFI=0.888 and NFI=0.886 are close to the reference value of 0.9.

For the Long vs. Short-term Orientation model, out of eleven indices measured, eight indices met the reference values set for this research which are RMR=0.040 close to zero, SRMR=0.046 less than 0.08, GFI=0.926, TLI=0.941, CFI=0.956, IFI=0.957 more than 0.9, RMSEA=0.043 less than 0.08, and Pclose=0.882 more than 0.05 for close fit. While CMIN/DF=1.614 (p-value=0.000) is not found adequate enough to reject the null hypothesis because of p-value being significant at 0.000 which is much lower than the reference value of 0.05, AGFI=0.894 and NFI=0.893 are close to the reference value of 0.9.

As shown in Table 5.22, most of the Model Fit indices are within the acceptable reference expect for the CMIN/DF and slightly for AGFI and NFI which is not likely to significantly affect the model. According to Schreiber et al. (2006), researchers prefer to use TLI, CFI, and RMSEA indices for one-time analysis. Taking this into consideration, it can be deduced that the covariance models shown in Figure 5.6, Figure 5.7, Figure 5.8 and Figure 5.9 developed in this research fits the data.

The previous statistical analysis tests have refined the initial model and contributed to determine the optimal number of constructs and appropriate items that measure them. After finishing of these tests, the model was ready to conduct further analysing using Structural Equation Modelling (SEM). According to Abramson et al. (2005), there are two main phases of conducting SEM analysis which lead to specify the final model. They are model estimation (or model analysis) and model fit (or model evaluation). Prior to analysing the research models, the covariance models which are common method bias adjusted were imputed and the initial models are provided in the next subsections.

5.6 Model Analysis

Model analysis includes employing an estimation procedure to assess the research model fit. One of the most widely used estimation techniques in the empirical studies is the Maximum Likelihood (ML) technique for Structural Equation Modelling (SEM) (Kline, 1998). The Maximum Likelihood (ML) technique has the ability to generate a statistically robust analysis even in the situation that the data are uncompleted or has some missing data and even if the data are not normally distributed (Little & Rubin, 1987). As AMOS is the data analysis software deployed in this research which uses Maximum Likelihood (ML) in the model estimation technique, thus in this research the Maximum Likelihood (ML) technique will be used. The next section will give a brief description of the model.

5.7 Relationship between Multicultural Teams and Team Performance Model

The framework or model that will be assessed in this research was developed from a critical overview of the culture and performance literature and Chapter 2 in this research shows the theoretical support produced from the literature review. Moreover, the concepts, theories and models that led to develop the research model were recognised and a conceptual framework was developed which presented the basis to identify the limits of the model. Figure 5.10 shows the framework developed in this study and has been called as the Relationship between Multicultural Team and Project Performance Model.
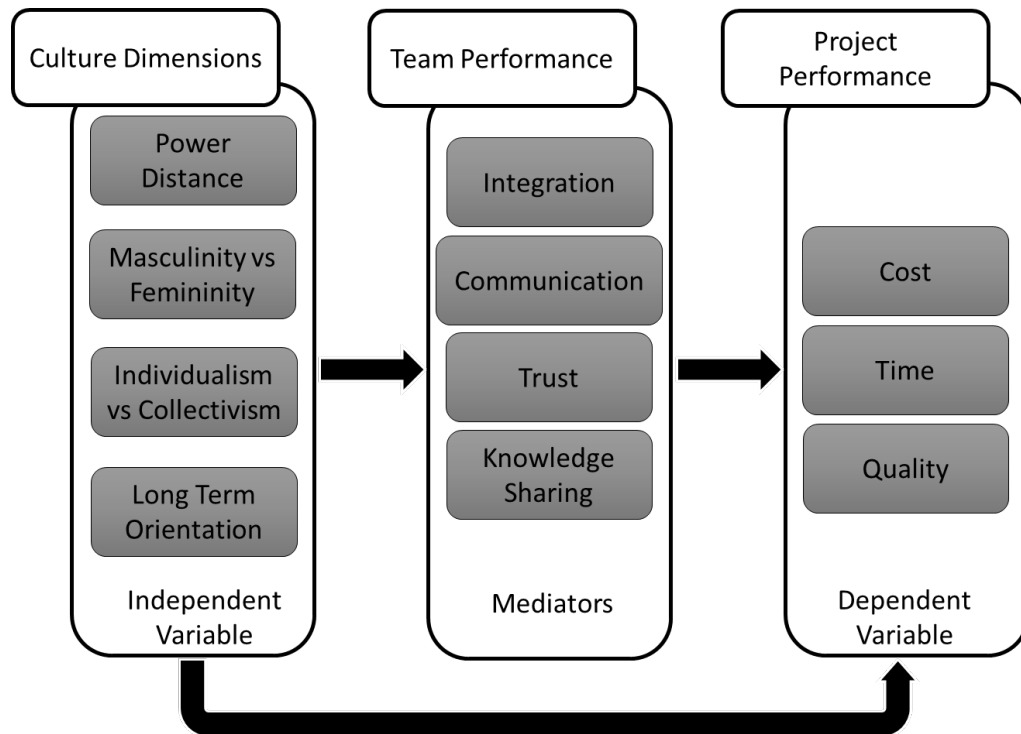
Figure 5.10: The Relationship between Multicultural Team and Project Performance Model

The model in Figure 5.10 presents a set of four latent constructs (exogenous constructs) namely Power Distance (PD), Masculinity vs Femininity (MAS), Individualism vs Collectivism (IND) and Long vs Short-term Orientation (LTO) which have been shown to affect five other latent constructs (endogenous constructs) namely Integration (ING), Commutation (COM), Trust (TR), Knowledge-Sharing (Kn-Sh) and Project Performance (PP). The core concentration was the relationship between the cultural dimensions and the project performance as process output variable, mediated by Integration, Communication, Trust and Knowledge-sharing as the team performance variables. This relationship was examined with regard to the projects with multicultural environment within industries including construction, oil and gas, IT and telecommunication. Therefore, the model shown in Figure 5.10 will be analysed by utilising the data collected for this study with taking into

consideration to the basis of for test in the hypotheses developed for this study (see Table 3.2). The hypotheses theorised in Table 3.2 will be examined as part of the model estimation process (model analysis). Model estimation is a part of the path analysis process of the structural model which is part of the Structural Equation Modelling process (SEM).

5.8 Model Fit

Before getting started with path analysis, model fit should be conducted to assess the identified model (Kline 1998). In this research, AMOS was utilised to examine the model fit. Several researchers (Arbuckle 1999, 2005; Bollen & Long, 1993; Browne & Cudeck, 1993; Byrne, 2001, 2006; Holmes-Smith, 2000; MacCallum, 1990; Mulaik et al. 1989; Steiger, 1990) assert that the assessment of the identified model consist from four main steps which involve examining the measure of parsimony, testing the identified model by making a comparison with the baseline model, assessing the goodness fit of the identified model, assessing the minimum and population discrepancy measure. According to Arbuckle (2005), it should also be taken into consideration that the model evaluation is recognised as an unsettled and difficult issue in Structural Equation Modelling (SEM). However, in this research the above mention steps were used to evaluate the identified model. The next subsection discussing each one of these steps.

5.8.1 Measures of parsimony

One of the main objective of the Structural Equation Modelling (SEM) is to identify a parsimonious summary of the interconnections among the models' variables (Weston & Gore, 2006). However, Preacher et al. (2008) argue that parsimonious models can impact on the goodness fit of the model and might result in lack of goodness fit as well. Mulaik et al. (1989) state that the model can be

achieved by testing how parsimonious a model is with taking into consideration a high goodness fit.

Moreover, Weston & Gore (2006) state that to have more parsimonious model, the degrees of freedom in the model should be greater than the number of parameters in comparison. Therefore, in this study the number of parameters in each model was compared with the degrees of freedom by utilising the report from AMOS. Table 5.23 shows the number of parameters and the degrees of freedom for each identified model in Figure 5.6, Figure 5.7, Figure 5.8 and Figure 5.9 which clearly indicates that there far greater degrees of freedom when compared to the number of parameters. Thus, it is viable to conclude that the model is parsimonious. Nevertheless, the goodness fit of the models still needs to be examined.

Table 5.23: Model Fit Measures

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
PD	77	285.236	176	0	1.621
IND	83	367.050	217	0	1.691
MAS	80	326.726	196	0	1.667
LTO	78	282.511	175	0	1.614

The goodness fit of the identified models in Figure 5.6, Figure 5.7, Figure 5.8 and Figure 5.9 were examined by using the goodness fit indices that was selected in the Section 5.5.5. The reported goodness fit indices by AMOS for the identified models are the default model. However, some of stringent values cited in the literature were not met in the default models. The default model readings for Power Distance model are found to be $\lambda 2/df=1.621$; GFI=0.925; NFI=0.893; IFI=0.956; TLI=0.941 and CFI=0.955. The default model readings for Individualism vs Collectivism model are found to be $\lambda 2/df=1.691$; GFI=0.915; NFI=0.874; IFI=0.944; TLI=0.927 and CFI=0.943. The default model readings for Masculinity vs Femininity model are found to be

$\lambda 2/df=1.667$; GFI=0.921; NFI=0.886; IFI=0.951; TLI=0.936 and CFI=0.950. The default model readings for Long vs Short-term Orientation model are found to be $\lambda 2/df=1.614$; GFI=0.926; NFI=0.893; IFI=0.957; TLI=0.941 and CFI=0.956. Whereas $\lambda 2$ should be $\leqslant 3$; GFI, NFI, IFI, TLI and CFI should be $\geqslant 0.9$. In addition, CMIN value for all the models in this research found to be significant at a p-value <0.05 which indicate that the null hypothesis for each model is rejected and therefore the models are not fit. These indices have been improved by the aid of the modification indices generated by AMOS. According to Schermelleh-Engel et al. (2003), the utilisation of the modification indices to improve the model fit need to be supported by the literature and cannot be generated just for the interest of improving the fit index.

In viewing of the aforementioned justifications on the modification indices, the modification indices suggested by AMOS were examined and some items were freed and Table 5.22 shows the model fit report from AMOS. After examining the modification indices from AMOS, there was some slight improvement in all the fit measures. However, CMIN value was still significant for all the research models with a p-value of 0.000 which is much lower than the reference value of 0.05 which lead to reject the null hypothesis and indicate that the models are not fit. Similarly, GFI, IFI, TLI and CFI values were all above the reference level of 0.9 except for AGFI and NFI which were slightly below the reference level in some of the models (see Table 5.22). Testing of various indices generated by AMOS and shown in Table 5.22 revealed the following: RMR for all the models were close to zero and SRMR values also tested and shown to be about 0.4 for all models which considered to be acceptable and suggests that the default models fit the data (Schermelleh-Engel et al. 2003). AGFI at 0.892 and NFI at 0.893 for Power Distance model, AGFI at 0.883 and NFI at 0.874 for Individualism vs Collectivism model, AGFI at 0.888 and NFI at 0.886 for Masculinity vs Femininity model, AGFI=0.894 and NFI at 0.893 for Long vs Short-term Orientation which were all closer to the reference value of 0.9. According to Long & Perkins (2003), the values greater than 0.9 are considered desirable while values above 0.8 are considered acceptable. The same justification applies to AGFI and NFI. In viewing of the above-mentioned arguments, it can be

concluded that the default models generated by AMOS for PDI, IND, MAS and LTO can be considered to be of acceptable fit to data.

Moreover, RMSEA at 0.044 for Power Distance model, RMSEA at 0.046 for Individualism vs Collectivism model, RMSEA at 0.045 for Masculinity vs Femininity model, RMSEA at 0.043 for Long vs Short-term Orientation which were all less than the reference value of 0.08 for good fit.

Regarding CMIN and $\lambda 2/df$ tests, all the models for $\lambda 2/df$ were found within the reference value which were less than 3 but on the other hand the models is not found fit due to rejection of the null hypothesis as p-value is significant at 0.000. However, considering the values of the other indices such as RMR, SRMR, GFI, TLI, CFI, IFI, RMSEA and Pclose, which are considered to be in the acceptable level (refer to Table 5.21), it is reasonable to conclude that all the models of this research have adequate fit to the data.

After analysing the parsimonious nature of all the models of the research including the Power Distance model, Individualism vs Collectivism model, Masculinity vs Femininity model and Long vs Short-term Orientation model as well as assessing their fit, the refined models were examined for the minimum sample discrepancy function.

5.8.2 CMIN/df Test

The minimum sample discrepancy function test consists of examining whether $\lambda 2/df$ is reaching 1 to test if the model is adequate for the sample size that has been chosen by the researcher. According to Arbuckle (2005), researchers do not specify the level of deviation from 1 that can be regarded as acceptable. Byrne (2006) argues that $\lambda 2/df$ up to 3 can be considered acceptable. However, as $\lambda 2$ is sensitive and dependent on the sample size, some researchers such as Long & Perkins (2003) suggest not do place much concentration on the importance of $\lambda 2$ statistic. Some

researchers such Fabrigar et al. (1999) and Millis et al. (1999) criticise $\lambda 2$ statistic and argue that it is an unrealistic standard. Based on these arguments, Joreskog and Sorbom (1989) propose that instead of $\lambda 2$ statistic, other goodness fit statistic can possibly be used such as GFI in order to determine the minimum sample discrepancy function. Therefore, according to the goodness fit indices stated in Table 5.21, it can be concluded that the minimum sample discrepancy function has been attended and the chosen sample size complies the minimum criteria of statistical analysis.

5.8.3 RMSEA Test

The population discrepancy measure assessment was the other measure of model fit which was examined. According to Kaplan (2000), the population discrepancy measure is a better suitable approach in assessing the model fits rather than examining the null hypotheses (e.g. $\lambda 2$/df test). Moreover, Schermelleh-Engel et al. (2003) state that examining the null hypotheses to confirm the model fit often turn to be incorrect compared to the real-life situations. Also, the possible rejection of the null hypothesis is mostly to be positive especially if the sample size is adequate. Therefore, Browne & Cudeck (1993) propose to use the null hypotheses of close fit instead of the test of exact fit of the model which is based on null hypotheses. Steiger (1990) states that the Root Mean Square Error of Approximation (RMSEA) is a measure that determines the discrepancy that can be produced as a result of the approximation and also provides an approximate fit in the population. Jackson et al. (2009) and Taylor (2008) assert that RMSEA is used to test the model fit and it is regarded as a robust measure of fit compared to the other fit measures. However, RMSEA measures should be used with caution as they are susceptible to confidence intervals. Moreover, researchers consider that confidence intervals are dependent on model complexity and sample size and therefore it is required to be used with caution (Byrne, 2001).

The Values of RMSEA classified by the researchers in testing the model fit as not acceptable if it is > 0.10, as mediocre fit it is in the range of 0.08-0.10, as adequate fit if it is in the range of 0.05-0.08, as good fit if it is $= 0.05$ (Browne & Cudeck, 1993). Taking into consideration the advantages and disadvantages of using RMSEA and the extensive use of RMSEA in research studies, this research tested the RMSEA values for all specified models by using AMOS and found the values to be 0.044 for Power Distance model, 0.046 for Individualism vs Collectivism model, 0.045 for Masculinity vs. Femininity model and 0.043 for Long vs. Short-term model (see Table 5.21). Referring to the above arguments, it can be observed that all RMSEA values for all the models fall within the good fit range. It can therefore be concluded that all the specified models satisfy the model fit requirement in accordance to the population discrepancy measure assessment.

It is important at this point to highlight the significant feature related to the results acquired using a number of the selected test index or statistic. Kline (1998) states that it is possible to arrive to a statistically acceptable model regardless of the test statistic selected as the tests could suggest good fit while it has a poor fit in some of its parts of the model as well as poor predictive power or theoretical value. Thus, reporting as many number of test statistic as possible is commonly practiced in the empirical research as higher number of tests representing better model fit (Kline, 1998). Therefore, in this study, it can be observed that the model has been checked with respect to RMR, SRMR, GFI, AGFI, NFI, TLI, CFI, IFI, RMSEA, Pclose and the outcome of all the models found to adequately fit. Aside from examining the model fit it is important to assess whether the model relationships are as per the expected direction (Bollen & Long, 1993). Therefore, the next section will be dealing with the path analysis of the specified models.

5.9 Path Analysis

According to Byrne (2001), Structural Equation Modelling (SEM) is a collection of statistical techniques that allows a set of hypothesised relationships between a number of variables to be examined, including regression, confirmatory factor analysis, and path analysis. In this section, path analysis was performed by utilising the path coefficients produced by AMOS and examining the statistical significance at a p-value equal or less than 0.05. In the following subsections, the estimate of path coefficients (regression weights) of the various paths in the Power Distance Model, Individualism vs. Collectivism Model, Masculinity vs. Femininity Model, and Long vs. Short-term Model are presented. According to Hair et al. (2010), using the standardised regression weights produced by AMOS is possible to examine the comparative impact of each independent construct on the dependent variable. By the use of the regression weights it can be concluded whether the research hypotheses could be rejected or accepted. The regression weights reference values that were used in this research are in accordance with the suggestions of Kline (1998). Kline (1998) categorises the regression beta weights in the standardised output with total value of 0.1 as having small effects, 0.3 as having moderate effects, and 0.5 as having large effects of the independent construct on the dependent variable.

5.9.1 Power Distance
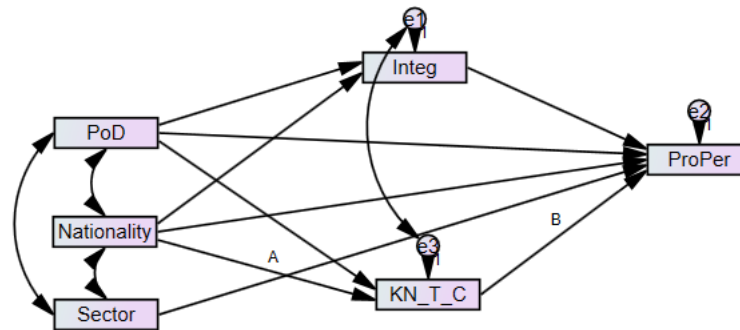
Figure 5.11: Imputed Power Distance Model

In path analysis, the measurement of the significance of the path is assessed by the p-value. If the p-value is equal or less than the 0.05, the path is considered to be statistically significant. Table 5.24 present the p-values of the imputed power distance model (Figure 5.11) which can clearly show that out of nine paths five paths are not found to be significant while the remaining paths are found to be statistically significant. The paths that are not found significant are Integ ← PoD (p-value 0.188), Integ ← Nationality (p-value 0.065), KnowS ← Nationality (p-value 0.298), ProPer ← PoD (p-value 0.256) and ProPer ← Nationality (p-value 0.065). Moreover, the different paths that can be seen in Table 5.24 provide the basis to illustrate the relationship between the PoD (independent variable) and the ProPer (dependent variable). Table 5.24 shows that there are various explanations to the relationships.

Table 5.24: P-Value for Power Distance Model

	Estimate	S.E.	C.R.	P	Label
Integ <--- PoD	.074	.056	1.316	.188	
KnowS <--- PoD	-.200	.032	-6.204	***	A

	Estimate	S.E.	C.R.	P	Label
Integ <--- Nationality	-.015	.008	-1.847	.065	
KnowS <--- Nationality	.005	.005	1.040	.298	
ProPer <--- PoD	-.067	.059	-1.136	.256	
ProPer <--- KnowS	.427	.108	3.969	***	B
ProPer <--- Integ	.370	.062	5.978	***	
ProPer <--- Nationality	-.014	.008	-1.667	.096	
ProPer <--- Sector	.060	.025	2.449	.014	

According to Kline (1998) reference values for the regression weights, the relationships between one of the two constructs in each row in Table 5.24 can be interpret as follows.

With regard to team performance, Power Distance (PoD) of impact has a positive but insignificant relationship with integration (Integ) and the effect of power distance of impact on integration of team performance is small. On the other hand, Power Distance (PoD) of impact has a negative significant relationship with Communication, Trust and Knowledge-sharing (KnowS) and the effect of power distance of impact on Communication, Trust and knowledge-sharing of team performance is small (standardized regression weight for the relationship between power distance and integration is 0.074 and between power distance and Communication, Trust and knowledge-sharing is -0.200 which is within the reference value of 0.1 for small effects). This means that if the scale of impact of the power distance is greater than the extent of integration, communication, trust and knowledge-sharing will be little. This finding supports one part of the hypothesis (H1a) which says that there is a negative relationship between power distance and team performance.

With regard to project performance, Power Distance (PoD) of impact has a negative but insignificant relationship with project performance (ProPer) and the effect of power distance of impact on project performance is small (standardized regression weight for the relationship between power distance and project performance is -0.067 which is less than the reference value of 0.1 for small effects). This means that if the scale of impact of the power distance is great then

the extent of project performance will be quite imprecise and insignificant. This finding does not support the hypothesis (H1b) which says there is a negative significant relationship between power distance and project performance.

With regard to relationship between the team performance and project performance, the variable Integration (Integ) and the other variable Communication, Trust and Knowledge-sharing (KnowS) of impact have a positive relationship with project performance (ProPer) and the effect of integration and Communication, Trust and Knowledge-sharing of impact on project performance is moderate (standardized regression weight for the relationship between Integration (Integ) and project performance is 0.370 and between Communication, Trust and Knowledge-sharing (KnowS) and project performance is 0.427 which is more than the reference value of 0.3 for moderate effects). This means that if the scale of impact of the Integration (Integ) and Communication, Trust and Knowledge-sharing (KnowS) is great then the extent of project performance will be moderate. This finding supports the hypotheses (H6, H7, H8 and H9), which say that there is a positive relationship between Integration Communication, Trust and Knowledge-Sharing, and project performance.

With regard to the control variables, Nationality and Sector were used in the model to determine their relationship with the constructs. Nationality of impact has a negative but insignificant relationship with Integration (Integ) and project performance (ProPer) and positive but insignificant relationship with Communication, Trust and Knowledge-sharing (KnowS). The standardized regression weight for the relationship between nationality and Integration, Communication, Trust and Knowledge-sharing and project performance is -0.015, 0.005 and -0.014 accordingly which are less than the reference value of 0.1 for small effects. This means that if the scale of impact of the nationality is great then the extent of project performance will be quite imprecise and insignificant. On the other hand, Sector of impact has a positive significant relationship with project performance (ProPer) and the effect of sector of impact on project performance is small (standardized regression weight for the relationship between sector and

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project performance is 0.060 which is less than the reference value of 0.1 for small effects). This means that if the scale of impact of the sector is great then the extent of project performance will be little.

After assessing the direct effect of the exogenous constructs on the endogenous constructs using path analysis. User defined estimand was used in AMOS to assess the indirect effect between the exogenous constructs on the endogenous constructs. To estimate the significance of the indirect paths in the model, 2,000 bootstrap samples are generated as a rule recommended by Hair et al., (2014). The results from AMOS show that there was insignificant indirect effect between power distance and project performance mediated by integration with p-value 0.215 and unstandardized indirect effect of 0.027. On the other hand, the communication, trust and knowledge-sharing variable was found to mediate the negative effect between power distance and project performance with highly significant p-value of 0.001 and unstandardised indirect effect of -0.086.

5.9.2 Individualism vs Collectivism
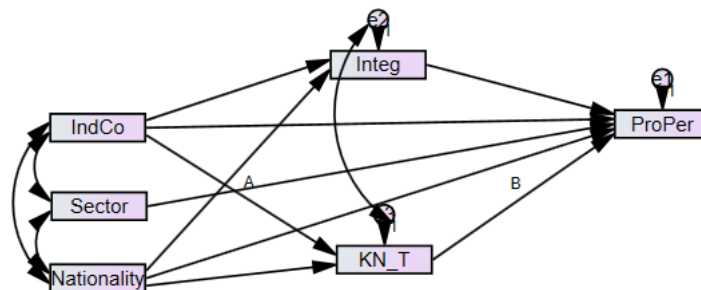
Figure 5.12: Imputed Individualism vs. Collectivism Model

In path analysis, the measurement of the significance of the path is assessed by the p-value. If the p-value is equal or less than the 0.05, the path is considered to be statistically significant. Table

5.25 present the p-values of the imputed Individualism vs. Collectivism model (Figure 5.12) which can clearly show that out of nine paths three paths are not found to be significant while the remaining paths are found to be statistically significant. The paths that are not found significant are KnowS ← Nationality (p-value 0.101), ProPer ← IndCo (p-value 0.205) and ProPer ← Nationality (p-value 0.160). Moreover, the different paths that can be seen in Table 5.25 provide the basis to illustrate the relationship between the IndCo (independent variable) and the ProPer (dependent variable). Table 5.25 shows that there are various explanations to the relationships.

Table 5.25: P-Value for Individualism vs. Collectivism Model

			Estimate	S.E.	C.R.	P	Label
Integ	<---	IndCo	.290	.070	4.134	***	
KnowS	<---	IndCo	-.342	.043	-7.961	***	A
Integ	<---	Nationality	-.019	.008	-2.354	.019	
KnowS	<---	Nationality	.008	.005	1.639	.101	
ProPer	<---	IndCo	-.092	.073	-1.269	.205	
ProPer	<---	Integ	.427	.063	6.805	***	
ProPer	<---	KnowS	.549	.102	5.362	***	B
ProPer	<---	Sector	.057	.024	2.387	.017	
ProPer	<---	Nationality	-.011	.008	-1.406	.160	

According to Kline (1998) reference values for the regression weights, the relationships between one of the two constructs in each row in Table 5.25 can be interpret as follows.

With regard to team performance, Individualism vs. Collectivism (IndCo) of impact has a positive and significant relationship with integration (Integ), and the effect of Individualism vs. Collectivism on the integration of team performance is moderate. On the other hand, Individualism vs. Collectivism (IndCo) of impact has a negative significant relationship with Communication, Trust and Knowledge-sharing (KnowS) and the effect of individualism vs. collectivism of impact on Communication, Trust and knowledge-sharing of team performance is moderate as well

(standardized regression weight for the relationship between Individualism vs. Collectivism and integration is 0.290 and between individualism vs. collectivism and Communication, Trust and knowledge-sharing is -0.342 which is within the reference value of 0.3 for moderate effects). This means that if the scale of impact of the individualism vs. collectivism is great then the extent of integration, communication, trust and knowledge-sharing will be moderate. This finding supports one part of the hypothesis (H2a) which says there is a positive relationship between individualism and team performance.

With regard to project performance, Individualism vs. Collectivism (IndCo) of impact has a negative but insignificant relationship with project performance (ProPer) and the effect of individualism vs. collectivism of impact on project performance is small (standardized regression weight for the relationship between individualism vs. collectivism and project performance is -0.092 which is less than the reference value of 0.1 for small effects). This means that if the scale of impact of the individualism vs. collectivism is great then the extent of project performance will be quite imprecise and insignificant. This finding does not support the hypothesis (H2b) which says there is a positive relationship between individualism and project performance.

With regard to relationship between the team performance and project performance, the variable Integration (Integ) and the variable Communication, Trust and Knowledge-sharing (KnowS) of impact have a positive relationship with project performance (ProPer) and the effect of integration and Communication, Trust and Knowledge-sharing of impact on project performance is moderate and large accordingly (standardized regression weight for the relationship between Integration (Integ) and project performance is 0.427 and between Communication, Trust and Knowledge-sharing (KnowS) and project performance is 0.549 which is more than the reference value of 0.3 for moderate effects and 0.5 for large effects). This means that if the scale of impact of the Integration (Integ) and Communication, Trust and Knowledge-sharing (KnowS) is great then the extent of project performance will be moderate with accordance to integration and large with accordance to Communication, Trust and Knowledge-sharing. This finding again supports the

hypotheses (H6, H7, H8 and H9), which say that there is a positive relationship between Integration Communication, Trust and Knowledge-Sharing and project performance.

With regard to the control variables, Nationality and Sector were used in the model as a control variables to determine their relationship with the constructs. Nationality of impact has a negative but insignificant relationship with Integration (Integ) and project performance (ProPer) and positive but insignificant relationship with Communication, Trust and Knowledge-sharing (KnowS). The standardized regression weight for the relationship between nationality and Integration, Communication, Trust and Knowledge-sharing, and project performance is -0.019, 0.008 and -0.011 accordingly which are less than the reference value of 0.1 for small effects. This means that if the scale of impact of the nationality is great then the extent of project performance will be quite imprecise and insignificant. On the other hand, Sector of impact has a positive significant relationship with project performance (ProPer) and the effect of sector of impact on project performance is small (standardized regression weight for the relationship between sector and project performance is 0.057 which is less than the reference value of 0.1 for small effects). This means that if the scale of impact of the sector is great then the extent of project performance will be little.

After assessing the direct effect of the exogenous constructs on the endogenous constructs using path analysis. User defined estimand was used in AMOS to assess the indirect effect between the exogenous constructs on the endogenous constructs. To estimate the significance of the indirect paths in the model, 2,000 bootstrap samples are generated as a rule recommended by Hair et al., (2014). The results from AMOS show that there was a positive and significant indirect effect between individualism vs. collectivism and project performance mediated by integration with p-value 0.003 and unstandardized indirect effect of 0.124. On the other hand, the Communication, Trust and Knowledge-Sharing variable was found to mediate the negative effect between Individualism vs. Collectivism and project performance, with a highly significant p-value of 0.001 and unstandardised indirect effect of -0.188.

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5.9.3 Masculinity vs Femininity

Figure 5.13: Imputed Masculinity vs. Femininity Model

In path analysis, the measurement of the significance of the path is assessed by the p-value. If the p-value is equal or less than the 0.05, the path is considered to be statistically significant. Table 5.26 present the p-values of the imputed Masculinity vs. Femininity model (Figure 5.13) which can clearly show that out of nine paths three paths are not found to be significant while the remaining paths are found to be statistically significant. The paths that are not found significant are KnowS ← Nationality (p-value 0.309), ProPer ← MasF (p-value 0.575) and ProPer ← Nationality (p-value 0.154). Moreover, the different paths that can be seen in Table 5.26 provide the basis to illustrate the relationship between the MasF (independent variable) and the ProPer (dependent variable). Table 5.26 shows that there are various explanations to the relationships.

Table 5.26: P-Value for Masculinity vs. Femininity Model

	Estimate	S.E.	C.R.	P	Label
Integ <--- MasF	.261	.053	4.961	***	
KnowS <--- MasF	-.310	.038	-8.127	***	A
Integ <--- Nationality	-.016	.007	-2.087	.037	
KnowS <--- Nationality	.006	.005	1.018	.309	
ProPer <--- Integ	.489	.068	7.172	***	
ProPer <--- KnowS	.546	.094	5.808	***	B
ProPer <--- Nationality	-.011	.008	-1.427	.154	
ProPer <--- Sector	.060	.024	2.513	.012	
ProPer <--- MasF	.033	.059	.560	.575	

According to Kline (1998) reference values for the regression weights, the relationships between one of the two constructs in each row in Table 5.26 can be interpret as follows.

With regard to team performance, Masculinity vs. Femininity (MasF) of impact has a positive and significant relationship with integration (Integ) and the effect of masculinity vs. femininity of impact on integration of team performance is small. On the other hand, Masculinity vs. Femininity (MasF) of impact has a negative significant relationship with Communication, Trust and Knowledge-sharing (KnowS) and the effect of masculinity vs. femininity of impact on Communication, Trust and knowledge-sharing of team performance is moderate (standardized regression weight for the relationship between Masculinity vs. Femininity and integration is 0.261 and between masculinity vs. femininity and Communication, Trust and knowledge-sharing is -0.310 which is more than the reference value of 0.1 for small effects and 0.3 for moderate effects). This means that if the scale of impact of the Masculinity vs. Femininity is great then the extent of integration will be small, and for Communication, Trust and Knowledge-Sharing will be moderate. This finding supports one part of the hypothesis (H3a) that says there is a negative relationship between masculinity and project performance.

With regard to project performance, Masculinity vs. Femininity (MasF) of impact has a positive but insignificant relationship with project performance (ProPer) and the effect of masculinity vs. femininity of impact on project performance is small (standardized regression weight for the relationship between masculinity vs. femininity and project performance is 0.033 which is less than the reference value of 0.1 for small effects). This means that if the scale of impact of the masculinity vs. femininity is great then the extent of project performance will be quite imprecise and insignificant. This finding does not support the hypothesis (H3b), which says that there is a negative relationship between masculinity and project performance.

With regard to the relationship between the team performance and project performance, the variable Integration (Integ) and the variable Communication, Trust and Knowledge-sharing (KnowS) of impact have a positive relationship with project performance (ProPer) and the effect of integration and Communication, Trust and Knowledge-sharing of impact on project performance is moderate and large accordingly (standardized regression weight for the relationship between Integration (Integ) and project performance is 0.489 and between Communication, Trust and Knowledge-sharing (KnowS) and project performance is 0.546 which is more than the reference value of 0.3 for moderate effects and 0.5 for large effects). This means that if the scale of impact of the Integration (Integ) and Communication, Trust and Knowledge-sharing (KnowS) is great then the extent of project performance will be moderate with accordance to integration and large with accordance to Communication, Trust and Knowledge-sharing. This finding again supports the hypotheses (H6, H7, H8 and H9) which say that there is a positive relationship between integration Communication, Trust and Knowledge-Sharing and project performance.

With regard to the control variables, Nationality and Sector were used in the model as a control variables to determine their relationship with the constructs. Nationality of impact has a negative and significant relationship with Integration (Integ) and project performance (ProPer) and positive but insignificant relationship with Communication, Trust and Knowledge-sharing (KnowS). The standardised regression weight for the relationship between nationality and Integration,

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Communication, Trust and Knowledge-sharing, and project performance is -0.016, 0.006 and -0.011 accordingly which are less than the reference value of 0.1 for small effects. This means that if the scale of impact of nationality is great, then the extent of communication, trust and knowledge-sharing, and project performance will be quite imprecise and insignificant. On the other hand, the sector of impact has a positive significant relationship with project performance (ProPer) and the effect of sector of impact on project performance is small (standardised regression weight for the relationship between sector and project performance is 0.060 which is less than the reference value of 0.1 for small effects). This means that if the scale of impact of the sector is great then the extent of project performance will be little.

After assessing the direct effect of the exogenous constructs on the endogenous constructs using path analysis. User defined estimand was used in AMOS to assess the indirect effect between the exogenous constructs on the endogenous constructs. To estimate the significance of the indirect paths in the model, 2,000 bootstrap samples are generated as a rule recommended by Hair et al., (2014). The results from AMOS show that there was a positive and significant indirect effect between masculinity vs. femininity and project performance mediated by integration with p-value 0.001 and unstandardized indirect effect of 0.128. On the other hand, the communication, trust and knowledge-sharing variable was found to mediate the negative effect between masculinity vs. femininity and project performance with a highly significant p-value of 0.001 and unstandardised indirect effect of -0.169.

5.9.4 Long vs Short-term Orientation
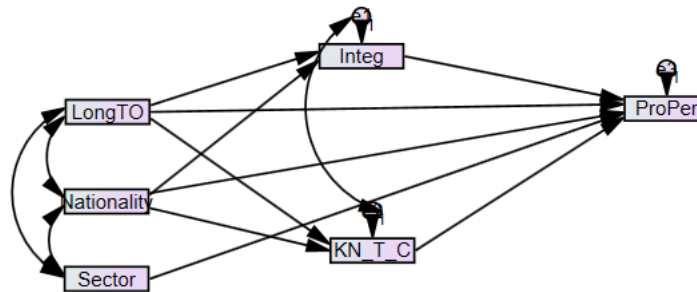
Figure 5.14: Imputed Long vs. Short-term Orientation Model

In path analysis, the measurement of the significance of the path is assessed by the p-value. If the p-value is equal or less than the 0.05, the path is considered to be statistically significant. Table 5.27 present the p-values of the imputed Long vs. Short-term Orientation model (Figure 5.14) which can clearly show that out of nine paths three paths are not found to be significant while the remaining paths are found to be statistically significant. The paths that are not found significant are Integ ← Nationality (p-value 0.435), KnowS ← Nationality (p-value 0.298) and ProPer ← Nationality (p-value 0.319). Moreover, the different paths that can be seen in Table 5.27 provide the basis to illustrate the relationship between the LongTO (independent variable) and the ProPer (dependent variable). Table 5.27 shows that there are various explanations to the relationships.

Table 5.27: P-Value for Long vs. Short-term Orientation model

			Estimate	S.E.	C.R.	P	Label
Integ	<---	LongTO	.592	.107	5.542	***	
KnowS	<---	LongTO	-.727	.063	-11.625	***	A
Integ	<---	Nationality	-.006	.008	-.780	.435	
KnowS	<---	Nationality	-.005	.005	-1.041	.298	
ProPer	<---	LongTO	.402	.131	3.071	.002	

	Estimate	S.E.	C.R.	P	Label
ProPer <--- Integ	.441	.065	6.818	***	
ProPer <--- KnowS	.688	.111	6.224	***	B
ProPer <--- Sector	.065	.025	2.622	.009	
ProPer <--- Nationality	-.008	.008	-.996	.319	

According to Kline (1998) reference values for the regression weights, the relationships between one of the two constructs in each row in Table 5.27 can be interpret as follows.

With regard to team performance, Long vs. Short-Term Orientation (LongTO) of impact has a positive and significant relationship with integration (Integ) and the effect of Long vs. Short-Term Orientation of impact on integration of team performance is large. On the other hand, Long vs. Short-Term Orientation (LongTO) of impact has a negative significant relationship with Communication, Trust and Knowledge-sharing (KnowS) and the effect of Masculinity vs. Femininity on Communication, Trust and knowledge-sharing of team performance is large as well (standardised regression weight for the relationship between Masculinity vs. Femininity and integration is 0.592 and between Masculinity vs. Femininity and Communication, Trust and knowledge-sharing is -0.727 which is more than the reference value of 0.5 for large effects). This means that if the scale of impact of the Masculinity vs. Femininity variable is great, then the extent of integration for Communication, Trust and Knowledge-Sharing will be large. This finding supports one part of the hypothesis (H5a) that says there is a positive relationship between long-term orientation and team performance.

With regard to project performance, Long vs. Short-Term Orientation (LongTO) of impact has a positive and significant relationship with project performance (ProPer) and the effect of Long vs. Short-Term Orientation (LongTO) of impact on project performance is moderate (standardized regression weight for the relationship between long-term orientation and project performance is 0.402 which is more than the reference value of 0.3 for moderate effects). This means that if the

scale of impact of the long-term orientation is great then the extent of project performance will be moderate. This finding supports the hypothesis (H5b) which says there is a positive relationship between long-term orientation and project performance.

With regard to relationship between team performance and project performance, the variable Integration (Integ) and the variable Communication, Trust and Knowledge-sharing (KnowS) of impact have a positive relationship with project performance (ProPer) and the effect of integration and Communication, Trust and Knowledge-sharing of impact on project performance is moderate for both (standardized regression weight for the relationship between Integration (Integ) and project performance is 0.402 and between Communication, Trust and Knowledge-Sharing (KnowS) and project performance is 0.441 which is more than the reference value of 0.3 for moderate effects). This means that if the scale of impact of the Integration (Integ) and Communication, Trust and Knowledge-sharing (KnowS) is great then the extent of project performance will be moderate. This finding again supports the hypotheses (H6, H7, H8 and H9) which say that there is a positive relationship between integration Communication, Trust and Knowledge-sharing and project performance.

With regard to the control variables, Nationality and Sector were used in the model as a control variables to determine their relationship with the constructs. Nationality of impact has a negative but insignificant relationship with Integration (Integ) and project performance (ProPer) and negative but insignificant relationship with Communication, Trust and Knowledge-sharing (KnowS) as well. The standardized regression weight for the relationship between nationality and Integration, Communication, Trust and Knowledge-sharing, and project performance is -0.006, -0.005 and -0.008 accordingly which are less than the reference value of 0.1 for small effects. This means that if the scale of impact of nationality is great than the extent of communication, trust and knowledge sharing, and project performance will be quite imprecise and insignificant. On the other hand, sector of impact has a positive significant relationship with project performance (ProPer) and the effect of sector of impact on project performance is small (standardized regression weight for

the relationship between sector and project performance is 0.065 which is less than the reference value of 0.1 for small effects). This means that if the scale of impact of the sector is great then the extent of project performance will be little.

After assessing the direct effect of the exogenous constructs on the endogenous constructs using path analysis, user defined estimand was used in AMOS to assess the indirect effect between the exogenous constructs on the endogenous constructs. To estimate the significance of the indirect paths in the model, 2,000 bootstrap samples are generated as a rule recommended by Hair et al., (2014). The results from AMOS show that there was a positive and significant indirect effect between long vs. short-term orientation and project performance mediated by integration with p-value 0.001 and unstandardized indirect effect of 0.261. On the other hand, Communication, Trust and Knowledge-Sharing variable was found mediating the negative effect between long vs. short-term orientation and project performance with highly significant p-value of 0.001 and unstandardized indirect effect of -0.500.

5.10 Summary

This chapter shows the results and findings of the research and examine the predefined hypotheses. The analysis was based on the data that was collected from people working within multicultural environment in projects from GCC countries using survey research design. This chapter consists from two main sections which are preliminary analysis and main analysis. The first section presents the descriptive statistics which was based on gender, age, sector, position held by the participant, experience, level of education, country of work and nationality. Then, the preliminary analysis of reliability and validity of the constructs were tested and found to be in acceptable range. The second section presents the main model analysis including the model fit and lastly the path analysis which showed the relationship between the variables.

Chapter 6

DISCUSSION

6.1 Introduction

This chapter contains a discussion analysing and validating the results reported in chapter five. The chapter also shows how these results either confirm or contradict the conceptual framework. Therefore, it develops and integrates the framework guide to an effective multicultural project team.

6.2 Discussion of Findings

This thesis empirically investigates the cultural factors that influence project performance and identified the cultural issues that influence multicultural teams' performance in projects in GCC countries. The literature review conducted at the beginning of the research, established that although most of the issues of culture and its influence on performance have been studied before. However, the reviewed research studies do not cover thoroughly other aspects of culture, such as the individuals' national culture background and how it influences the project performance; and how the national culture dimensions' impact on not only the team performance but even the project performance especially in the multicultural environment. Therefore, this research aims to investigate the national cultural factors that influence multicultural project teams and determine the cultural dimensions that impact on project performance, and to use the findings to develop a framework that can be applied to enhance project performance and deliver a successful project.

As mentioned in chapter 2 and 3, in order to explore this relationship, the relevant literature was reviewed and used to develop the research questions, hypotheses, conceptual framework, and the research questionnaire as well as to support the interpretation of the findings. The literature review was drawn from a variety of disciplines including national culture, team performance and project performance. Therefore, the elements in the conceptual framework proposed for this study were derived from a synthesis of these disciplines. Specifically, this study was based on the previous research on project performance, based on the Hofstede's cultural dimensions (1991), and on team performance based on integration (Cheng et al., 2012; Kumaraswamy et al., 2004), communication (Pearson & Nelson, 2003; Earley & Mosakowski, 2000), trust (Earley & Mosakowski, 2000; Ochieng & Price, 2010), knowledge sharing (Kivrak, et al., 2014) and on other relevant theories. The conceptual framework was designed to show the relationship among these factors that have an influence on the national culture relationship. Therefore, the concept of national culture, team performance and project performance and the relationships between them have been hypothesised.

This study examines the relationship between the independent variables power distance, individualism and collectivism, masculinity and femininity, uncertainty avoidance and long-term orientation and the dependent variables integration, communication, trust, knowledge sharing and project performance. Based on the research framework designed for this study, a research questionnaire was posed to assist in attaining the objectives of this study. To meet the objectives of this study, fourteen hypotheses were developed as guidance to test the relationship between the variables (dependents and independents). As mentioned in the methodology chapter, the survey research method proved to be the suitable method for this study and the data collection method was questionnaire using web-based survey instrument. A range of project team members who represent different projects were targeted and 329 valid questionnaires were returned. The data obtained was analysed by using two widely used statistical software tools, SPSS and AMOS.

The internal consistency test using Cronbach's alpha was conducted for all interval scale items used in the survey questionnaire. The reliability values using Cronbach's alpha generated by SPSS

were tested with reference to the threshold values. The lowest was for uncertainty avoidance, with a total value of 0.330, which according to the threshold values is not acceptable (see Table 5.10). These values were obtained after assessing inter-item and item-to-total correlations. Therefore, the data collected for this research study was considered reliable except for the construct uncertainty avoidance, which was not considered in further analysis as it failed to meet the minimum threshold measures of the internal consistency test. Having lack of reliability of the observed variables could lead to an error in the estimation of the model (Schreiber et al. 2006). The good and acceptable reliability values indicate that questions under that particular construct are correlated and that these questions are independent measures of the same construct, which therefore show the accuracy of the measurement in the survey (Sekaran, 2003).

In this research study, there are three main criteria used for data validity: content validity, criterion validity and construct validity. Content validity refers to the extent to which a measure represents all items or questions of a given construct (Hair et al., 2010). In this research study, an initial questionnaire was exposed to some experts in the area of the research and slight modification was made before conducting the pilot study survey and the main survey. Therefore, content validity was accomplished in this research study. The second validity criterion is criterion or convergent validity (Zikmund, 2003). The convergent validity is established when all the questions or items in the measurement scale is highly correlated with the latent construct it is related to and correlational analysis can be utilised to assess the convergent validity (Gefen & Straub, 2005). All the inter-item correlations measured for all variables (constructs) in this research study were higher than the required threshold (refer to Table 5.10) except for the constructs Integration and Project Performance. These low correlations were investigated further in the SEM analysis in order to take appropriate decisions about them. However, only minor deviations of the correlation values were noticed and it was deduced that the measuring instrument satisfies the convergent validity criterion. Discriminant validity was tested using Confirmatory Factor Analysis (CFA). It is important to ensure that both the reliability and the validity of the model are valid, as it is possible that the model

is reliable but will fail the validity test (Holmes-Smith et al., 2006). Confirmatory Factor Analysis makes it possible to conduct both the reliability and validity test, which fulfil the conditions of the covariance among all the manifest and latent variables.

As discussed in chapter 4, Common Method Bias test was conducted using Amos 23 software to ensure whether the measurement instrument presents any systematic error variance shared among variables measured (Doty & Glick, 1998). Then, the model fit was performed to identify to which level a covariance model fits the sample data and to allow the researchers to specify the final model (Papke-Shields & Malhotra, 2001). Most of the Model Fit indices are within the acceptable reference expect for the CMIN/DF and slightly for AGFI and NFI which is not likely to significantly affect the model (Schreiber et al., 2006). Taking this into consideration, it can be deduced that the covariance models shown in Figure 5.6, Figure 5.7, Figure 5.8 and Figure 5.9 developed in this research fits the data. After finishing of these tests, the model was ready to conduct further analysing using Structural Equation Modelling (SEM). SEM is a collection of statistical techniques that allows a set of hypothesised relationships between a number of variables to be examined, including regression, confirmatory factor analysis, and path analysis (Byrne, 2001). Path analysis was performed by utilising the path coefficients produced by AMOS and examining the statistical significance at a p-value equal or less than 0.05. By the use of the regression weights it can be concluded whether the research hypotheses could be rejected or accepted (Hair et al., 2010; Kline, 1998).

The table below summarises the hypotheses proposed in chapter 3 and states whether they have been accepted or rejected after analysis of the data.

Table 6.1: Research Hypotheses Assessment

H.N.	Description	Result
H1a	There is a negative relationship between power distance and team performance.	Supported (partially)
H2a	There is a positive relationship between individualism and team performance.	Supported
H3a	There is a negative relationship between masculinity and team performance.	Supported (partially)
H4a	There is a negative relationship between uncertainty avoidance and team performance.	Not Supported
H5a	There is a positive relationship between long-term orientation and team performance.	Supported
H1b	There is a negative relationship between power distance and project performance.	Not Supported
H2b	There is a positive relationship between individualism and project performance.	Not Supported
H3b	There is a negative relationship between masculinity and project performance.	Not Supported
H4b	There is a negative relationship between uncertainty avoidance and project performance.	Not Supported
H5b	There is a positive relationship between long-term orientation and project performance.	Supported
H6	There is a positive relationship between integration and project performance.	Supported
H7	There is a positive relationship between communication and project performance.	Supported
H8	There is a positive relationship between trust and project performance.	Supported
H9	There is a positive relationship between knowledge sharing and project performance.	Supported

The relationship between the national culture dimensions and team performance variables and their interrelation to project performance were tested. The results show that both national culture dimensions and project performance variables have a major impact on the project performance. In the next section the results of the analysis of the data for each hypothesis are explained in detail.

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6.2.1 Relationship between National Culture and Team Performance

In path analysis conducted in the previous chapter, the measurement of the significance of the path is assessed by the p-value. If the p-value is equal or less than the 0.05, the path is considered to be statistically significant. The path associated between power distance and integration is positive but statistically insignificant (*p=0.188*) but the path associated between power distance and communication, trust and knowledge-sharing is negative and statistically significant (*p<0.05*). This provides evidence to support partially H1a that says there is a negative relationship between power distance and team performance and specifically with communication, trust and knowledge-sharing. The findings support the finding of Hofstede and Hofstede (2005) and Milosevic (1999), which assert that national culture links power distance to communication as well as trust (Khan & Maalik, 2011). According to Hofstede (1991), one of the main aspects that influence achieving high levels of performance of a multicultural team is communication differences of project team members. Khatri (2009) asserted that high power distance leads to lack of participation from team members from lower level as well as inefficient communication and knowledge sharing. In their Globe research, House et al. (2004) observed that low power distance motivates knowledge sharing and gathering, which supports the findings of this research.

The path associated between individualism vs. collectivism and integration is positive and statistically significant (*p<0.05*) which provide evidence to support the hypothesis (H2a) which says there is a positive relationship between individualism and team performance. However, the path associated between Individualism vs. Collectivism and Communication, Trust and Knowledge-Sharing is negative but statistically significant (*p<0.05*). McDonough et al. (1999) argued that teams with highly diverse values of individualism vs. collectivism will have some team members having different values and expectation with regards to interaction and communications patterns. Some team members will be willing to sacrifice and cooperate for the entire team, and some will be the opposite. This could lead to lower cohesion among team members and create more

conflict which will contribute to lower team outcomes and impact negatively on the team performance and therefore on the overall project performance.

The path associated between masculinity vs. femininity and integration is positive and statistically significant ($p<0.05$) but the path associated between individualism vs. collectivism and communication, trust and knowledge-sharing is negative and statistically significant ($p<0.05$). This finding provides evidence to support one part of the hypothesis (H3a), which says there is a negative relationship between masculinity and project performance. This result is contrary to previous studies which show that the masculinity has no effect (Avison & Myers, 1995) or merely a minimal effect on project work at the execution stage as it could influence the team formation process at the team initiation process (Hofstede, 1983).

The path associated between long vs. short-term orientation and integration is positive and statistically significant ($p<0.05$) which provide evidence to support the hypothesis (H5a), which says there is a positive relationship between long-term orientation and team performance. However, the path associated between long vs. short-term orientation and communication, trust and knowledge-sharing is negative but statistically significant ($p<0.05$). The findings support the study by Rees-Caldwell et al. (2012) about the past and present orientation characteristic, which states that the low long-term orientation score has a negative influence for integration.

6.2.2 Relationship between National Culture and Project Performance

According to the path analysis conducted in the previous chapter, the path associated between national culture dimensions and project performance was found to be statistically insignificant except for the path associated between long vs. short-term orientation and project performance. These findings do not support the hypotheses H1b, H2b and H3b, but do support the hypothesis (H5b), which says there is a positive relationship between long-term orientation and project

performance. These findings indicate clearly that there is no direct relationship between the national culture dimensions and the project performance variable. However, the relationship between the national culture and project performance found mediated by team performance. This finding is supported by other researchers such as Al-Khalil et al. (1999), Kartam et al. (2000) and Sweis et al. (2008).

The results from AMOS show that there was insignificant indirect effect between power distance and project performance mediated by integration with p-value 0.215 and unstandardized indirect effect of 0.027. On the other hand, the Communication, Trust and Knowledge-Sharing variable was found to mediate the negative effect between power distance and project performance with highly significant p-value of 0.001 and unstandardised indirect effect of -0.086.

With regard to the Individualism vs. Collectivism model, there was a positive and significant indirect effect between Individualism vs. Collectivism and project performance mediated by integration with p-value 0.003 and unstandardised indirect effect of 0.124. On the other hand, the Communication, Trust and Knowledge-Sharing variable was found to mediate the negative effect between individualism vs. collectivism and project performance with highly significant p-value of 0.001 and unstandardized indirect effect of -0.188.

In the masculinity vs. femininity model, there was a positive and significant indirect effect between masculinity vs. femininity and project performance mediated by integration with p-value 0.001 and unstandardized indirect effect of 0.128. On the other hand, the Communication, Trust and Knowledge-Sharing variable was found to mediate the negative effect between Masculinity vs. Femininity and project performance with a highly significant p-value of 0.001 and unstandardised indirect effect of -0.169.

Finally, there was a positive and significant indirect effect between long vs short-term orientation and project performance mediated by integration with p-value 0.001 and unstandardized indirect effect of 0.261. On the other hand, the Communication, Trust and Knowledge-Sharing variable

was found to mediate the negative effect between Long vs. Short-Term orientation and project performance with a highly significant p-value of 0.001 and unstandardised indirect effect of -0.500.

The findings support the previous studies which assert that national culture does have influence on project success and ignoring the effect of national culture leads to project delay and cost overrun and many change requests (Al-Khalil et al., 1999; Kartam et al., 2000; Sweis et al., 2008). The analysis supports the previous study by Kivrak et al. (2009). The finding of the study revealed that there is an impact of cultural differences on the management practices. The findings of this research study confirmed that there is a relationship between cultural differences and project success. Understanding the cultural differences among team members, who are from different cultural backgrounds, is an essential aspect of managing projects successfully. Moreover, mismanaging or ignoring cultural differences of the team members may lead to project failures.

6.2.3 Relationship between team performance and project performance

With regard to the relationship between team performance and project performance, both paths associated between integration and project performance, and communication, trust and knowledge-sharing and project performance are positive and statistically significant. This finding supports the hypotheses (H6, H7, H8 and H9), which say that there is a positive relationship between integration Communication, Trust and Knowledge-Sharing and project performance. The findings of the analysis of these hypotheses are validated throughout all the national culture dimensions (power distance, Individualism vs. Collectivism, Masculinity vs. Femininity and Long vs. Short-Term orientation), which supports the hypotheses.

Project performance has been extensively investigated by means of quite a small number of researchers (Cheng et al., 2012; Kumaraswamy et al., 2004; Ochieng & Price, 2010), and the outcomes of these investigations have obviously shown that the optimal project performance is

accomplished when the entire project team is thoroughly integrated and incorporated with the project purpose. According to Egan (2002), there is increasing evidence to suggest that integrated teamwork is key to enhancing project delivery which is validated and supported by this research study.

The literature in management studies is loaded with studies about the significance of communication in the workplace and how miscommunication may lead to organisational failure (House & Rehbein, 2004; Tietze, Cohen & Musson, 2003). With regards to miscommunication, confusion and distrust among the team members are unavoidable and become unresolved until proper handling of communication is followed such as being truthful and open in communication with subordinates (Morosini, 2004). With regard to project team, communication is regarded as critical success factor that have an essential impact on project performance. Moreover, communication is crucial to create an effective cooperation and collaboration among project stakeholder including project manager and project team members (Anantatmula & Thomas, 2010). Moreover, Dinsmore & Benitez Codas (2006) state that communication among project team members who are from diverse cultural backgrounds affect the success and failure of projects.

According to Morosini (2004), cultural differences among team members is another significant concern in miscommunication in project organisations. Whether the team members are from a low or a high context society (Hall, 1960). Team members from a low context society are generally verbal and explicit whereas, team members from high context society are implicit in messages and language. However, choosing a suitable leadership style can encourage team members to get benefit from each other expertise in order to contribute to the team effort. This research study supports the findings of the previous research studies by Earley and Mosakowski (2000), Klimoski and Mohammed (1994), Lee and Ma (2007) which state that frequent interaction among the project team members is consequently essential for obtaining meaningful communication and mutual understanding in order to establish knowledge-based trust. This proposes that the trust generated and the positive result perceived by the shared understanding can increase team effectiveness and

enhance performance improvement. Moreover, it can lead to higher level of trust between project managers and team members which, consequently, enhance employee morale, job satisfaction and productivity (Keller, 2006; Jing & Avery, 2016; Lok & Crawford, 2004) that therefore, will result in higher performance (Peterson, et al., 2009; Wang, Chich-Jen & Mei-Ling, 2010) which is supported by this research.

6.3 Summary

The existing literature shows that national culture does have an impact on team and project performance. But how the different dimensions of national culture impact team performance which in turn affects project performance is under researched. Therefore, to fill this gap in the academic literature, multicultural teams and projects are theoretically and empirically examined in GCC countries. From this cross-sectional study, the findings show that national culture influences complexity of team performance and also project performance.

In the following Figure 6.1, the estimate of path coefficients (regression weights) of the various paths in the Power Distance Model, Individualism vs. Collectivism Model, Masculinity vs. Femininity Model, and Long vs. Short-term Model are presented. By the use of the regression weights it can be concluded whether the research hypotheses could be rejected or accepted. The regression weights reference values that are used in this research are in accordance with the suggestions of Kline (1998). Kline (1998) categorises the regression beta weights in the standardised output with total value of 0.1 as having small effects, 0.3 as having moderate effects, and 0.5 as having large effects of the independent construct on the dependent variable.
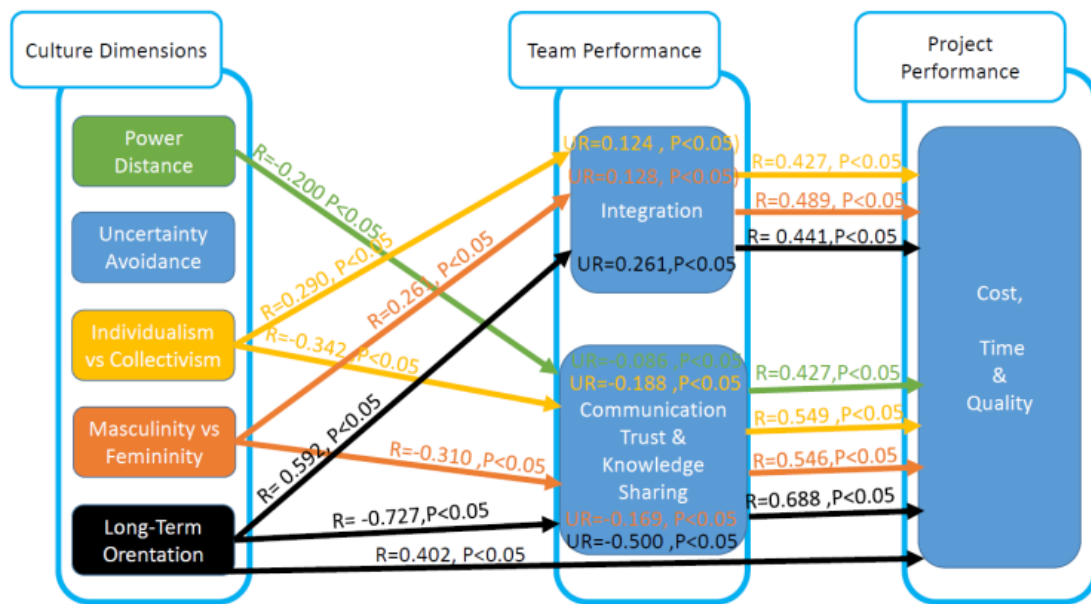
Figure 6.1: Findings from Path Analysis

Managing cultural differences in a successful manner is one of the most significant elements that lead to project success. In contrast, mismanaging or ignoring cultural differences within teams is one of the major causes of project failure (Kivrak et al., 2009). Choosing not to identify and understand cultural differences and complexity limits the chances of controlling it. Project managers of multinational companies in particular need to consider cultural differences as an important issue, especially when individuals join a project from different nationalities. Moreover, the first analysis conducted by Hofstede (1980) proposed that 80 percent of the cultural differences in the employee behaviours and attitudes are influenced by national culture, and this still applies today.

Chapter 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This is the conclusion chapter of the thesis. This chapter summarises and draws conclusions based on the literature reviewed in Chapter 2, the conceptual framework created in Chapter 3, the methodology used to provide data to investigate issues identified in Chapter 4, and the results and findings of this investigation in Chapters 5 in conjunction with the discussion and interpretation carried out in chapter 6. Moreover, it summarises the main findings of the research and shows how it contributes to the theory and practice. It also presents the limitations of the research and suggests some recommendations for future work that would help to advance knowledge in this field.

7.2 Conclusions

The findings of this research are based on the multicultural experiences of top and middle management in projects from GCC countries. Numerous important aspects have been determined and discussed which have not been previously addressed in the literature. The main aspects and variables that have been determined relate to team and project performance in a multicultural environment. It is evident from this research that there is a growing trend in project management literature towards this research domain. Essentially, it was demonstrated that teams in projects around the world encounter similar challenges. These challenges are expressed differently depending on the context of the project. The cross-cultural complexities identified in this research were the key reasons behind such variations.

Furthermore, the research established that integration, communication, trust and knowledge sharing have an important bearing on team and project performance. Effective integration communication, trust and knowledge sharing would have a positive impact on project performance. For instance, it has shown that managing these team performance variables effectively provides early recognition of challenges and difficulties in multicultural project teams. The literature states that team members from different cultures will have a different set of project challenges and difficulties because of the difference in the cultural environment.

The findings of this research study show that there is a negative relationship between power distance and team performance. The findings support those of Hofstede and Hofstede (2005) and Milosevic (1999), which assert that national culture links power distance to communication as well as trust (Khan & Maalik, 2011). The findings also show a positive relationship between individualism and team performance and a negative relationship between masculinity and project performance. This result is contrary to previous studies which show that the masculinity has no effect (Avison & Myers, 1995) or merely a minimal effect on project work at the execution stage as it could influence the team formation process at the team initiation process (Hofstede, 1983). Moreover, the findings reveal that there is a positive relationship between long-term orientation and team performance. The findings support the study by Rees-Caldwell et al. (2012) about the past and present orientation characteristic, which states that the low long-term orientation score has a negative influence for integration.

Several studies (Al-Khalil et al., 1999; Kartam et al., 2000; Sweis et al., 2008) have been conducted in the Middle East from the project management perspective. These studies assert that national culture does influence on project success, and ignoring the influence of national culture leads to project delay and cost overrun and many change requests. The analysis of this research study supports the previous study by Kivrak et al. (2009), which revealed that there is an impact of cultural differences on the management practices in projects, but at different levels.

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Concerning effective project team performance, the study determined the major factors that project team leaders should understand and appreciate. These are integration, communication, trust and knowledge sharing. Project team leaders working within multicultural teams encounter substantial cross-cultural challenges. One of the most challenging problems faced by project team leaders is modifying project management procedure to local requirements, including process and knowledge. However, these challenges and difficulties can be overcome by applying an appropriate cultural strategy that could be applied and controlled by well-trained project team managers or leaders.

With regard to team performance monitoring, the results showed that having a clearly defined procedure for the main aspects of team performance, which are integration, communication, trust and knowledge sharing, will result in higher project performance. In order to achieve a higher level of integration, avoid miscommunication among team members, raise the level of trust and encourage knowledge sharing in the team, an appropriate leadership style should be adopted. Considering the dynamic nature of the team working in multicultural environment in projects, the project team leader should establish a common team culture from the project commencement stage. Project team leaders should also make sure that all the multicultural project team procedures are in place in order to tackle any problems that may arise in the project.

The research revealed the framework of the relationship between the multicultural team and project performance, which comprises three main related, depending and independent variables. These variables were found to be the most influential factors on project performance in a multicultural environment. The research verified that it can beneficial for project leaders to identify the best team mix that comprises members from different cultural backgrounds. It also set a base for a better working relationship among the team members. The framework addressed the necessary requirements for achieving an effective working environment.

Failure to manage cultural problems in a multicultural project team can potentially lead to extensive damage to the whole project. This research has highlighted the viewpoints of people who work

within multicultural environments on the influence of these cultural dimensions on team and project performance. The research presents a good basis for recognising the impact of cultural dimensions that influence multicultural projects. The research has demonstrated that projects cannot overlook or ignore cultural complexity in projects. It has also shown that understanding the cultural aspects in the early stage of team formation or project commencement can help to manage and minimise cultural complexity in a project undertaken by a multicultural team.

It is important to note that the scope of this research was limited to projects in GCC countries; however, the focus on this geographical area does not invalidate the outcome of this research and its relevance to other countries; the fact is that all projects across the world share some comment traits and features. GCC countries were chosen as case studies to investigate the impact of cultural factors on team and project performance. In summary, the research shows a better understanding of the cultural issues that influence team performance and their relation to the success of projects, thus enabling project leaders and project management organisations to better control the growing cultural challenges in their future projects.

7.3 Contribution to Theory

Building on the existing knowledge on national culture, this research has provided greater insight into national culture within projects context, in particular providing empirical evidence that different nationalities have different cultural orientations and that these different cultural orientations are associated with different levels of performance. It has also demonstrated that project teams' variables which are integration, communication, trust and knowledge sharing are the specific dimensions of team performance which have the most significant association with project performance outcomes. This Conclusions and recommendations is not to suggest that the

other dimensions are unimportant, but rather that the research did not uncover evidence to establish their degree of importance.

This research study has attempted to investigate the cultural factors that influence project team performance and their relationship to project performance. Four (4) statistical models – power distance model, individualism vs. collectivism model, masculinity vs. femininity model and long vs. short term orientation model - have been developed to represent the relationships between the cultural dimensions and project performance. These models do provide some guidance on the likely project performance outcomes given specific cultural dimensions.

The findings of the research outlined the necessity of theorising about cross-cultural team performance in projects in the multicultural environment. With the increasing cultural complexity of projects, project management teams will have to be more aware of the influential cultural dimensions in order to perform and achieve a higher level of team performance. This research study makes a contribution to the body of knowledge by identifying the cultural dimensions that influence an effective cross-cultural team performance in projects. The cultural dimensions as discussed in the quantitative findings in Chapter 5 are power distance, individualism vs. collectivism, masculinity vs. femininity and long vs. short-term orientation. The existing literature shows that national culture does have an impact on team and project performance. But how the different dimensions of national culture impact team performance, and in turn affect project performance, is under researched. Therefore, to fill this gap in the academic literature, the multicultural team and projects is theoretically and empirically examined in GCC countries. From this cross-sectional study, the findings show that national culture influences complexity of team performance and also project performance.

By empirically examining various cultural dimensions and their relationship with project performance outcomes, this research has provided some evidence that culture does matter in the quest for performance improvement on projects. The findings can thus be used as a basis for

recommending or encouraging cultural change within project organisations. It can also be used as a basis for encouraging researchers of project performance to devote more attention to the 'softer' aspects such as culture in order to evolve more comprehensive frameworks for performance improvement.

7.4 Contribution to Practice

Nowadays, cross-cultural research is attaining growing importance in industry due to globalisation and the diversity of organisational workforces (Abdul-Rahman et al., 2012; Akiner & Tijhuis, 2007; de la Cruz et al., 2008). As illustrated in this research, a majority of projects are now operating across the world with resources from different cultural backgrounds and often from different countries. Managing cultural diversity has therefore become a significant element for today's organisation (Kochan, Bezrukova & Ely, 2003).

The growing trend in the globalisation of projects is giving rise to a need of multi-cultural project teams. For many project organisations, this need will require thinking more clearly about cross-cultural issues and more overtly systematically understanding and valuing the diversity of project teams. Project leaders will need to pay attention to the cultural issues because they seem to pose a significant challenge to project success. The awareness, recognition, and knowledge of cultural issues on projects would enhance multi-cultural team performance. Achieving this on projects will need the project teams to be more integrated and having proper communications to build trust and share knowledge.

One of the significant aspects that this research tries to deal with was to investigate the impact of cross-cultural complexity on project performance. The research provides the project industries with an understanding of how cultural factors affect project team performance and therefore project performance. The developed frameworks are based on current practices in the project industry

which represent the relationships between the cultural dimensions and project performance. These frameworks do provide some guidance on the likely project performance outcomes given specific cultural dimensions. This implies that early on during the planning process, project directors and managers can undertake an assessment of their teams' national cultural background and based on that, forecast the probable team and project performance. Where necessary, action can be taken to manage or even change the cultural orientation in terms of the attitudes and behaviours of project teams. This research expressed the views of professionals who work in a multicultural environment on the extent to which national cultural dimensions may affect the outcome of a project. This provides the project industry with the ability to examine their existing practices and structure them to boost the performance of teams in projects.

Managing a multicultural team effectively reduces project costs and the risk of project failures, and at the same time enhances project performance. Therefore, the findings of this study make a contribution to the practice by delivering a deeper understanding of the cultural issues that influence multicultural teams' performance in projects in GCC countries. Its findings will assist project directors and managers in similar countries to further recognise the role of national culture in the context of enhancing project performance.

7.5 Limitations of the Research

This section provides an assessment of the study presented in this thesis. However, the researcher considers the limitations reviewed do not reveal an essential weakness in the approach adopted, but present avenues for future research. This research has the following limitations:

- One of the limitations of this research is that its focus was on top and middle management, and did not involve the project workers; however, project workers' influence on the project performance was considered.

- Another concern was that the quantitative results were obtained from participants performing various roles related to various kinds of projects. In fact, this enriches the generalisability of the findings. However, some factors that could be unique to one of these sectors may not be consistently applied to others. A more focused investigation considering the type of sector could create findings that are more consistent and generalisable.

- This study looked at a phenomenon through a cross-sectional approach, involving quantitative investigation that relied on perceptions among project directors, project managers, engineers and supervisors at one point in time. Because the impact of culture on team and project is likely to be a process on its own, this investigation is likely to present an incomplete picture of this mechanism.

- The uncertainty avoidance dimension in team performance construct was found statistically insignificant as discussed in the analysis chapter. This could be due to the sample population approached in the study. Therefore, a larger sample with bigger number of participants will provide further opportunities to test the relationship between uncertainty avoidance and the other variables as this dimension is one of the main dimensions of Hofstede national culture study.

The limitations mentioned above do not deteriorate the validity of the research performed and its principle findings. It should be taken into consideration that scientific research is a never-ended process aimed at the understanding of some phenomenon which involves continuous examination and measurement of associations (Babbie, 1990), and this research study is just one step in this process.

7.6 Recommendations for Further Research

The research has achieved its aim of developing a framework which can be applied in addressing cross-cultural complexity in order to increase multicultural project teams' success and performance. As discussed earlier, the outcomes of this research have universal applicability; however, conducting follow-up research to validate the framework in different countries and contexts will be important. This could help to generate additional information on the impact of cultural dimensions on team and project performance, which could further refine the proposed framework. There are numerous recommendations that can be developed and addressed to improve the poor performance in team management and its influence on project delivery. These recommendations have been outlined in this section.

The growing pace of globalisation in the project industry has imposed a new reality on the way project teams are formed. The leaders of projects working within a multicultural environment should take more consideration of the cross-cultural issues and understand the value of project team diversity. The cultural issues should be taken into consideration by project leaders as they represent an important challenge to project success. Understanding of the cultural issues in projects would boost and improve multicultural team integration, communication, trust and knowledge sharing.

As it has been proven in this research that cultural complexity does exist within the project industry, it will be beneficial to include more variables in addition to the ones examined in this research. It is recommended to focus on developing strategies or guidelines that may help the multicultural project team and make it more effective. In addition, conducting follow-up research to validate the framework in different countries and contexts will be important. This could help to generate additional information on the impact of national cultural dimensions on team and project performance, which could further refine the proposed frameworks.

Moreover, it has been presented in the literature review in this research that the cross-cultural studies were mainly based on the experience of Western or North American studies, and few or limited studies have addressed this subject in developing countries. This stresses the need to conduct more studies examining the cross-cultural issues in projects in developing countries, especially projects within a multicultural environment.

As discussed in the literature review chapter, there are limited studies available in the theoretical and empirical studies concerning how cultural diversity could impact on team performance in the area of project management. There is still a need to conduct further research in this area as well as some other areas that are not investigated and discussed in this research, which could have an influence on project performance. This would create more results that could be used as a basis to build a larger body of empirical data for future research.

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Appendix A

CONSENT LETTER

College of Business, Arts and Social Sciences
Brunel Business School
Brunel University London
Uxbridge
Middlesex UB8 3PH
United Kingdom
Email: sayed.fadhul@brunel.ac.uk

*Project Manager

  Company Address

Dear ,

I am currently undertaking a PhD research entitled as "The Relationship Between Multicultural Teams and Project Performance: Evidence from GCC". My research focuses on how multi-cultural team can work together effectively to deliver a successful project. The first stage of the work necessitated a survey of project managers, engineers and anyone involved in the project team to establish the importance of multi-cultural project teams to project success and also to determine the impact of national culture on the project performance.

The main research objective focuses on investigating the cultural factors that influence the project team and their impact on project performance and therefore on project success. The decision to choose your organisation is based on the excellent background your company has on project management.

As you probably have been aware multi-cultural project teams to work effectively across international boundaries has become a major issue. The trend is likely to continue and the future of construction will increasingly depend on doing projects effectively in different cultural environments.

Your project manager's participation in this project will eventually help to investigate the factors that influence the multicultural project team performance and determine the practical competences that would handle the cultural challenges in the project environment. You are assured of confidentiality and that any identifying information will be destroyed at the data processing stage of the research. Please be assured that the identity of your project managers, engineers and your organisation shall remain strictly confidential.

Hopefully the research will provide a framework which can be applied in addressing cross-cultural complexity in multicultural project teams to improve the success and performance. If you would like a summary of the research findings I should be pleased to forward a copy on completion of the research. If you have any further questions or would like a discussion with me prior to making up your mind, please contact me on +973 39900888 or leave a message to call you back as soon as possible. Your assistance and co-operation in this research will he welcome and gratefully received; I hope you will be able to assist in furthering my research studies.

Yours sincerely,

Sayed Mahdi Fadhul

PhD Research Student

Date:

*Company Address

RE: Permission to Conduct Research Study

Dear ,

I am writing to request permission to conduct a research study at your organisation. I am currently undertaking a PhD research entitled "The Relationship Between Multicultural Teams and Project Performance: Evidence from GCC". My research focuses on how multi-cultural team can work together effectively to deliver a successful project. The first stage of the work necessitated a survey of project managers, engineers and anyone involved in the project team to establish the importance of multi-cultural project teams to project success and also to determine the impact of national culture on the project performance.

The main research objective focuses on investigating the cultural factors that influence the project team and their impact on project performance and therefore on project success. The decision to choose your organisation is based on the excellent background your company has on project management.

As you probably have been aware multi-cultural project teams to work effectively across international boundaries has become a major issue. The trend is likely to continue and the future of construction will increasingly depend on doing projects effectively in different cultural environments.

Your project manager's participation in this project will eventually help to investigate the factors that influence the multicultural project team performance and determine the practical competencies that would handle the cultural challenges in the project environment. You are assured of confidentiality and that any identifying information will be destroyed at the data processing stage of the research. Please be assured that the identity of your project managers, engineers and your organisation shall remain strictly confidential. The questionnaire will take about 20-30 minutes to complete.

Hopefully the research will provide a framework which can be applied in addressing cross-cultural complexity in multicultural project teams to improve the success and performance. If

you would like a summary of the research findings I should be pleased to forward a copy on completion of the research. If you have any further questions or would like a discussion with me prior to making up your mind, please contact me on +973 39900888 or contact me at my email address: sayed.fadhul@brunel.ac.uk. Your approval to conduct this study will be greatly appreciated and gratefully received; I hope you will be able to assist in furthering my research studies.

If you agree, kindly sign below and return the signed form in the enclosed self-addressed envelope. Alternatively, kindly submit a signed letter of permission on your company's letterhead acknowledging your consent and permission for me to conduct this survey/study at your organisation.

Yours sincerely,

Sayed Mahdi Fadhul

PhD Research Student

Approved by:

_____   _____   _____

Print your name and title here   Signature   Date

THE RELATIONSHIP BETWEEN MULTICULTURAL TEAMS AND PROJECT PERFORMANCE

Evidence from GCC

Are you a project manager, an engineer or a member of a project team?

If yes, you are being invited to take part in a research study. Before you decide to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Please ask, if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

What is the purpose of this study?

This study aims to investigate the factors that influence the multicultural project team performance and determine the practical competences that would handle the cultural challenges in the project environment. As you probably have been aware multi-cultural project teams to work effectively across international boundaries has become a major issue. The trend is likely to continue and the future of construction will increasingly depend on doing projects effectively in different cultural environments. The main research objective focuses on investigating the cultural factors that influence the project team and their impact on project performance and therefore on project success. Hopefully the research will provide a framework which can be applied in addressing cross-cultural complexity in multicultural project teams to improve the performance and success.

Why have I been invited to take part?

Project managers, engineers and/or members of a project team currently working with multicultural project team are invited to participate in this study by completing a short online survey. As it is important that the study include a wide variety of participants, this survey is approaching the people working within this environment.

PARTICIPANT INFORMATION SHEET

Do I have to take part?

You do not have to participate in this study. Participation is completely voluntary. If you decide to participate in the study you can withdraw at any time without giving a reason for your withdrawal. If you decide not to participate in the study, or if you withdraw from the study, you will not be disadvantaged in any way and you will not give up any benefits that you had before entering the study.

What do I have to do if I take part?

If you agree to take part in this study you will be asked to fill in an online questionnaire that asks a detailed set of questions about: 1) general information; 2) national culture; 3) team integration, trust, communication and knowledge sharing factors; 4) project performance. Many of the questions included in the questionnaire are sets of questions that have been developed by other researchers and used in studies around the world, thus allowing us to compare the findings of this study to other studies, populations and countries. The questionnaire takes 20-30 minutes to complete.

Can I complete a paper questionnaire?

Yes, if you would prefer to fill in a paper questionnaire rather than the online questionnaire, I would be happy to send you a paper copy with a pre-paid return envelope. Please email or telephone me to request a paper questionnaire – my contact details are below.

How long is the survey open?

The online survey will be open to new participants until 31th December 2016. You can take part any time between now and then.

What are the possible benefits of taking part?

There are no direct benefits to taking part in this study.

What are the possible disadvantages and risks of taking part?

There are no known benefits or risks for you in this study. If you feel uncomfortable completing the questionnaire you may chose not to answer a particular question or a particular section or withdraw your participation from the study at any time. If you wish to discuss any issues raised

by the questionnaire after you have completed it, then you can contact me freely any time on the given contact details below.

Will my taking part in this study be kept confidential?

The completion of the survey is anonymous; it does not request any identifiable information. Should you want to request a summary of the study findings, you will need to provide your email address. However, this will be done separately to the survey and will be in no way associated with your responses, so these will remain anonymous. All email addresses will be kept strictly confidential. All data will be stored on a Brunel server, password protected and the data will be destroyed when no longer required.

Can I take part in the study without giving my contact details?

Yes, you can complete the questionnaire without giving your contact details if you wish. Consequently, you will not be able to get the findings of this research study.

What will happen to the results of the research study?

The anonymous results of the study will be used as part of a PhD project and will be submitted for publication or presented at a conference. Results of the study will be available on request. The findings of this research will be published in an academic thesis.

Who is organising and funding the research?

The research study is being organised within the College of Business, Arts and Social Sciences, Brunel Business School, at Brunel University London. It is not funded.

What are the Indemnity Arrangements?

Brunel provides appropriate insurance cover for research which has received ethical approval.

Who has reviewed the study?

This study is reviewed by the Research Ethics Committee of the College of Business, Arts and Social Sciences, Brunel Business School, Brunel University London.

What if I have a complaint?

If you have any concerns or complaints about the conduct of the researchers or the study, please contact:

PARTICIPANT INFORMATION SHEET

The Chair of the College of Business, Arts and Social Sciences Research Ethics Committee,

Email: cbass-ethics@brunel.ac.uk

Contact for further information:

You can get more information or answers to your questions about the study, your participation in the study, and your rights by contacting:

Researcher:

Sayed Mahdi Fadhul

Tel: +973 39900888

Email: sayed.fadhul@brunel.ac.uk

Supervisor:

Dr. Monomita Nandy

Tel: +44 (0)1895 268300

Email: monomita.nandy@brunel.ac.uk

Thank you very much for taking the time to read this information

College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University London
Kingston Lane
Uxbridge
UB8 3PH
United Kingdom

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14 July 2016

LETTER OF APPROVAL

Applicant: Mr. Sayed Mahdi Fadhul

Project Title: THE RELATIONSHIP BETWEEN MULTICULTURAL TEAMS AND PROJECT PERFORMANCE

Reference: 3151-LR-Jul/2016- 3423-2
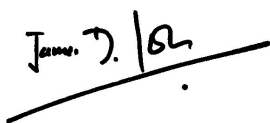
Dear Mr. Sayed Mahdi Fadhul

The Research Ethics Committee has considered the above application recently submitted by you.

The Chair, acting under delegated authority has agreed that there is no objection on ethical grounds to the proposed study. Approval is given on the understanding that the conditions of approval set out below are followed:

- The agreed protocol must be followed. Any changes to the protocol will require prior approval from the Committee by way of an application for an amendment.

Please note that:

- Research Participant Information Sheets and (where relevant) flyers, posters, and consent forms should include a clear statement that research ethics approval has been obtained from the relevant Research Ethics Committee.
- The Research Participant Information Sheets should include a clear statement that queries should be directed, in the first instance, to the Supervisor (where relevant), or the researcher. Complaints, on the other hand, should be directed, in the first instance, to the Chair of the relevant Research Ethics Committee.
- Approval to proceed with the study is granted subject to receipt by the Committee of satisfactory responses to any conditions that may appear above, in addition to any subsequent changes to the protocol.
- The Research Ethics Committee reserves the right to sample and review documentation, including raw data, relevant to the study.
- You may not undertake any research activity if you are not a registered student of Brunel University or if you cease to become registered, including abeyance or temporary withdrawal. As a deregistered student you would not be insured to undertake research activity. Research activity includes the recruitment of participants, undertaking consent procedures and collection of data. Breach of this requirement constitutes research misconduct and is a disciplinary offence.

Professor James Knowles

Chair

College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University London

QUESTIONNAIRE

SURVEY QUESTIONNAIRE ON THE IMPACT OF CULTURE ON THE MULTICULTURAL TEAMS AND PROJECT PERFORMANCE

Kingdom of Bahrain Return Address
Sayed Mahdi Fadhul
House 91, Road 4005
Block 504, Duraz, Bahrain
Email: sayed.fadhul@brunel.ac.uk

Notes about the Questionnaire:
As is the case with many questionnaire surveys there may be some questions which appear, irrelevant or impertinent. However, it is necessary in this study that all questions are answered, as the questionnaire is designed to achieve particular research objectives, and it is hoped not to offend participants in any way. If there are any questions, which you are unwilling or unable to answer, then it is my wish that you continue to answer the remainder of the questionnaire. **Remember that both your identity and that of the company you work for will remain strictly confidential.**

SECTION l: GENERAL INFORMATION.

Some information about yourself (for statistical purposes):

In each of questions 1-9 please tick (✔) one of the box only.

1. Are you:

Male [ ]   female [ ]

2. How old are you?

20-24 [ ]   25-29 [ ]   30-34 [ ]   35-39 [ ]   40-49 [ ]   50-59 [ ]   60 or over [ ]

3. In what sector does the main aspect of your business activities fall under?

Construction [ ]   Manufacturing [ ]   IT [ ]   Other [ ] please specify

4. Please state your current job title.

Project director [ ] Project manager [ ] Project Planner [ ] Project Engineer [ ] Other [ ] (please specify)

5. How long have you worked within this sector?

Less than a year [] 1-5 years [] 6-10 years [] 11-15 years [] 16-20 years [ ] More than 20 years [ ]

6. How long have you been involved with managing projects with multicultural environment?

Less than a year [] 1-5 years [] 6-10 years [] 11-15 years [] 16-20 years [ ] More than 20 years [ ]

7. In which country do you work right now?

Bahrain [ ] Saudi Aribia [ ] Qatar [ ] UAE [ ] Kuwait [ ] Oman [ ]

8. What is your nationality?

_____

9. What was your nationality at birth (if different)?

_____

SECTION 2: NATIONAL CULTURE QUESTIONNAIRE

Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ... (please tick one answer in each line across):

1 = of utmost importance

2 = very important

3 = of moderate importance

4 = of little importance

5 = of very little or no importance

No.	Level of importance	1	2	3	4	5
01	have sufficient time for your personal or home life					
02	have a boss (direct superior) you can respect					
03	get recognition for good performance					
04	have security of employment					
05	have pleasant people to work with					
06	do work that is interesting					
07	be consulted by your boss in decisions involving your work					
08	live in a desirable area					
09	have a job respected by your family and friends					
10	have chances for promotion					

In your private life, how important is each of the following to you: (please tick or circle one answer in each line across):

No.	Level of importance	1	2	3	4	5
11	keeping time free for fun					
12	moderation: having few desires					
13	being generous to other people					
14	modesty: looking small, not big					

15. If there is something expensive you really want to buy but you do not have enough money, what do you do?

1. always save before buying

2. usually save first

3. sometimes save, sometimes borrow to buy

4. usually borrow and pay off later

5. always buy now, pay off later

16. How often do you feel nervous or tense?

1. always

2. usually

3. sometimes

4. seldom

5. never

17. Are you a happy person?

        1. always

        2. usually

        3. sometimes

        4. seldom

        5. never

18. Are you the same person at work and at home?

        1. quite the same

        2. mostly the same

        3. don't know

        4. mostly different

        5. quite different

19. Do other people or circumstances ever prevent you from doing what you really want to?

        1. yes, always

        2. yes, usually

        3. sometimes

        4. no, seldom

        5. no, never

20. All in all, how would you describe your state of health these days?

        1. very good

        2. good

        3. fair

        4. poor

        5. very poor

21. How important is religion in your life?

        1.   of utmost importance

        2.   very important

3. of moderate importance

4. of little importance

5. of no importance

22. How proud are you to be a citizen of your country?

    1. not proud at all
    2. not very proud
    3. somewhat proud
    4. fairly proud
    5. very proud

23. How often, in your experience, are subordinates afraid to contradict their boss?

    1. never

    2. seldom

    3. sometimes

    4. usually

    5. always

To what extent do you agree or disagree with each of the following statements? (please tick one answer in each line across):

1 = strongly agree   2 = agree   3 = undecided   4 = disagree   5 = strongly disagree

No.	Level of importance	1	2	3	4	5
24	One can be a good manager without having a precise answer to every question that a subordinate may raise about his or her work					
25	Persistent efforts are the surest way to results					
26	An organization structure in which certain subordinates have two bosses should be avoided at all cost					
27	A company's or organization's rules should not be broken - not even when the employee thinks breaking the rule would be in the organization's best interest					
28	We should honour our heroes from the past					

SECTION 3: TEAM INTEGRATION, TRUST, COMMUNICATION AND KNOWLEDGE SHARING FACTORS

The following is a list of statement which are associated with team integration, trust, communication and knowledge sharing.
Please indicate (i.e. tick (✓) the extent of level of agreement on each statement using a scale from 1 to 5 where: 1 indicates 'Strongly agree'; 2 'Agree'; 3 'Neutral'; 4 'Disagree' and 5 'Strongly disagree'.

3.1 TEAM INTEGRATION

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Integration with people from different cultures is more difficult.					
Integration with people having different languages is more difficult.					
Your company culture supports Integration development among employees.					
Integration in project should be encouraged and rewarded.					
Integration between project members from different cultures becomes more effective when working with the same colleagues for longer time periods.					
Project structure is flat and direct, allowing contact with senior management.					
Work relationships are clearly defined for teams in charge of sections of work.					
Information and documents are easily accessible and flow freely within the project team.					
There are communal spaces for members to interact with each other in a relaxed environment.					
Skills are shared and transferred freely within the project team.					
Project team members have a sense of ownership, collective responsibility & achievement.					
Members of the project team work in a collaborative and non-confrontational manner.					
All members of the project team are respected and treated as professionals.					

3.2 TRUST

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Trust development with people from different cultures is more difficult.					
Trust development with people having different languages is more difficult.					
Your company culture supports Trust development among employees					
Trust environment in project should be encouraged and rewarded.					
Trust between project members from different cultures becomes more effective when working with the same colleagues for longer time periods.					
Team building activities develop trust among team member.					
Good interpersonal relationships are vital aspect in trust development in teams.					
Trust development requires mutual respect between project leaders and team members.					
As competition among colleagues' increases, trust decreases.					

3.3 COMMUNICATION

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Communication with people from different cultures is more difficult.					
Communication with people having different languages is more difficult.					
Your company culture supports communication between project team members.					
Communication in projects requires trust.					

Statement					
Communication should be encouraged and rewarded.					
Communication between different cultures becomes more effective when working with the same colleagues for longer time periods.					
As competition among colleagues' increases, communication decreases.					
Establishing clear lines of responsibility increase communication.					
Encouraging respect between project members develop communication.					

3.4 KOWLEDGE SHARING

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Sharing knowledge with people from different cultures is more difficult					
Sharing knowledge with people having different languages is more difficult					
Your company culture supports communication and knowledge sharing					
Knowledge sharing in projects requires trust					
Sharing project knowledge should be encouraged and rewarded					
Knowledge sharing between different cultures becomes more effective when working with the same colleagues for longer time periods					
More knowledge sharing provides more effective communication with different cultures					
Sharing my knowledge makes me lose my power base in the organization					
Sharing my knowledge makes me lose my knowledge that no one else has					
Knowledge sharing strengthens the ties between existing members in the organization and myself					
I will receive rewards in return for my knowledge sharing					
Sharing tacit knowledge (knowledge in people's heads, experiences) is more difficult than explicit knowledge					
As competition among colleagues' increases, knowledge sharing decreases					

SECTION 4: PROJECT PERFORMANCE

The following is a list of statement which are associated with project performance.
Please indicate (i.e. tick (✓) the extent of level of agreement on each statement using a scale from 1 to 5 where: 1 indicates 'Strongly agree'; 2 'Agree'; 3 'Neutral'; 4 'Disagree' and 5 'Strongly disagree'.

Dimension	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Time	We always complete our projects within the stipulted time					
	We always complete our projects within the stipulted time regardless of cost overrun and defect implications					
Cost	We always complete our projects within the stipulted budget					
	we always complete our projects within the stipulted budget regardless of quality and schedule slippage					
Quality	We always complete our projects to the specified quality					
	We always complete our projects to the specified quality regardless of time and cost implications					

Thank you very much for your cooperation and help

If you would like to receive a copy of the results of the research, please enter your name and address below:

I would like a copy of the research result   YES [ ]   NO [ ]

Name:

Address:

E-mail:

End of Questionnaire