



Examining the Relationships between Leadership, Team Communication, Project culture, and
Project Success Factors in the UAE: A Structural Equation Modeling Perspective.

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Abstract

Many international studies have linked project success to specific factors, such as leadership member exchange relationship theory (LMX), project culture and team communication. This study expands our efforts to empirically examine team communication as a mediator in regard to project success factors.

A total of 186 responses were collected from different private and public organizations that represent different international nationalities in Abu Dhabi emirate in the UAE. The study uses a series of confirmatory factor analyses to test the measurement models and structural equation modeling to test project success factors' model relations, hypotheses and team communication's mediating impact.

A self-administered e-mail questionnaire was used to collect data from respondents. The sample represented different types of organization ownership: government, semi-government, private and public. Confirmatory factor analyses were used to assess the scale of measurement and structure of the scale applied to LMX, project culture, team communication and project success. SEM was used to assess the mediating effect of team communication on the indirect relationship to the independent variable (LMX and project culture) and direct relationship to the project success factors. The study explores different aspects that contribute to the success of projects and articulates issues that are essential for the implementation of the study's findings in this region. The literature review of this study aims to contribute to the understanding of project management best applicable international practices. First, the study addresses an existing gap in the relationships between project success,

LMX and project culture. The study also investigates the degree of mediating impact that team communication has on both elements in relation to their influence on project success.

Moreover, the findings reveal to what degree project success factors depend on team communication, project leadership and organizational culture empirically. In the future, organizations and project leaders responsible for projects will be able to apply the study outcomes to reduce project failure.

Abbreviations

AD	-	Abu Dhabi
AGFI	-	Adjusted Goodness of Fit Index
CFI	-	Comparative Fit Index
CN	-	Critical N
Cult	-	Culture
DF	-	Degree of Freedom
GSEC	-	General Secretary of Executive Council
GFI	-	Goodness of Fit Index
IFI	-	Incremental Fit Index
IT	-	Information Technology
LMX	-	Leadership Members Exchange
MLQ	-	Small Multifactor Leadership Questionnaire
NNFI	-	Non-normed Fit Index
NFI	-	Normed Fit Index
OG	-	Office of Government
PGFI	-	Parsimony Goodness-of-fit Index
PM-	-	Project Management
PMO	-	Project Management Office
PSUCC	-	Project Success
RFI	-	Relative Fit Index
RMSEA	-	Root Mean Square Error of Approximation

RMR	-	Root Mean Square Residual
SEM	-	Structural Equation Modeling
SRMR	-	Standardized Root Mean Square Residual
SRMR	-	Standardized Root Mean Square Residual
SMLQ	-	Small Multifactor Leadership Questionnaire
SPSS	-	Statistical Package Social Science
TCM	-	Team Members Communication
UAE	-	United Arab Emirates

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Chapter 1

Introduction

There is a pre-dominant belief among project managers that 70% of conducted projects fail to successfully achieve their objectives (Conner, 2012). Evidently many projects fail to thrive not only due to mismanagement of planning and implementation but also due to lack of leadership and organizational culture support. The following works have identified various factors that contribute to project success. The study of Kyootai, Scandura, Youngkyun, Joshi and JooYeoun, (2012) has revealed that LMX (leadership member exchange) has a significant moderator impact on performance and a negative relationship to creativity. Cerimagic (2010) has pointed out that there is a positive significant relationship between organizational culture and project success; simultaneously, there is a significant link with leadership and project success. Isaac, Herremans and Kline (2010) confirm that leadership trust establishes an environment of support and mutual respect and has a positive effect on an organization's objectives and successes. Aubry, Hobbs, Müller and Blomquist's (2010) study adds that project success depends on the organizational culture that supports and reinforces best practices in management. Meanwhile, the work of Sivasubramaniam, Liebowitz and Lackman (2012) underlines the significance of internal communication in shaping goals and strategies in the most holistic way.

In the 21st century, numerous researchers have attempted to understand project success determinants. Dominguez (2009) alarmingly presents that only 32% of information technology projects are successful, 44% face challenges and 24% fail in the United States. According to the *Global Competitiveness Report 2012–2013* (Schwab, 2012), based on their national competitiveness, the UAE ranked 24th globally among 144 countries in the year 2012, compared with 27th overall in the previous year.

Context

In reference to project management within the UAE, Cerimagic's (2010) study on Australian project managers in the country demonstrates that there are significant differences found between domestic and expatriate managers' leadership styles. The study highlighted that 'relationship-building' behavior is the main factor that determines whether a project fails or succeeds. Moreover, extensive bodies of project management-related literature put forth the argument that projects fail for several internal and external reasons and suggest various success factors that can overcome such problems. Abbas et al. (1995) stated that foreign expatriate managers score higher than Arab expatriates and UAE managers in the consultative style of management. They suggested studying the results of questionnaires applied to two different organizational cultures to pinpoint differences among project leadership styles.

According to Al-Tmeemy et al. (2011), the lack of an agreed definition of project success has long been the reason for failing to define and evaluate success. Andersen et al. (2006) stated that many companies are interested in achieving organizational targets through successful project management. Another study, conducted by Yousef (1998), suggested that the gap between project leadership and subordinates was a topic that should be addressed.

There is a gap of knowledge concerning leadership and organizational culture impact on project success through team communication and cohesiveness as mediator. Many studies have explained that culture differences create different leadership styles and have different direct impact on project success (Cerimagic, 2010). Other studies argue that team communication and cohesiveness eventually play a part in the success or failure of a project (De-Chih Lee et al., 2012). However, not many studies found in the reviewed literature have examined to what extent team communication affects the relationship between project leadership and culture on project success.

Purpose and Significance

The government of Abu Dhabi boosted its annual budget from around AED 260.2 billion in the year 2010 to around AED 314.7 billion in the year 2011 and reported a deficit of around AED 33.8 billion (Staff, 2012). Thus, the UAE, as a growing and attractive economy, is a fitting country with which to study the determinants of project success. This study will investigate the relationship between LMX, leadership, project culture and team communication and to what degree each one contributes to project success. The paper investigates the implications of, first, an existing gap in understanding how LMX and project culture can affect project success and, second, to what degree team communication influences both elements and consequently project success. The discussion explores different aspects that contribute to the success of projects and articulates issues that are essential for the implementation of the study's findings in this region. This study aims to address the success factors of various projects in the UAE. As such, the findings will greatly contribute to future comparative studies between the UAE and different international culture comparisons (e.g., whether Western cultures address the business process similarly to the UAE).

The suggested framework will also contribute to the literature. First, the study will test the significance of the relationship between success factors and project success. Then, the study will extend the research to find each component contribution through the mediating factor (Aubry, Hobbs, Müller, & Blomquist, 2010; Bryde, 2008). Second, as stated by Batista-Taran et al. (2013), strong, successful leadership create a strong relationship among organization members and makes them feel that the leader is one of them. Therefore, we examine leadership members' exchange (LMX) impact on project success. Then, we extend the study to examine the significance of LMX components and mediator impact on the relationship to project success. Third, we examine the mediating role of team communication (Doloi, 2009) and its characteristics regarding each part of

the model component's relationship between project culture with project success factors and leadership member exchange with project success factors.

Sub-problem

Organizational culture is a threatening problem that can hinder project success, although leadership style can also have a significant influence (Cerimagic, 2010). There is evidence of the positive impact of project communication and style on team productivity, team satisfaction and project management encoding or decoding (Henderson, 2008). In this paper, we test team communication's role as a mediating factor on the relationship between project culture and leadership style and its significance on project success factors

The primary stage of this study aims to explore the impact of culture and leadership member's exchange relation on project success in an Arab country, such as the UAE. The literature review suggests that culture and leadership style can affect project success determinants. The secondary level of the study investigates the mediating impact of team communication on the relationship between project success determinants, leadership style and project culture. Many studies suggest that culture differences and leadership styles can have different direct impact on project success determinants (Hofstede, 1991; Cerimagic, 2010).

Research Objectives

Although the literature addresses the importance of team communication and its positive impact on project success, not many studies measure the influence of team communication in the presence of LMX and project culture. Although the UAE's current projects are successful, not many studies have investigated this phenomenon and the factors that support the success. The following will introduce the main project success factors covered in the literature and review project leadership

styles, team communication and team cohesiveness. It will also explain the recommended methodology and study limits and implications.

That said, the following are the study's main objectives:

- Identify the determinants of project success factors.
- Understand the contribution of each determinant to project success.

Organization of the Study

The study consists of seven chapters explained as follows:

First chapter: Introduction

The introductory chapter contains seven sections: introduction, context, purpose and significance, sub-problem, research objective and organization of the study.

Second chapter: Literature review

The literature review chapter consists of five main sections and twelve sub sections: Introduction, Leadership (leader focus, organization focus and followers' focus), Culture (individual level, organization level and national level), Communication (communication performance, communication preference and other communication factors) and Project Success (portfolio level, program level and project level).

Third chapter: Theory

The theory chapter consists of four sections (theory, instrument development, mediating impact and conceptual frame). The theory is an introductory section. The instrument section provides an explanation for the components of the instrument and support from the literature. The mediating impact and hypotheses section explain the arguments covered in the literature and justification for

the construct of each hypothesis. The conceptual frame section summarizes the chapter conclusion in an illustration format with an explanation.

Fourth chapter: Methodology

The fourth chapter consists of five sections (results, data reduction and reliability, model and SEM, control variables and sample). The results section explains the chapter content and gives a brief description of the scientific procedure followed to code and process and analysis of the data. The second section explains each factor group of variable reduction results and gives an illustration. The third section explains the complete model relationship and results. The last sections explain the normality of the data sample and the results of the control variable Multivariate Tests.

Fifth chapter: Results

This chapter consists of six sections: introduction, data reduction and reliability, model and SEM, hypotheses test, control data and sample and conclusion. The chapter reiterates the outcome of each section after the implementation of the review of literature and implementation of the methodology.

Sixth chapter: Discussion

This chapter has six sections: introduction, LMX, project culture, team communication, project success factors and conclusion. It also presents the arguments and comparisons between the study's findings and similar literature.

Seventh chapter: Limitations and implications

This chapter contains the study discussion and consists of six sections: introduction, LMX, project culture, team communication, project success factors and conclusion.

Eighth chapter: Conclusion

This chapter contains the study conclusion, references and appendixes. The conclusion will summarize the complete study. The reference section contains the literature cited in the study. The appendixes have three sections: the first appendix contains the complete questionnaire. The second appendix contains the complete coding book and the third appendix provides a sample of the respondent letter.

Conclusion

The first chapter explains the purpose and significance of the study. While more than a third of projects fail around the world, Abu Dhabi has a large percentage of recent successes. A comparison of the factors that ensure the success of these projects with the success factors recommended by the literature makes for an interesting study. Finally, the section discusses the sub-problem and research objective. Finally, it describes the organization of the research.

Chapter 2

Literature Review

Introduction

The literature review chapter aims to construct an understanding of the big picture regarding the main four elements of LMX, project culture, team communication and project success factors, organization focus and follower focus.

Leadership

Many leadership theories have developed different focused ideas concerning the leader, the followers and the organizational process. Bennett's (2009) study revealed that there is a high correlation between transformational leadership and a team's extra effort. Di Schiena, Letens, Van Aken and Farris (2013) suggest analyzing leadership in three areas: the leader, the followers and the organization. Liden and Maslyn (1998) explain LMX theory in terms of leaders developing specific relations with their followers such that the relations lead to trust, loyalty, respect and liking.

Thomas et al. (2012) define leader-member exchange (LMX) theory as the leader and member relationship quality level. As a result of the leader relationship exchange and differences among leaders, LMX can range from high to low, which can influence members' work behaviors and attitudes. Therefore, in theory, both leaders and members can contribute to the LMX measurement. Liden and Maslyn (1998) explain LMX theory as the process where leaders develop specific relational attributes with followers, such that the relations lead to trust, loyalty, respect and liking.

Dienesch and Liden (1986) explain that LMX is an operational concept that requires the organization to explain the role-making process for the team member. Therefore, the LMX dimensions do not mean the same for each organization and have to be explained in terms of social

exchange environment or organizational performance. The trust dimension is described by categories, namely the in-group and the out-group. The in-group is characterized as high in trust and collaboration, very supportive of each other formally and non-formally and reward. The focus is very high on interaction relations and it also debated that each leader will have different relations with their subordinates. Therefore, leaders face time limitations in which to build trust and exchange relations. The out-group is described as low in trust, collaboration and reward.

Batista-Taran et al. (2013) explain the importance of the leader-member exchange (LMX) theory as the difference between a high LMX rating leader and low LMX rating leader. Leaders who are described as high in LMX, in fact, consider themselves part of the team and continuously support the group until they build a strong relationship with it, whereas leaders with low rating in LMX exhibit less support for their team. The leader with high LMX will exchange trust and support with the team until they establish high influence in the team decision making process.

As stated by Liden and Maslyn (1998), many studies have shown the importance of LMX as LMX has proven to be negatively correlated with job turnover and positively correlated with job satisfaction and organization commitment.

Liden, Sparrowe and Wayne (1997) explain that there are consequences for job performance and satisfaction. Their study reviewed a Japanese company study that showed a positive relation between LMX and performance when employees believe in the need to grow for strength.

Overby and Suvanujasiri (2012), Politis (2003), Jabnoun and Al Rasasi (2005), Ping (2010), Cerimagic (2010), Katz and Kahn (1952), De Vries, Bakker-Pieper and Oostenveld (2010), Schein (1985), Lindell and Arvonen (1997), Aboyassin (2008) and Hofstede (1993) address the importance of personality, criteria or style measures (e.g., task oriented, relation oriented and participative-oriented). Overby and Suvanujasiri (2012) similarly suggest four dimensions: change,

acumen, driven and people. Politis (2003) used forty-five items measured by a seven-point Likert scale to identify leadership style adopted from the literature. He discussed the differences between three models. First, the Manz and Sims model Small Multifactor Leadership Questionnaire (SMLQ) which includes six items: encourage self-observation, encourage self-goal setting, encourage self-reinforcement, encourage self-criticism, encourage self-expectation and encourage rehearsal. The second model he discussed, based on Bass, has three items: attribute charisma, individual consideration and intellectual stimulation. The third model includes as the main items: initiating structure and consideration. The study revealed which model scores the highest impact on the SMLQ.

Jabnoun and Al Rasasi (2005) used a seven-point Likert scale called the multifactor leadership Questionnaire (MLQ) to measure leadership. The study suggested the following dimensions: charisma, intellectual, individualized, contingent, active, passive-avoidant, organization culture, reliability, responsiveness, tangible, assurance and empathy.

Ping et al (2012) suggested using a five-point Likert scale questionnaire which has thirty-three items to measure leadership style and employee trust. The questionnaire confirms the description of leader personality with significant accuracy.

Lindell and Arvonen's (1997) study investigated leadership qualities found in Nordic managers and found that managers have a more feminine leadership style and depend more on subordinates and peers and less on official regulations and seniors compared to other Europeans.

Cerimagic (2010) suggested using three qualities to define leadership performance: task-oriented behaviors, relations-oriented behaviors and participative leadership. The measurement used was adopted from Katz and Kahn (1952). Similarly, de Vries (2010) suggested a model adopted partially from Bass (1985) consisting of three items or more, including task oriented, relation

oriented and participative oriented. Abbas et al. (1995), Tatum et al. (2003), Alas and Tuulik (2007) and Yousef (1998) suggested a leadership decision style that is more suitable to describe the qualities of a leader, such as autocratic, pseudo-consultative, consultative, participative, delegatory. Aboyassin (2008), based on Hofstede (1993), looked at how nationalities treat difference to measure leaders' expected fit.

Karemu and George (2014), Blanchard and Hersey (1997) and Aubry et al. (2010) state that some leadership styles have significant impact on organizational level. For example, transactional leadership based on maturity life cycle level of responsibility can be undertaken by someone in a specific situation.

Karemu and George (2014)'s empirical study evaluated the implementation of education and training institute strategy in Kenya. This suggested framework, based on the literature, measured leadership performance using situational contingency theory.

Blanchard and Hersey (1997) suggested a transactional leadership style, taking into account maturity life cycle based on level of responsibility and ability to react in a specific situation. This type of approach favors taking an action more suitable for people's working situation preferences, for example, irresponsible people will favor less focus on task and more on people.

Aubry et al. (2010) described project culture related to external and internal factors as driving forces supporting PMO transformation culture dimensions. Yousef (1998) defines organizational culture as "a set of assumptions, beliefs, and values that organizational members share and use to guide their functions."

Politis (2003) explained organizational culture in relation to quality function deployment (QFD) in six statements: Top management commitment to QFD, QFD training, worker supervisor

collaboration in QFD efforts, QFD strategic planning, customer orientation and human resource focus on QFD.

Hong et al. (2004) describe project culture environment as a theme in a project uncertainty environment that includes four items: product complexity, knowledge intensity of the product development process, process complexity and current rate of technology change.

Alas and Tuulik (2007) argued that we can define the project culture in (GLOBE) organizational culture from five perspectives: leadership behavior, followers' trust, confidence of followers, followers' perception of firm strategy and firm objective.

Ahimbisibwe and Nangoli (2012) suggested measuring project culture performance at the organization level using five items: network transitivity, network degree, normative commitment, continuance commitment and affectivity commitment.

Jabnoun and Al Rasasi (2005) describe organizational culture performance using five aspects: reliability, responsiveness, tangible, assurance and empathy.

Liden and Maslyn (1998) suggest using leadership-member exchange (LMX), while Robert et al. (2010) recommend LMX theory for four group evaluation items: loyalty, affect, contribution and professional respect. Potgieter's (2013) study also underlines the importance of leadership influence on followers' trust perspective. Henderson (2008) suggested measuring leadership communication competency effectiveness on members' satisfaction and productivity.

Kyootai et al. (2012) used the LMX model as a moderator between software developers' creativity and emotional intelligence. Similarly, Robert et al. (2010) suggested leadership trust establishes an environment supporting mutual respect. In another study, Potgieter (2013) advocated postmodern group-based leadership using coaching. The following table summarizes some examples of applicable leadership theories based on the literature review:

Table I - Leadership theory example

Leader focus	Organization focus	Followers' focus
Great Man Theory	Situational Theory	Group Theory
Trait Theory	Excellence Theory	Contingency Theory
Behavior Theory	Transactional	Transformational & LMX

Culture

The following section describes the findings of reviewed articles related to culture aspects. Based on expected impact, organizational culture can be investigated on three levels: individual, organization or project and national. Andersen, Birchall, Jessen and Money (2006) reveal that project success can be significantly improved if the management's culture and commitment are high.

Aubry et al. (2010) explained the importance of organizational dynamics as a process for understanding the transformation to a successful PMO (project management office) supportive culture. They also stated that adopting a structure that has the ability to respond to different strategic change perspectives makes an organization strong. They listed a number of elements with which a dynamically adoptive project culture can succeed in changing to support PMO.

Aldulaimi and Sailan (2012) explained that the organization change intuitive can be influenced by national values, individual readiness and organizational commitment to change. Organization change behaviors can be impacted by change in organizational commitment. The change happens in employee faith, employee benefits, employee support and duties or organizational reward behavior for cost and success. 1037 Qatari public employees responded to this study. The study showed that

different culture values result in different liabilities to successful culture change and employee performance readiness.

Aubry et al. (2010) explained that organization culture ability to transformation to PMO can drive culture change to support project success. The PMO practices support best practices and management skills sharing within organized project management activities recording and sharing office. Although many studies addressed dynamic change, the PMO transformation process was not reviewed extensively in the literature and requires more research. Therefore, this study will review the implications of the measurement suggested by Aubry et al. by testing it within the UAE culture and by using SEM methodology.

Doloi (2009), Cerimagic (2010), Mayfield and Mayfield (2009), Fernando, Fernandez and Sánchez-Gardey (2012), Boiral and Paille (2012), Liang and Picken (2011), Aldulaimi and Sailan (2012), Doyle, Radzicki, Rose and Trees, (1997) and Houghton and Yoho (2005) describe measures at an individual level that shape the project culture, such as lack of trust, increased confidence and trust, importance of trust and confidence, lack of confidence, effects on dispute resolutions and delays, mutual confidence among partners, long-term working relationships and likelihood of disputes erupting.

Doloi (2009) also describes organization culture trust/confidence using eight components: lack of trust, increased confidence and trust, importance of trust and confidence, lack of confidence, effects on dispute resolutions and delays, mutual confidence among partners, long-term working relationships and likelihood of disputes erupting.

Cerimagic (2010) used organization culture for non-completed projects suggested by Hofstede's (1991) five elements: power distance, individualism, masculinity, uncertainty avoidance and long-term orientation.

Mayfield and Mayfield (2009)'s study included a new look at language used by the leader in an organization, using more than ten items to explain setting language meaning and empathy. For example: 'the leader tells me stories about people who have been rewarded by this organization'; 'the leader tells me stories about people who have left this organization'; absenteeism; and attitude.

Fernando et al. (2012) suggested using individuals' values to measure cultural heterogeneity as a description for organization culture. Boiral and Paille (2012) used organization citizenship to measure organization success. The study justifies the use of organizational decision decentralization to empower the employee, not reward.

Liang and Picken (2011) explained organization culture in eight components to understand their impact on communication and leadership: tenure deviation, functional deviation, communication, perceived differences, environmental uncertainty, degree of freedom, comparative fit index and goodness of fit.

Al Dulaimi and Sailan (2012) used Hofstede's model and added two items to describe the individuals' experience: appropriateness readiness for change and affective commitment to change. Doyle et al. (1997) compared Gordon's cognitive styles to the Myers-Briggs type indicator, or MBTI. This is a type of culture measurement for an individual level and does not necessarily describe a higher level. Houghton and Yoho (2005) measured organization culture at the individual level according to these aspects: commitment, dependence, creativity and psychological empowerment.

Aubry et al. (2010), Larson and Godeli (1988), Yousef (1998), Politis (2003), Hong, Abraham and William (2004), Snowden and Boone (2007), Jabnoun and Al Rasasi (2005) and Lewis and Thomhill (1994) suggest measures applicable for the level of an organization, such as those

identified by Abbas, Azim and Krishnan (1995), i.e., six types of organization-culture: tribalistic, egocentric, conformist, manipulative, sociocentric and existential.

Aubry et al. (2010) described project culture related external and internal factors driving the force to support PMO transformation culture dimensions. Aubry is considered a project management research guru. In this framework, the culture instrument we used was based on Aubry's research recognizing the forces driving project management changes in organizations. Therefore, it was an important tool and most suitable to be used to measure supportive changing culture performance. The paper he presented has more than 15 statements, but in our study we minimized them to six statements that mostly represent the culture dimension. The six statements were modified from a language prospective to better outfit the respondents' cognitive illustration.

Larson and Godeli (1988) surveyed 540 development projects in Canada and the US where respondents had to evaluate project performance based on measuring the project success at the project level using four elements: meeting schedule, cost control, technical performance and result (successful or not). The study categorized five project management structures: functional, functional matrix, balanced matrix, project matrix and project team. The 64% who responded to the study revealed their project management structure and whether they met the schedule or not. The study also revealed that exploring other factors that can mediate project structure effectiveness is needed.

Yousef (1998) defines organization culture as "a set of assumptions, beliefs, and values that organizational members share and use to guide their functions." Politis (2003) explains organization culture in relation to quality function deployment (QFD) in six statements: top management commitment to QFD, QFD training, worker supervisor collaboration in QFD efforts, QFD strategic planning, customer orientation and human resource focus on QFD.

Snowden and Boone (2007) argued that we can describe the organization's culture from five different perspectives: complex problem, chaotic, simple, complicated analyze, and disorder.

Ahimbisibwe and Nangoli (2012) suggested measuring project culture performance at the organization level using five items: network transitivity, network degree, normative commitment, continuance commitment and affectivity commitment. Jabnoun and Al Rasasi (2005) describe organization culture performance using five aspects: reliability, responsiveness, tangible, assurance and empathy.

Lewis and Thomhill (1994) suggested five processing criteria to measure organization performance: defining the desired goals, analyzing the current state, reviewing the change strategies available, deciding on the appropriate strategies and implementing and evaluating the strategies.

Chow and Chen (2012), Kyootai et al. (2012), Jae and Kim (2012), Hvidt (2009), Hofstede (1991), Tatum, Eberlin, Kottraba and Bradberry (2003), Lindell and Arvonen (1996), Luce, Payne and Bettman (1999) and Aboyassin (2008) suggest an approach applicable to the national level, such as Hofstede's model, in order to measure five aspects of organizational behavior: power distance, individualism, masculinity, uncertainty avoidance and long-term orientation.

Chow and Chen (2012) describe organization culture in a number of statements categorized into three groups: social development, economic development and environment development.

Kyootai et al. (2012) partially describe culture looking at four aspects: emotional intelligence, perceived personal job fit, creativity and leadership exchange.

Jae and Kim, (2012) used six elements to explain the culture associated with strategy implementation which can be called independent culture predictors: intra-industry importation,

trade association ties, extra-industry importation, professional association ties, proportion of outside board members and CEO duality (dummy variable).

Hofstede (1991) defines culture as “a group’s response to its social environment.” The dimension of organization culture is covered extensively in the literature and many articles have been written about it. The main elements used in Hofstede’s study describe culture as the following: power distance, individualism, masculinity, uncertainty avoidance and long-term orientation.

Tatum et al. (2003) explain culture at the national level, breaking it down into four elements: comprehensive social justice, restricted social justice, comprehensive structural justice and restricted structural justice.

Lindell and Arvonen (1996) suggested Hofstede’s model to explain the Nordic similarities and differences using the items: power distance, individuality, masculinity and uncertainty. Luce et al. (1999) explain organization culture impacts of tradeoffs and categorize them into four parts: emotional social reasoning, experience length, high performance employee and organization benefit.

Hvidt (2009) describe culture on the country level in nine statements: government-led development (ruler-led); fast decision making and “fast track” development; flexible labor force; bypass of industrialization—creation of a service economy; internationalization of service provision; creation of investment opportunities; supply-generated demand (“first mover”); market positioning via branding; and development in cooperation with international partners.

Aboyassin (2008) used Hofstede’s model to measure organizational behavior in five aspects: power distance, individualism, masculinity, uncertainty avoidance and long-term orientation.

Communication

The following section reflects some aspects of team communication and measures that can be grouped into three groups: performance measurement, preference and other factors.

Team communication is defined by three aspects (Chong et al., 2012). First, team awareness which is affected by people mode, people location and working style. It seems team members who are located close to each other understand more. Second, the condensed volume of energy needed to start discussion. The condensed volume of energy needed to start a discussion means the group members are very efficient at communication. Third, team identity in understanding the communication medium. This refers to team similarities and common recognition among group members.

Team communication can impact project time. Lack of team communication can increase the chances of project failure. The teams that can communicate efficiently require less time to share knowledge and solve problems. The teams that perform strongly in communication can better understand project goals and task performance, reduce complexities and increase the chances of project success (Chong et al., 2012).

Doloi (2009) stated that team communication obstacles were reported as the most important aspect that contractors take into consideration when selecting a project. In his research, evidence from a European study reported a significant reduction in project cost when strong team communication was established. Evidence from the UK showed an increase of team initiative and member motivation when there was strong project team communication. A Hong Kong-based study also demonstrated that team communication can improve project members' relationships and build trust among the members, which in turn can reduce project risk associated with culture complexity and project nature.

Ahimbisibwe and Nangoli (2012), Sivasubramaniam et al. (2012), Hong et al. (2004), Omerzel, Antoncic and Mitja (2011), Robert et al. (2010) and Doloi (2009) define the importance of communication as, for example, trust, confidence and joint risk management in achieving project success (Naoum, 2003; DTF, 2006; Jones, 2001).

Ahimbisibwe and Nangoli's (2012) study explains project performance. To measure project communication they suggested two groups: intra-project communication and external-project communication. The study has eight items and used a five-point Likert scale. Intra-project communication group statements include: 'Am satisfied with the amount of information I receive from my supervisor(s)'; 'The language we use in our correspondences is familiar to all team members'; 'I like the channels that we use to share information amongst team members'; 'Informal communication amongst team members is usually active'; 'New information usually circulates amongst project team members in time'. For external-project communication: 'Our external stakeholders are reliably informed of the progress of our citizenship projects'; 'Our external stakeholders like the way we communicate with them'; 'We have always maintained timely communications with external stakeholders'.

Sivasubramaniam et al.'s (2012) study suggested eight items including team input variables (team tenure, functional diversity, team ability and team leadership) and team process variables (internal and external team communication, group cohesiveness and goal clarity). Internal communication helps develop shared meanings, clarifies goals and roles and fosters creativity. External communication boundary spanning helps team performance by leveraging external resources.

Hong et al.'s (2004) study measured project performance with in-team communication and other dimensions. The most interesting thing about this was that it measured communication of

project objective clarity using six items: 'The project mission was well communicated to all team members'; 'The product development's team members had a well-defined mission'; 'A clear set of project targets guided the development'; 'Project targets were clearly understood by all team members'; 'Project targets were clearly communicated to all team members'; 'Project targets were clear'. Hong et al.'s study also suggested another weighting group of variables can be used as a team communication factor.

Omerzel et al.'s (2011) study measured knowledge management model performance and suggested seven items: use of knowledge, knowledge acquisition at the individual level, knowledge storage, motivation, measurement of the efficiency of KM implementation, knowledge transfer and knowledge acquisition at firm level. This type of study can be very useful for measuring the effectiveness of team communication in knowledge-based performance.

The study by Robert et al. (2010) measured intellectual capital management enablers. In this study, they suggested eight statements that could be used to measure the effectiveness of the communication process: 'We maintain appropriate communication with our stakeholders'; 'Suppliers and customers have a clear picture of who we are and what we offer'; 'Our clients think we work toward their best interest'; 'We emphasize getting to know one another in this organization'; 'In this organization, we consider the long term effects of opportunities carefully before taking advantage of them'; 'We often foster long term business relationships that appear to have no short-term value'; 'Employees and other stakeholders in our organization are looking for long-term returns'; 'The structure within this organization promotes caring relationships'.

Doloi's (2009) study defines the importance of communication, trust and confidence and joint risk management in achieving project success. He used a five-point Likert scale to measure eight items: lack of communication (C1), increased communication (C2), reliable and frequent

communication (C3), effect on reduction of conflicts (C4), effect on informed decision making (C5), effect on improvement in expectations (C6), likelihood of disputes erupting (C7) and scope changes without causing disputes and delays (C8), adopted from Naoum (2003), DTF (2006) and Jones (2001).

Knell and Chi (2012), Troth, Jordan, Lawrence and Herman (2012), Henderson (2008), Canary and Spitzberg (1987), Chong et al. (2012), Hoegl and Gemuenden (2001), Mayfield and Mayfield (2009), Liang and Picken (2011) and De Vries et al. (2010) suggest analyzing the mechanics of communications between leaders and team members and how they affect processes and outcomes.

Knell and Chi (2012) studied the roles of motivation, affective attitudes and willingness to communicate among Chinese students in early English immersion programs. To assess team communication, they suggested three items: willingness to communicate, perceived competence (less confidence) and language anxiety.

Troth et al. (2012) used a multilevel approach to examine how the use of emotion-related skills affects team task performance and communication performance within the team. The communication performance was assessed by using Canary and Spitzberg's (1987) thirteen item communication performance scale.

Henderson's (2008) study measured the project manager communication decoding and encoding competencies using eight items: 'Is a good listener'; 'Pays attention to what other people say to her/him'; 'Can deal with others effectively'; 'Is sensitive to others' needs of the moment'; 'Is easy to talk to'; 'Is easy to understand when s/he speaks'; 'Writes in a way that is easy to understand'; 'Expresses his/her ideas clearly'.

Chong et al. (2012) examined how a contextual condition like time pressure may influence the relationship between team proximity and team communication. In this study, time pressure was

conceptualized as a two-dimensional construct, challenge time pressure and hindrance time pressure, such that each has a different moderating effect on the proximity–communication relationship. Team communication was assessed using the ten-item scale developed by Hoegl and Gemuenden (2001).

Mayfield (2009) measured leader motivational language using 26 questionnaire items. This type of study is very useful to measure leader communication performance.

Liang and Picken's (2011) study revealed relational demography, communication and cognitive differences among top managers. They suggested six items to measure leader performance in strategic vision and communication: 'Provides inspiring strategic and organizational goals'; 'Inspirational: able to motivate by articulating effectively the importance of what organizational are doing'; 'consistently generates new ideas for the future of the organization'; 'Exciting public speaker'; 'Has vision: often brings up ideas about possibilities for the future'; 'Entrepreneurial: seizes new opportunities (favorable physical and social conditions) that may facilitate achievement of organizational objective'.

Yaping, Tae-Yeol, Deog-Ro and Jing (2013), Martínez-Caro (2011), Abu-Elsamen, Akroush, Al-Khawaldeh, Al-Shibly and Motteh (2011) and Triana, Kirkman and Wagstaff, (2012) suggest measuring specific processes or group forms as a part of the communication medium impact. Parker-Raley, Cerroni, Mottet, Lawson, Duzinski, Mercado and Yanez (2013) looked at determining communication quality and effectiveness of trauma teams during resuscitations.

Yaping et al. (2013) looked at multi-level modeling of team goal orientation and team information. The aim of the study was to understand the relation between communication team exchange and team creativity. The study suggested two items to measure team communication

exchange: (a) 'Team members exchange information with and learn from each other' and 'Team members exchange ideas with each other to analyze and solve problems'.

Martínez-Caro's (2011) study revealed factors affecting effectiveness in e-learning. He suggested eight factors: work status, prior experience, flexibility, interaction teacher with student, interaction student with student, blended e-learning, perceived learning and satisfaction.

Abu-Elsamen et al. (2011) suggested a model of project success evaluation suitable for a program level that aims to measure employee skills and customer focus consisting of the following five group items: reputation building skills, problem solving skills, verbal communications skills, nonverbal communications skills and customer service culture skills.

Triana et al. (2012) measured the impact differences between order of face to face versus computer-mediated communication and individual inclusion. This type of study is useful to understand communication medium impact on individuals' relationships.

Parker-Raley et al. (2013) examined the Pediatric Resuscitation Communication Team Assessment (APRC-TA). It was created to assess communication effectiveness of trauma teams during resuscitations. The instrument was designed to identify specific team communication errors that occur during resuscitations. The APRC-TA contains six competencies: team dynamics, team turn taking, team space negotiation, noise management, team support and team listening.

Project Success Factors

Many studies investigated project success factors on different levels: portfolio level, program level and project level. In most cases, the governmental project decision making process is in the hands of stakeholders and project governance committees. The following section will explain the findings of reviewed articles on evaluations of project success factors determined on three levels: portfolio, program and projects.

The Office of Government Commerce (OGC) describes the activities on three levels: portfolio, program and project (OGC, 2009). Portfolio management is the higher level of managing group programs activity, while program management is meant for managing projects such as measurement variables (i.e., social, economic and environmental sustainability) (Abu Bakar et al., 2010). The project management activities level is defined as a group of work objectives serving the main goals, while project success is an evaluation of the project targets. Han et al. (2012) explain the difference between project success and project management success. The project management's conventional success is defined as achieving the project duration, total fee and quality. The project's success is evaluated by measuring the project's overall goals with the internal and external benefits.

According to Albert et al. (2014), project success must be regarded as a success by the people working on it, should be within specified cost constraints and have an effective management process. He explained that a successful project leader must be a leader who can motivate team spirit, monitor financial performance and be adaptable to any changes of environments and market competition or the project will not succeed.

Han et al. (2012) explained that it is very important for organizations to recognize project success. On many occasions, people tend to confuse project success and project management success. As mentioned previously, project success evaluation is more general than project process management success. The impact of project success can influence internal and external aspects. Compared to the project management process, success can be limited to the internal team and not necessarily count the benefits of the project.

Ab Baker et al. (2010) explained that it is very important to deliver some projects outputs within specified internal and external constraints. Governments now are looking to improve project performance to achieve sustainable economy and social status. For example, everyone has the right

to strive for their wellbeing; building asocial and economically acceptable housing units is an important project objective and the project will be regarded as a success by stakeholders and clients.

Karemu and George (2014) explain that successful project implementation must address the requirements of the end user. For example, a vocational institute program will not be successful unless the outcome satisfies a government's needs and has an impact on reducing poverty and improving quality of life.

Jae and Kim (2012), Chow and Chen (2012), Abu Bakar et al. (2010), Jing et al. (2010), Khang and Moe (2008), Diallo and Thuillier (2004), Shenhar and Renier (1996) and Hong et al. (2004) recommend a holistic evaluation that is more suitable for portfolio-level evaluation (e.g., defining project management success factors in order to measure sustainable housing development, social development, stakeholders' opinions and international project coordination).

Jae and Kim (2012) suggest measuring organizational performance at the portfolio level by focusing on the interaction between a proportion of outside board members using the following dimensions: intra-industry importation, trade association ties, extra-industry importation and professional association ties.

Chow and Chen (2012) explain social development in six statements: 'Our firm improved employee or community health and safety'; 'Our firm recognized and acted on the need to fund local community initiatives'; 'Our firm protected the claims and rights of aboriginal peoples or local community'; 'Our firm showed concern for the visual aspects of the firm's facilities and operations'; 'Our firm communicated the firm's environmental impacts and risks to the general public'; 'Our firm considered the interests of stakeholders in investment decisions by creating a formal dialog'. In my opinion, this is more portfolio management level evaluation than program or project level.

Abu Bakar et al. (2010) explained the importance of defining project management success factors in order to measure sustainable housing development. The study recommended three measurement objectives: social sustainability, economical sustainability and environmental sustainability. This categorization is useful for project portfolio performance management and monitoring.

Jing et al. (2010) suggested eleven success determinants that can be used before the start of a project. They are more suitable for portfolio level evaluation: manage social responsibilities, formulate clear project missions, identify stakeholders, understand areas of interest, explore project needs and constraints, assess stakeholders' behaviors, predict influence, assess attributes, analyze conflicts, keep and promote good relationships and formulate proper strategies.

Khang and Moe (2008) suggested eighteen items to measure the success of the projects: conceptualizing, clear target group needs, agency capability, stakeholder's interest, planning, gain key stakeholders' support, prepare for resource, get ready for project start, implementation, plan the project, keep key stakeholders informed about the process, closing, check the scope of work done, report the results to key stakeholders, overall project success, good reputation, good for beneficiaries and good luck.

Diallo and Thuillier (2004) suggest measuring the project success for international project coordination using seven factors grouped under management success, project itself and portfolio: 'The project operated within budget'; 'The project operated on time'; 'The initial identified objectives were attained'; 'The project built institution capacity within the country'; 'The project had a visible impact on the beneficiaries'; 'The beneficiaries are satisfied by the goods or services generated'; 'The project achieved a high national profile'.

Shenhar and Renier (1996) suggested high-level evaluation was more suitable for portfolio level evaluation. The first three items of direct contribution (medium term activities planning) were immediate business and/or commercial success, immediate revenue and profits enhanced and larger market share generated. However, the second five items describe future opportunity and (long term activities planning) will create new opportunities for the future, will position customers competitively, will create new markets, will assist in developing new technologies and has or will add capabilities and competencies.

Hong et al. (2004) also suggested a model consisting of four items suitable for portfolio evaluation: 'This product has high value for the customer'; 'The product exceeds customer expectation'; 'This product created a high customer value'; 'This product was successful in the marketplace'.

Ahimbisibwe and Nangoli (2012), Fernando et al. (2012), Martínez-Caro (2011), Abu-Elsamen et al. (2011), Cerimagic (2010), Lu and Yuan (2010) and Robert et al. (2010) define success factors at the program level as consisting of content needs, procedural needs, relationship needs, human resource management, formulating regulations, identifying a good system and conducting vocational training.

Ahimbisibwe and Nangoli (2012) conducted a survey to explain perceived project performance of Ugandan citizenship projects. The study suggested measuring nine areas using thirty three items: intra-project communication, extra-project communication, organization culture, affectivity commitment, continuance commitment, normative commitment, network degree, network transitivity and perceived project performance. I found this type of study often explains more about the tension between strategic alignment and project delivery and operation effectiveness. Therefore, it is suitable for explaining success factors of program levels.

Fernando et al. (2012) used human resource management to transfer the performance of an organization and suggested five elements to measure success: job design and planning, staffing, performance assessment, compensation and training and development.

De-Chih Lee et al. (2012) suggested ten evaluation statements three of which can be used at the program level evaluation: 'In my team, I have sufficient opportunities to improve my personal performance'; 'I think my team is a meaningful group'; 'Our group performance is inconsistent with team member expectations (R)'. Lu and Yuan (2010) suggested seven items to measure the success of projects that can be used at the level of program evaluation: formulate regulations, identify good systems, promote awareness, promote effective technologies, avoid frequent changes, continue research and development and conduct vocational training.

Martínez-Caro (2011) measured the effectiveness of E-learning projects and suggested a theoretical model suitable for program level evaluation consisting of the following items: program flexibility, teacher interaction, students' interaction, blended E-learning, perceived learning, and satisfaction. Abu-Elsamen et al. (2011) suggested a model of project success evaluation suitable for program levels that aim to measure employee skills and customer focus consisting of the following five group items: reputation building skills, problem solving skills, verbal communications skills, nonverbal communications skills and customer service culture skills.

Cerimagic (2010) suggested three categories of success factors: content needs, procedural needs and relationship needs. In my opinion, this approach explains more about program performance than project level evaluation. Robert et al. (2010) suggested a model suitable for program level causal evaluation that includes the following items: organic renewal structure, interactive behavior, development of trust, intellectual capital, management processes and relationship capital.

Aubry et al. (2010), Mansour (2010), Doloi (2009), Bryde (2008), Doughty and Kliem (1987), Shen and Liu (2003) and Larson and Godeli (1988) point out the factors that reflect project level performance or evaluation (e.g., on-time project delivery, on-budget project delivery, desired quality outcomes and cost saving).

Aubry et al. (2010) suggested achieving successful projects through the transformational role of project management emphasizing project management practices. The study identifies the three project success factors found in most studies to achieve the project goal within time, cost and quality. This approach is applicable for project level success evaluation.

Doloi (2009) suggested four items called “relational partnering success” (RPS) used to measure project success: on-time project delivery, on-budget project delivery, desired quality outcomes and cost savings.

Doughty and Kliem (1987) suggest using the following five items to measure project success at the project level: set project objectives, plan before you start, establish and maintain communication, organization resource importance and obtain proper monitoring and tools.

Shen and Liu (2003) suggested eleven items for measuring success suitable for project level evaluation before implementation: client’s support and active participation, clear objective, a strong project team, facilitator competency, control workshop, prepare and understand related information, plan for implementation, analyze function, study timing, interact among participants and cooperate among departments.

Larson and Godeli (1988) surveyed 540 development projects in Canada and the US where respondents had to evaluate project performance based on measuring the project success at the project level using four elements: meeting schedule, cost control, technical performance and result (successful or not). The study categorized five project management structures: functional,

functional matrix, balanced matrix, project matrix and project team. The 64% who responded to the study revealed their project management structure and whether they met the schedule or not. The study also revealed that exploring other factors that could mediate project structure effectiveness is needed.

Mansour (2010) suggested four elements that can describe a program or project level budgeting decision making experience found in the UAE: experiential, not comprehensive, satisficing and incremental. This type of evaluation is more applicable for evaluating activities at the project level.

Bryde (2008) suggested a comprehensive list of eleven items to measure the success of a project at the project level. The study suggested seven items of benefit management and five items of success measurement for social-subsystems. The seven items regarding benefit of management are: define business benefits/requirements, establish project strategy, monitor project benefit, agree on project definition, general management support (training and environment), monitor projects' business environment and cancel project if appropriate. The social sub-system five statements are: 'In our organization all projects must demonstrate a pre-defined return on investment before they can be approved'; 'Business benefits of a project are managed through to their realization'; 'Tangible benefits are identified for each project': 'The business benefits associated with a project are clearly identified'; 'The success of a project is measured against a pre-defined criteria at the end of a project'.

Conclusion

The literature review section consisted of five parts: introduction, LMX, culture, communication and project success. In each section, a definition of the terms and their importance was included. The LMX section discussed the findings on leadership focus in the literature, which was broken down into three elements: leaders, organizations and followers. In the culture section, the literature

on culture has three parts: individual, organizational and national. The literature on communication has three sections: performance, preference and other interests. Finally, the project success section summarized in three levels: project level, program level and portfolio level.

The literature review in some cases from my opinion did not present a cutoff point between the levels of the instruments used and categories definition.

For example, the development of instrument evaluating the success at project level, program level or portfolio level was not found clearly organized in the literature. The literature suggested instruments are almost suitable for the specific level required. In this case, the statements suggested instrument will measure more than one level and we have to reward them to maintain the fit of purpose. Furthermore, the suggested instrument number of items will be tested and reduced after data collection. Therefore, the study will provide an instrument with a smaller number of items and scientifically proven reliable. This is the case of all the factors used in this study (LMX, Project Culture, Team communication and project success).

Another challenge face the study in literature is to define the categories of the under study factors at the project level not national or individual level (LMX, Culture, Team communication, and project success).

For example, the culture definition in general could mean set of believes at national level or project level or individual level. In this case, the research has to definition has to explain targeted set of believes or practices describe the project level and not national or individual level. We could argue that there is no cutoff point in the individual believes or national, however, the focus of this study addressing the culture at the project level and practices. In this case, the contribution is by identifying the literature support the definition of the study as explained in the theory chapter.

Chapter 3

Theory

Introduction

The following section explains the literature findings that support building a conceptual framework for the study and the hypotheses justifications. It also explains specifically why each instrument chosen was found to be more suitable than others found in the literature for the study of project success determinants (LMX, project culture, team communication and project success).

LMX

The literature on leadership has three focuses: leader, organization or performance and followers. The LMX has a significant impact on followers' attitudes and behaviors. Kyootai et al. (2012) have argued that LMX can support project success, not only mindset and manners. The creativity of software developers was found to be higher when the leadership relation was strong. Furthermore, the study showed that an emotional intelligence relationship is a primary leadership source for boosting employee creativity. Employee creativity eventually supports project performance and success through product and process improvement, cost reduction and time. Robert et al. (2010) argued that the leadership effect on work environment positively influences project success. The fact is that LMX can establish trust with employees and create supportive mutual respect. This positive environment can encourage commitment to engage in and support the goal of the organization or the project. Potgieter (2013) suggests specific coaching skills needed by project leaders that better engage the team and support project goals and success. It is very important to maintain strong LMX within the project and coaching for high performance. Therefore, a conceptual framework requires addressing LMX to explain the success of a project.

Culture

Previous literature has defined three cultural levels: individual, organization or project culture and national. The project culture has an impact on project success. Hong et al. (2004) describe project culture challenges as project environment uncertainty. Those challenges increase with product complexity, knowledge intensity of product development process, process complexity and rate of technology change.

For Ahimbisibwe and Nangoli (2012), project culture performance reveals that project culture with strong communal relationships and persistence commitment can support project success. Their study argued that social networks have increasingly impacted the perception of project performance. Ahimbisibwe and Nangoli also revealed the importance of right attitudes that will structure the behaviors of the project team and support success.

Aubry et al. (2010) described a successful performance as the adaptation of best practices of PMO to transfer project culture. The study argued that there are related external and internal factors driving forces. These internal drivers' dimensions can be measured by evaluating the process and structure of certain management practices. Organizations with no ability to dynamically support transformation of the structure may encounter driving forces that will fail the project. Therefore, the conceptual framework requires addressing project culture as an independent driver.

Team Communication

Sivasubramaniam et al. (2012) argued that many projects face external and internal communication challenges. Team communication can change those challenges into opportunities that can benefit projects and improve their performance. The clarity of a project goal is improved by team communication ability and cohesiveness among team members. While team diversity

increases stress and causes function overlapping, team communication processing can overcome it and help succeed in project assignment.

Ahimbisibwe and Nangoli (2012) revealed the importance of timely communication with external stakeholders to achieve project success. Their study argues that with a changing environment and product complexity increase, it is essential to maintain communication with stakeholders to inform them about the progress of the project and increase project team confidence. Furthermore, this communication needs to be swift and reliable.

That said, it is important for any project team to have strong communication abilities in order for the mission and objective of the project to succeed. Internal communication and external communication can help a team perform better and achieve their goal. Therefore, it is recommended that team communication performance is included in the conceptual frame.

Project Success

Previous sections in the literature have defined project success and explained its importance. Ahimbisibwe and Nangoli (2012) explained that project success can be achieved through strategic goal alignment and product quality and operation effectiveness. This type of alignment is justified by the need for organizations to be socially responsible and enrich projects goals through social network engagement. The aim of such evaluation of success is the engagement and networking with the social community.

Fernando et al. (2012) argued that the engagement of human resource performance, knowledge, and satisfaction will support operation improvement continuity and success. In this regard, human capital maintenance and operation management will support project performance and help the goal succeed. This type of study focuses on the importance of human resource strategic management to drive organization success.

In addition, Bryde (2008) describes the project success's four directions: client benefit, stakeholder perception, staff engagement and product quality and efficiency. Therefore, it is important to satisfy the objective of the client in order for the project to be considered successful, engage the stake holder and address the staff and operation constraints. This suggests we include project success as a conceptual frame dimension.

Conceptual Framework

Based on the above discussion, this research states that LMX and project culture as independent variables have a direct impact on project success. As was mentioned previously, team communication has an important impact on the relationship between leadership, culture and project success. Therefore, this study aims to investigate the expected role of communication in mediating the independent variable and the dependent relation. This study further aims to investigate the mediating impact of team communication on LMX and the impact of project culture on project success factors, as depicted:

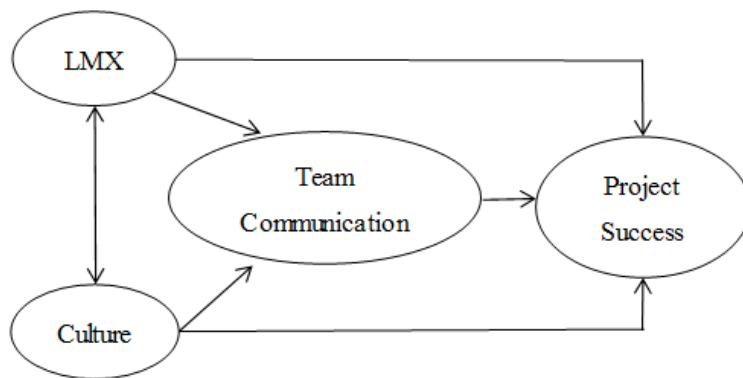


Figure 1 - Conceptual model

Hypotheses Development

The following section explains the justification for building the hypotheses investigated in this study.

The relationship between LMX and Project Success

LMX has a positive influence on work environment and supports project success. Abu Elanain (2014) revealed that LMX has a functional impact on employee intention to leave and partial impact on organizational commitment, role conflict and job satisfaction. These findings explain the importance of managing leaders' relationships with followers to support the project or attain maximum performance.

LMX style has a significant impact on followers' perceptions and role modeling of the leader. Thomas et al.'s (2012) study of 68,587 subjects from 23 countries revealed the significant influence of leadership in relation to their followers' interests in performing duties and setting an example. They revealed that national culture does not impact the influence of the LMX style on task performance and organization commitment.

There is a significant impact of LMX style on employee engagement. Batista-Taran et al. (2013) explained that due to globalization change organizations need to improve the employee training process and performance process. The study recommends that organizations can survive the competitive market challenge by focusing on talent and goal setting. They argue that with proper leadership training of coaching and relationship management the organization can better influence employee performance and engagement.

Henderson's (2008) study established the impact of leadership communication competencies on project factors: team productivity, member satisfaction, PM decoding, PM encoding and technology-mediated communication. The study showed that project manager communication

competencies have a positive relationship with employee performance and satisfaction, which can account for team productivity. This suggests the following hypothesis:

H1: Project leadership style (LMX) is positively related to project success.

The relationship between Organizational culture and Project SuccessThe ability to adapt to change in project culture is important for success or failure. Aldulaimi, and Sailan (2012) explained that people's readiness to change differs from culture to culture. Therefore, some projects' failures are directly correlated to the employees' ability to adapt to change. Employee readiness to change is associated with their commitment to perform required activities and change. The study shows that in Qatar's public organizations the national culture has a significant impact on employee commitment to change.

Creating a learning environment can improve motivation and learning. Nagelsmith, Bryer and Yan (2012) explained that there is evidence that there is a significant relationship between a strong learning strategy and learning results, stress reduction and self-efficacy.

Organization culture has a strong influence on project practices. Cerimagic (2010) studied Australian managers working in the UAE and revealed that strong technical managers will not succeed without culture adoption. The study explained that cultural differences can create different perceptions for the different receivers, build conflict and make work situations more complicated. Therefore, the study recommends creating culture induction programs for expatriates.

Organizational culture can impact project success in a positive direction, because it can help achieve project success by defining the project goal clearly and implementing and evaluating strategies on a regular basis (Lewis & Thornhill, 1994). This suggests the following hypothesis:

H2: Organizational culture is positively related to project success.

The Relationship between LMX and Team Communication There is an essential need to facilitate team communication in a modern project leadership context. Potgieter (2013) explains that the new global context requires a different form of communication medium to facilitate distance allocated teams, especially with big-scale project leadership, such as e-mail, video conferencing and face to face communication.

Leadership communication style has a significant influence on team performance and satisfaction. De Vries et al. (2010) explain that although task oriented leadership style is less communicative, 279 governmental organization subject studies showed the significant influence of communicative leadership style on subordinates' commitment, employee satisfaction and knowledge sharing behavior.

There is a significant mediating relationship between external and internal communication and leadership and project team performance. Ishikawa (2012) explains that leadership style is responsible for creating a project culture that supports innovative ideas toward achieving goals beyond expectations and increasing team satisfaction. Team communication can increase confidence and increase the organization reward atmosphere.

Liang and Picken's (2011) study showed that leadership communication and cognitive style have a strong impact on shaping organization communication. This phenomenon is justified by different leadership styles or preference, i.e., the manager with expansive experience in one function affected by the position's duties and obligations diagnoses and shares information differently. This suggests the following hypothesis:

H3: Project leadership style (LMX) is positively related to team communication.

The relationship between Organizational culture and Team communication Kirschbaum and Fortner (2012) investigated medical physicians' communication and culture influence on

lack of skill and knowledge sharing. The study showed that cultural differences significantly promote communication mistakes among a group of anesthesiologists and surgeons' understudies.

Liang and Picken's (2011) study explains that communication and managers' cognitive characteristic preferences have a significant impact on team communication. The study shows that a high turnover rate is associated with the process of team setup and demographic relationship. The cultural differences during the performance of team execution create different perceptions of team performance and managers.

Sibbald, Wathen, Kothari and Day (2012) explained that there is a strong mode toward creating team setup cultures when managing projects. The complexity of projects is reduced with better formalization of communication style and knowledge sharing activities. The study reveals that non-structured and informal communication create a significant contribution to knowledge sharing among high performing teams. This culture creates a responsibility among team members to share their new ideas and improve performance alignments.

Team communication competency can improve customer loyalty and satisfaction. Abu-Elsamen et al. (2011) found that customer satisfaction and loyalty, besides the final result, are directly related to employee capabilities in dealing with customer complaints, competencies and skills. Likewise, expectations from peers and the organization's reward system can influence communication frequency and quality. This suggests the following hypothesis:

H4: Organizational culture is positively related to team communication.

The Mediating Impact of Team communication on the Relationship between LMX and Project Success Team communication influences the relation between LMX and drivers for project effectiveness. Maynard et al. (2012) argued that with the globalization challenge there is an

important need for teams to be allocated from a distance, which creates virtual teams for one or more projects. The study revealed that teams need to be given time to prepare and that team communication is positively related to the success of project preparation activity. When team communication is utilized in the most efficient way, the project execution benefits (Kyootai et al., 2012). Therefore, improving team communication can impact the relationship between LMX and project success. This suggests the following hypothesis:

H5: The relationship between LMX and project success is mediated by team communication.

The Mediating Impact of Communication on the Relationship between culture and Project Success Project culture has an impact on communication (Liang & Picken, 2011). Furthermore, team communication on a project that operates under high goal uncertainty and/or a low degree of freedom (*df*) impacts project success, because the project team members exchange and format information and collaborate on the ideas via open communication. According to Triana et al. (2012), it is important to understand the mediating impact of communication mediums on social assumptions and project benefits. This suggests the following hypothesis:

H6: The relationship between organizational culture and project success is mediated by team communication.

The Relationship between Team Communication and Project Success The information communication process has a significant impact on project performance and result quality. Sibbald et al. (2013) explained that information flow has to have a proper evidence base for the decision making process. The study revealed an evidence of medical mistakes initiated by inadequate communication flow. Therefore, it important to have a knowledge sharing policy and information technology (IT) solutions in organizations that frame the decision making process and increase that validity and value of the role information. Team communication has significant influence on team

performance. Parker-Raley et al. (2013) studied medical claims and found that miscommunication still exists after the system and policy is in place. Therefore, the study suggests instituting a process that includes early staff training and assessment to improve team communication performance.

Doloi's (2009) study states that leadership lack of communication will hinder a project's success and that it is important to understand links between the factors associated with project success. This suggests the following hypothesis:

H7: Team communication is positively related to project success.

Table II- Research hypotheses

Sr	Hypotheses
1	H1: LMX is positively related to project success
2	H2: Organizational culture is positively related to project success
3	H3: LMX is positively related to team communication.
4	H4: Organizational culture is positively related to team communication.
5	H5: The relationship between LMX and project success is mediated by team communication.
6	H6: The relationship between organizational culture and project success is mediated by team communication.
7	H7: Team communication is positively related to project success.

Instrument Development

The designed questionnaire (Appendix A) used a five-point Likert scale and has five parts: project culture, LMX, team communication, project success and demographic information. The project success factor was adopted from Larson and Gobeli's (1988) study. The study addressed two main questions; it considered five project types and addressed three success factors (meeting cost, time and technical performance quality). Moreover, the scale of measurement used to identify the anticipated project performance of each success factor ranged from 0-100.

Organization culture was adapted from Aubry et al. (2010). They described internal and external project success factors that support PMO transformation. The approach of Aubry et al. is more applicable when analyzing the project's working environment, because it identifies specific management practices related to the organization culture that defines successful culture best practices to support the PMO transformation. The questionnaire's nine items were used to determine to what extent organization culture supports project management practices. The main aspects of the items measured were: project alignment with strategy, availability of relevant information to decision makers, tensions or conflicts within the organization, synergy among project managers, project management skill level, work climate, work-family equilibrium and allocation of resources across multiple projects. All of the items were measured using a five-point Likert scale ranging from 1, strongly disagree; 2, disagree; 3, not sure; 4, agree and 5, strongly agree.

Leadership style was measured using the LMX questionnaire adopted from Liden and Maslyn (1998). The questionnaire has mainly four areas: professional respect, loyalty, contribution and affect. All of the items were measured using a five-point Likert scale ranging from 1, strongly disagree; 2, disagree; 3, not sure; 4, agree; 5, strongly agree.

The team communication instrument was adapted from Doloi (2009). The suggested eight items measure team communication performance by questioning the impact of communication on favorable results, such as reducing conflict and improving moral expectations.

All study variables were measured using a five-point Likert scale ranging from 1, strongly disagree; 2, disagree; 3, not sure; 4, agree; 5, strongly agree.

Project success was measure with the eleven items developed by Bryde (2008).

In order to validate the data, the instrument went through further reliability tests and was reduced after the data collection.

Conclusion

The theory chapter consisted of three main parts: introduction, hypotheses development and instrument development. The introduction section explained the construct of the conceptual framework and the literature that supports the framework. The hypotheses section discussed the relationship between the construct of the framework and the recommendations for testing the hypotheses with the literature that supports it. The instrument development section explained the process questionnaire development based on the relevant literature.

Chapter 4

Methodology

Introduction

The previous chapter explained the conceptual framework, hypotheses development and instrument development. The following chapter has five parts: the pilot study, sample selection, data collection, statistics analysis and SEM measures. In general, this chapter explains the methods used to conduct the instrument reliability examination, data collection, processing and analysis.

Pilot Study

After the development of the questionnaire, a pilot study was performed to be sure of the reliability of the study instrument. The performed pilot consisted of 56 results collected from the earliest survey respondents during the first month of the data collection period. The results of the data test in general was proven to be effective and the instrument was reliable for the purpose of the study. Table VI illustrates the result of the SPSS software for the reliability statistics. The LMX group of items scored 0.857, the project group of items scored 0.744, the team communication group of items scored 0.787 and the project success items scored 0.933.

Table III - Cronbach's alpha reliability statistics

Sr	Item	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
1	LMX	.857	.881
2	Project Culture	.744	.758
3	Team communication	.787	.808
4	Project Success	.933	.935

Sample Selection

First step was to select the organizations. Seven organizations were selected from which three were the main government operators. The first was the main financial operator, the second was the only local government support service operator and the third was the only semi-government offshore oil operation support operator. The total sample population consisted of four types: public, government, private and semi-government. The total number of civil service organizations located in Abu Dhabi is 44, the oil industry 17 and one national bank.

The second step was to select the respondents. Only the ones who participated in the project were asked to reply to the questionnaire. Familiar sampling problem happens when response is collected from a single respondent. This bias was overcome by the questionnaire design to assure that no interviewer bias was found and by making it a self-administered e-mail based questionnaire. This was also achieved by avoiding writing misleading statements and backward translation was used to ensure sentence consistency. A similar approach was recommended by Ahimbisibwe and Nangoli (2012). They explain that when a single respondent is selected, type one errors and type two errors will occur. With a type one error, the instrument will not read the correct response. For example, the respondent will reject the null hypothesis where he is supposed to accept it.

A random sample method was more suitable for this study than a cluster sampling survey. The cluster sample survey is usually useful for a study associated with characteristics of the unit of analysis or when the demographic information weight needs to be reflected in the population of the study. Sample presentation MANOVA tests are conducted to assure sample reliability, such as Wilks's lambda, Pillai's trace, Hotelling's trace, Roy's largest root and Levene's test of equality of error variances. The actual unit of analysis refers to the projects performed by the organization and the total number of samples required tested during the pilot phase with (N=54) respondents during

the first month of data collection was found to be reliable and sufficient to represent the sample according to the MANOVA analysis results. The final sample size was (N = 186) and also passed the sample reliability test and CFA loading analysis. More details of the results will be found in the Control Variables and Sample section.

The data was distributed by e-mail to seven organizations: Abu Dhabi Food Control Authority (ADFCA), National Bank of Abu Dhabi (NBD), National Construction Company (NPCC), and Abu Dhabi Gas Liquidation Company (ADGAS), Zakum Development Company (ZADCO) and Mussanda and Statistics Center Abu Dhabi (SCAD). The questionnaires were distributed to 200 respondents through official e-mail addresses. The researcher selected those organizations to represent the four types of ownership: private, public, government and semi-government.

Data Collection

Data were collected from seven entities located in the emirate of Abu Dhabi, UAE. The demographics of an organization can describe the dynamics of project management and can explain the maturity, experience or heterogeneity of the project. The privacy of those companies was protected by generalizing the questionnaire's results and leaving out the respondents' identification. Some of the organizations were recommended by the general secretary of the executive council, GSEC. The researcher approached the head of the civil services department and explained the objective of the study. Then the executive director explained the importance of one company that conducts all the support for government projects in Abu Dhabi, called Mussanda, and provided the contact information to the researcher.

The primary data collection method used was a self-administered questionnaire sent by e-mail, along with a letter explaining the objective of the study, attached in Appendix A. The survey had 47 questions that encompassed two categories: demographic information and four groups of

statements. The items were successfully reduced after passing the statistical tests. The short questionnaire used a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure the results. Each part had to pass a number of structural equation modeling measures using confirmatory factor analysis (CFA). 186 responses were received equaling a 93% response rate, as shown in the following table. Approximately 83% were males and 17% were females. UAE nationals represented 15.6%, Arabs represented 24.7%, Westerners represented 7.5% and others represented 52.2%. Top management represented 15.1%; middle management, 40.3%; senior staff, 40.3%; and junior, 4.3%. The highest percentage of leaders' nationalities was Arab at 50%, others, 30.1%, UAE nationals, 13.4% and Westerners at 6.5%.

The sample organizations' ownership representation varied: 29.6% represented government, 52.9% represented semi-government, 8.1% represented the private sector and 10.2% represented the public sector. Approximately 46.2% of the sample represented 16 or more years of experience in project management, approximately 48.4% were in the 41-years-or-more age-group and 66.1% had a Bachelor's degree. 82% of the questionnaire respondents were males and 18% were females. Moreover, 15.6% were UAE nationals, 24.7% Arab, 7.5% Westerners and 52.2% others. Also, 48.4% of the respondents belonged to the 41and older group, 22% of them were 31–40 years old, 20.4% were between 21 and 30 years old and 9.1% belonged to the 20 and younger group. From the sample of respondents, 40.3% were from the middle management level and 40.3% were from the senior staff level. Top management made up 15.1% and junior staff made up 4.3%. Approximately 50% of the project leaders were Arab and 30% were of another nationality; 13.4% were from the UAE and 6.5% of Western nationality. Age, nationality and professional ranking were the control variables identified by Yousef (1998).

Fifty-two percent formed semi-government sector ownership; 29% formed the government sector ownership; 10.2% formed public sector ownership; and 8.1% formed private ownership. Project management experience was divided into four groups ranging from 16 plus, 11–15, 6–10 and 5 years or less (46.2%, 17.7%, 14.5% and 21.5%, respectively). Approximately 38% had 5 or fewer years of experience in the same organization, 21.5% had between 6 and 10 years, 10.8% had between 11 and 15 years and 29% had 16 or more years of experience overall in the organization. 4.8% were high school graduates, 1.1% were diploma graduates, 4.8% were higher diploma graduates, 66.1% had Bachelor's degrees, 5.9% had diplomas after Bachelor's degrees, 15.6% had Master's degrees and 1.6% were PhD graduates.

Table IV - Research sample characteristics

Research Sample characteristics					
Item	Frequency	Percent	Item	Frequency	Percent
Gender			PM Experience		
Male	154	82.8	Five years or less	40	21.5
Female	32	17.2	six to ten years	27	14.5
Nationality			Eleven to fifteen years	33	17.7
UAE	29	15.6	Sixteen or more	86	46.2
Arab	46	24.7	Age Group		
Western	14	7.5	Twenty or less	17	9.1
Other	97	52.2	Twenty on to thirty	38	20.4
Project Position			Thirty one to forty	41	22
Top Management	28	15.1	Forty one or more	90	48.4
Middle Management	75	40.3	Over all experience		
Senior	75	40.3	Five years or less	72	38.7
Junior	8	4.3	Six to ten years	40	21.5
Leader Nationality			Eleven to fifteen years	20	10.8
UAE	25	13.4	Sixteen or more	54	29
Arab	93	50	Education		
Western	12	6.5	High school	9	4.8
Other	56	30.1	Diploma	2	1.1
Ownership			High diploma	9	4.8

Government	55	29.6	Bachelor degree	123	66.1
Semi -Government	97	52.2	Diploma after BA	11	5.9
Private	15	8.1	Master Degree	29	15.6
Public	19	10.2	Doctorate	3	1.6
Total				186	100

Statistical Analysis

This investigation adopted the work of Gerbing and Anderson (1988) in applying the following two-step procedure: 1. Conducting a confirmatory factor analysis (CFA) to test model measurement with an acceptable fit. 2. Conducting a structural equation model (SEM) to test the hypotheses' direct and indirect relation.

Confirmatory factor analyses were used to assess the scale of measurement and structure of the scale applied to LMX, project culture, team communication and project success. SEM was used to assess the mediating effect of team communication on the indirect relationship to the independent variable (LMX and project culture) and direct relationship to the project success factors.

SEM Measures

Nagelsmith et al. (2012) and Boiral and Paille (2011) explain the importance of CFA to define the significance of the factor items measuring goodness of fit and confirming structure accuracy. Applied LMX (12 items), adopted from Liden and Maslyn (1998), measured the strength of the relationship between the leaders and members. The remaining five items were averaged to form the following scores: ($\chi^2 = 9.18$, $df = 5$, $RMSEA = 0.067$, and $P = 0.102$). The six items adopted from Aubry et al. (2010) were used to measure project culture. The remaining four items were averaged to form the following scores: ($\chi^2 = 2.25$, $df = 2$, $RMSEA = 0.026$, and $P = 0.324$). The eight criteria that measure team communication were adopted from Doloi (2009). The remaining four items

scores were ($\chi^2 = 2.97$, $df = 2$, RMSEA = 0.051, and $P = 0.226$). Eleven items were adapted from Larson and Gobeli (1988) to measure project success. The remaining four items scores were ($\chi^2 = 0.53$, $df = 2$, RMSEA = 0.7655, and $P = 0.000$).

Table V - SEM Measurement Identification

Sr.	Code	Items	Standardize Coefficient	X ²	df	P-Value	RMSEA
A.		LMX					
1	LMX1	I like my supervisor very much as a person.	0.79	9.18	5	0.10202	0.027
2	LMX4	My supervisor defends my work related actions to the top management.	0.87				
3	LMX5	My supervisor would defend me to others in the organization if I made an honest mistake.	0.87				
4	LMX6	My supervisor would defend me if I were “Criticized” by others.	0.89				
5	LMX11	I respect my supervisor's knowledge and competence on the job	0.7				
B.		Culture					
6	Cult1	My working culture supports project management culture	0.68	2.25	2	0.32472	0.026
7	Cult2	feel strong synchronized energy among project managers	0.87				
8	Cult3	The project team are well equipped with project management skills	0.75				
9	Cult5	My work environment strongly supports work-home balance	0.3				
C.		Team Communication					
10	TCM2	In most cases extensive communication is required for project successful delivery	0.57	2.29	2	0.22607	0.051
11	TCM5	Team communication provides an added value for decision makers	0.95				
12	TCM6	Team communication improves meeting expectation	0.86				
13	TCM7	There is harmony among team members	0.49				
D.		Project Success Measures					
14	PSUCC1	My organization rank this project as a successful project	0.77	0.53	2	0.76553	0.0000
15	PSUCC3	The project is delivering/will deliver the expected benefits	0.77				
16	PSUCC4	The project delivered/will deliver the required outputs within the time constraints specified	0.79				
17	PSUCC5	The project was regarded/will be regarded as a success by the client	0.9				

Conclusion

The chapter explained the methodology used to pilot test data, select the sample, collect data, test reliability and construct the questionnaire. The first section explained the pilot procedure for testing the instrument within the first month of data collection with 56 responses. The test used SPSS software to ensure the reliability of the instrument.

The sample selection section explained the procedure used to select seven strong organizations in the Abu Dhabi emirate that were willing to participate. Those organizations represent all the ownership types: private, public government and semi-government ownership organizations.

Data collection was self-administered email. Total received questionnaires were 186 responses representing a 93% response rate from 200. A two-step procedure was used to analyze the data, CFA and SEM. Finally, the SEM measures section revealed that the instrument adopted by literature proves to be reliability from the construct and result angle.

Chapter 5

Results

Introduction

After the data were collected, each questionnaire was coded and interred in the system (see Appendix D: Coding Book). Processing the data followed two stages: measuring the factor loading and reliability of each factor and measuring the complete model standardized residual using the SEM. The results of the study are explained in this chapter in the following four sections (data reduction and reliability, model and SEM, hypotheses test, control variables and sample). The first section is a very important procedure in any empirical research where the questionnaire items are tested for their construct. Based on their significant value, the questionnaire items are reduced to the most effective and efficient use for the future. The second part explains the SEM complete model findings, along with a supportive illustration from the LISERAL software. The third section summarizes the findings of the hypotheses' tests. The fourth section presents the sample normality test and control variable reliability.

Data Reduction and Reliability

A complete model was tested using LISERAL software to construct SEM to validate the overall degree of model fit. Thirty-seven items were used to measure four main factors (LMX, project culture, team communication and project success). As recommended by Abu-Elsamen et al. (2011) and adopted from Gerbing and Anderson (1988), each group of variables had to go through a SEM reduction test. LMX factor variables were entered and reduced from 12 to 5 at the first stage, as shown in Figure 2, and scored ($\chi^2=2.97$, $df=2$, $P=0.22607$, $RMSEA=0.051$). This is an acceptable

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significant result, however, as we will see later, the variables were reduced to four items in the test of the complete model relationship with other factors, as shown in Figure 6.

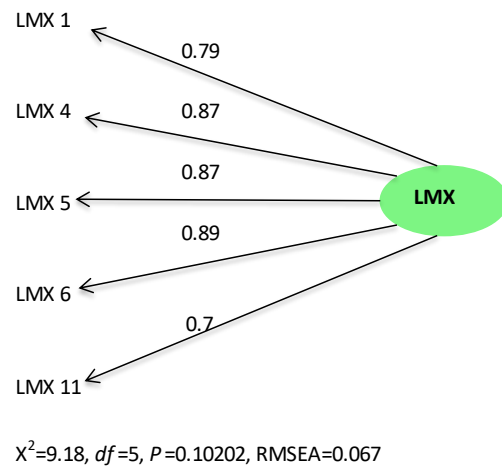


Figure 2 - LMX measurement model

Project culture factor items were entered second and reduced from six to four items, as shown in Figure 3, and scored ($\chi^2=0.53, df=2, P=0.76553, RMSEA=0.000$). This is an acceptable significant result.

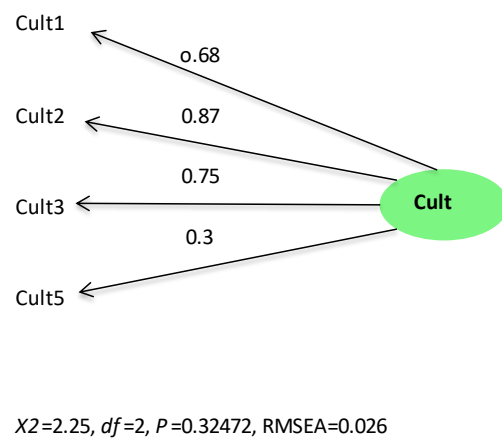
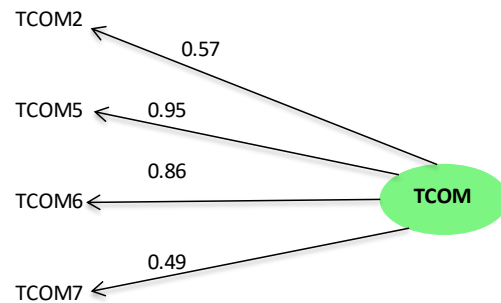


Figure 3 - Project culture measurement model

The team communication items were entered and reduced from 8 to 4, as shown in Figure 4, and scored ($X^2=2.97$, $df=2$, $P=0.22607$, $RMSEA=0.051$). This is an acceptable significant result.

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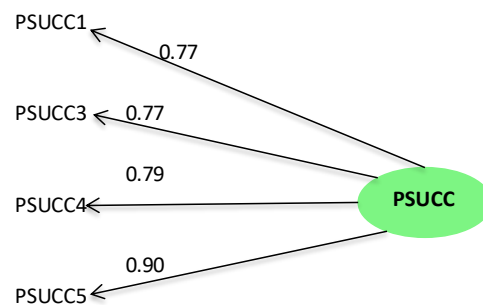


$X^2=2.97$, $df=2$, $P=0.22607$, $RMSEA=0.051$

Figure 4 - Team communication measurement model

The project success items were entered and reduced from eleven items to four items, as shown in Figure 5, and scored ($X^2=0.53$, $df=2$, $P=0.76553$, $RMSEA=0.000$). This is an acceptable significant result.

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$X^2=0.53$, $df=2$, $P=0.76553$, $RMSEA=0.000$

Figure 5 - Project success measurement model

The findings of the SEM at the first stage test resulted in reducing the number of items to construct each group of factors and suggested new a measurement instrument tool with reduced items based on reliable factor loading. The new questionnaire had only 14 items, as shown in Appendix B.

Model and SEM

Figure 6 explains the construct of the four factors (LMX, culture, team communication and project success factor) and the LISERAL result for the model CFA proposed to measure the mediating impact of team communication on the independent variables and their relation to project success. LISERAL goodness-of-fit statistics results indicate a high validity of the model over all constructs. First, the covariance matrix test reported total variance = 12.169, generalized variance = 0.100176D-04, largest eigenvalue = 5.366 and smallest eigenvalue = 0.073 after the reduction of the remaining project success items for high negative value or interrelation correlation. Second, the maximum likelihood measurement reported within the allowed range of values. Third, $\chi^2 = 119.112$ with $P = 0.0002$ over 69 $df = 1.726$, which is less than 2 or the acceptable rage, and RMSEA = 0.0625. Fourth, the following statistics fell within the acceptable range: CN, 156.021; RMR, 0.0522; GFI, 0.917; AGFI, 0.873; parsimony goodness-of-fit index (PGFI), 0.602; NFI, 0.960; NNFI, 0.977; CFI, 0.983; IFI, 0.983; and RFI, 0.947. Overall, the model results are plausible and present a clear consistency between the factors under study.

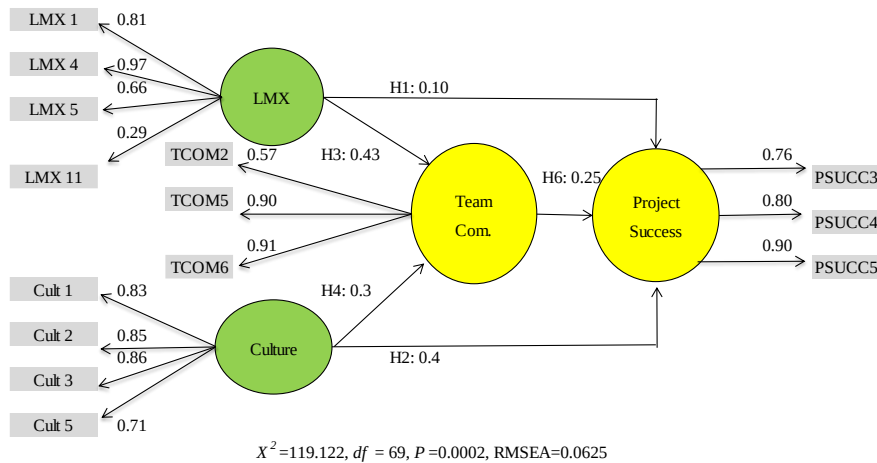


Figure 6 - Standardized residual and final model

Hypotheses Test

Table III explains the hypothesized model direct relation standard coefficient, t-value and significance level. The first hypothesis is not supported and scored a low significance level.

H1: Project leadership style (LMX) is positively related to project success. The LMX factor overall scored 0.10 standardized coefficient, 1.07 t-values and 0.284 level of significance. That means that leader-member exchange has no significant impact on the success factor. The highest contribution for this factor was from LMX5 ('I respect my supervisor's knowledge and competence in the job'), which scored 0.86.

Table VI – Variables direct effect relationship

From	To	Standard Coefficient	t-value	p-value
LMX	PSUCC	0.10	1.07	0.284*
LMX	TCM	0.43	4.47	0.000
Cult	PSUCC	0.40	4.47	0.000
Cult	TCM	0.30	3.22	0.001
TCM	PSUCC	0.25	2.82	0.005

*note: * not significant at the level of 0.05*

The second hypothesis is supported and scored acceptable significance level.

H2: Organizational culture is positively related to project success. This relation is supported by the model and scored a 0.4 standardized coefficient (4.47 t-values and higher than 0.000 level of significance). That means project culture can explain 40% of project success factors and is four times more than the impact of LMX on project success factors. In this relationship, the highest contribution came from Cult2 ('I feel strong synchronized energy among project managers') and scored 0.97.

H3: Project leadership style (LMX) is positively related to team communication. This relationship is supported by the model and scored 0.43 standardized coefficients, 4.47 t-values and higher than 0.000 level of significance. That means LMX is about 43% of the team communication impact.

H4: Organizational culture is positively related to team communication. This relationship is supported by the model and scored 0.30 standardized coefficients, 3.22 t-values and 0.001 level of significance. This means that project culture weighs about 30% of the team communication impact.

H7: Team communication is positively related to project success. This relationship is supported by the model and scored 0.25 standardized coefficients, 2.82 t-values and 0.005 level of

significance. That means project culture contributes about 25% to project success. The highest contribution comes from TCOM6 ('My supervisor would defend me if I were "Criticized" by others') and scored 0.91. This result is in line with the findings of Doyle et al. (1997) which explained that in order to make a positive change the team members have to communicate with leaders and suggests that new ideas and communication may lead to discovery of unseen new problems.

The following table shows the indirect method for the calculation of the mediating impact of team communication. The mediating impact is calculated through the multiplication of the two factors on each path.

Table VII - Variables' indirect effect relationship

From	To	To	Standard Coefficient
LMX	TCM	PSUCC	0.1075
Cult	TCM	PSUCC	0.0750

H5: LMX and project success is partially mediated by team communication and scored 0.1075 standard coefficients.

H6: Organization culture and project success relation is fully/partially mediated by team communication and scored 0.0750 standard coefficients.

The following table summarizes the hypotheses testing results:

Table VIII - Hypotheses testing results

Sr	Hypotheses	Result
1	H1: Project leadership style (LMX) is positively related to project success.	rejected
2	H2: Organizational culture is positively related to project success.	accepted
3	H3: Project leadership style (LMX) is positively related to team communication.	accepted
4	H4: Organizational culture is positively related to team communication.	accepted
5	H5: LMX and project success is fully/partially mediated by team communication.	Accepted
6	H6: Organization culture and project success relation is fully/partially mediated by Team communication.	accepted
7	H7: Team communication positively related to project success.	accepted

Control Variables and Sample

The following four tables summarize examples of the MANOVA test results conducted for control variables. The reported data show what is recommended for small sample tests (Pillai's trace), which can explain the sample size error and is considered very reliable. The overall data reported high accuracy and accepted the results for all tests, such as Wilks's lambda, Pillai's trace, Hotelling's trace, Roy's largest root and Levene's test of equality of error variances. Further details of the MANOVA and the procedure of reliability tests used in this study can help in future investigation of the influence of the control variable mentioned in the demographic part of the questionnaire on the instrument measurement (such as nationality, gender, age group, etc.).

The following tables contains samples of the multivariate test result demographic data and each factor. This test is used to determine whether an independent variable has an effect on the dependent variable and can be combined with others. It is also used to determine sample size effectiveness and normality of the data (Warne, R. T., 2014).

Table IX - LMX Effect Multivariate Tests (Pillai's Trace)

LMX Effect	Value	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Powerb
Gender	.166	9.020	.000	.166	36.078	.999
Nationality	.040	.611	.833	.013	7.335	.359
Project position	.111	1.740	.055	.037	20.878	.876
Leader Nationality	.149	2.372	.006	.050	28.462	.966
Ownership	.091	1.419	.152	.030	17.034	.781
Project Experience	.141	2.227	.010	.047	26.724	.953
Age group	.129	2.038	.019	.043	24.455	.930
Over all experience	.135	2.140	.013	.045	25.682	.944
Education level	.359	2.943	.000	.090	70.634	1.000

Table X - Culture Effect Multivariate Tests (Pillai's Trace)

Culture Effect	Value	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Powerb
Gender	.120	6.160	.000	.120	24.641	.986
Nationality	.079	1.219	.266	.026	14.625	.700
Project position	.187	3.009	.000	.062	36.113	.992
Leader Nationality	.093	1.446	.141	.031	17.354	.791
Ownership	.088	1.371	.175	.029	16.457	.763
Project Experience	.152	2.414	.005	.051	28.973	.969
Age group	.171	2.727	.001	.057	32.722	.985
Over all experience	.148	2.347	.006	.049	28.167	.964
Education level	.329	2.672	.000	.082	64.132	1.000

Table XI - Team Communication Effect Multivariate Tests (Pillai's Trace)

TCM Effect	Value	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Gender	.088	5.822	.001	.088	17.465	.949
Nationality	.050	1.018	.424	.017	9.162	.512
Project position	.176	3.787	.000	.059	34.084	.994
Leader Nationality	.136	2.884	.002	.045	25.957	.966
Ownership	.150	3.197	.001	.050	28.776	.981
Project Experience	.101	2.108	.027	.034	18.972	.878
Age group	.119	2.498	.008	.040	22.486	.934
Over all experience	.058	1.206	.289	.019	10.852	.599
Education level	.546	6.644	.000	.182	119.600	1.000

Table XII - Project Success Effect Multivariate Tests (Pillai's Trace)

PSM Effect	Value	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Gender	.060	3.876	.010	.060	11.627	.818
Nationality	.173	3.703	.000	.058	33.328	.993
Project position	.138	2.917	.002	.046	26.254	.968
Leader Nationality	.076	1.576	.119	.025	14.183	.742
Ownership	.104	2.180	.022	.035	19.616	.891
Project Experience	.148	3.153	.001	.049	28.378	.979
Age group	.170	3.648	.000	.057	32.834	.992
Over all experience	.069	1.419	.176	.023	12.775	.687
Education level	.377	4.293	.000	.126	77.279	1.000

Conclusion

The results chapter is summarized in four sections: data reduction and reliability, model and SEM, hypotheses test and control variable and sample.

The data reduction performed is reflected in the items of the questionnaire. The questionnaire started with forty-six items and end up with only fourteen items. This also can be seen in Appendix A. The model and SEM section explains varied relations of the model construct of the success factors argued in the literature and previously mentioned chapters. The hypotheses test section discussed mainly the statistics associated with each hypotheses and explained the direct and non-direct relations of the variable tested result. The control variable section explained the procedure followed to test the demographic information. Nine items were tested for inter-relations using the MANOVA test and a sample was provided in Tables IX, X, XI, XII.

Chapter 6

Discussion

Introduction

The purpose of this chapter is to compare the findings with the literature and discuss the results' impact on them. This chapter has six sections (introduction, LMX, project culture, team communication, project success factors and conclusion). The introduction explains the purpose of this chapter and content. The second section covers the LMX discussion in relation to the literature and the study outcomes. The third section covers the project culture findings, compares them to literature and tries to justify the reasons for the findings. The fourth section describes the team communication impact on the LMX, culture and mediating role on project success measures. At the same time, they are compared with similar examples found in the literature. The fifth section explains the findings related to project success and drive and compares them with the international literature. The last section explains the benefit of the discussion and how it relates to the international examples found in the literature.

Liden and Maslyn (1998), Henderson (2008), Robert et al. (2010) and Kyootai et al. (2012) suggest using leader-member exchange to improve satisfaction and productivity. In addition, Ping (2010), Tung and Chang (2011), Thomas, Dulebohn, Ang and Shore (2012) and Abu Elanain (2014) place emphasis on the role of LMX as an important factor for achieving project success and creating a motivating working environment. The above studies revealed that LMX has a strong positive relation to project success. However, this study revealed LMX has no significant impact on project success compared to project culture and team communication ($H1 = 0.1$, $H6 = 0.25$, and $H4 = 0.4$ at $P = 0.0002$).

This finding is consistent with the findings of Kyootai et al. (2012), which revealed that a high level of LMX is negatively correlated to team creativity. This could be justified by the LMX theory focus on trust, respect, loyalty and contribution and not the result of performance for project success. Moreover, the findings of Thomas et al. (2012) reveal that LMX has a positive relation to task performance for collectivist people in countries with a dominant Arab culture, such as the UAE. It can be inferred that project success would not be achievable without leaders and members promoting good relationships and formulating proper strategies (Jing et al., 2010).

In explaining the importance of culture in influencing project success, Boiral and Paille (2012) found that organizational citizenship is important for empowering decentralization of the decision process. Our findings demonstrate that the more team members are familiar with the project culture and required procedure, the more they are able to make the right decisions. Yaping et al. (2013) state that team information exchange is a central team process that can impact project outcome and that information exchange is positively related to goal performance and goal learning. Similarly, this study also explains that team communication has been proven to have a partially mediating impact on LMX relationship to project success, which is in line with the literature. The study reveals that team communication supports project teams sharing information, accountability and creativity (Sivasubramaniam et al., 2012) ($H3 = 0.43$, $H5 = 0.025$, $P = 0.0002$). Doloi (2009), Robert et al. (2010) and Omerzel et al. (2011) explain that the construct of project communication depends on the effectiveness of leadership and team communication criteria.

The studies of Jabnoun and Al Rasasi (2005), Liang and Picken (2011), Boiral and Paille (2012) and Ahimbisibwe and Nangoli (2012) explain the importance of project culture to define team behaviors, as well as explain project success. Again, culture has been proven to have a strong influence that may hinder project success. This study shows that culture has the strongest influence

in the model and scores four times higher on project success than LMX on project success ($H2 = 0.4$, $H1 = 0.1$ at $P = 0.0002$). This finding is in line with most Western literature. Bryde (2008), Aubry et al. (2010), Han et al. (2012) and Fernando (2012) suggest measuring criteria for successful project culture transformation.

Mayfield and Mayfield (2009) explain that organizational culture contributes to establishing team communication empathy, meaning or tone. In this regard, organizational success is shaped by organizational communication of reward stories, turnover and people's opinions toward attendance. Furthermore, this study reveals that team communication has a partially mediating impact on project culture in relation to project success, which is in line with the literature.

In contrast, lack of communication may result in project outcome failure and limit leadership capacity to take corrective action. The study has demonstrated that successful project delivery requires extensive communication. Moreover, successful projects require reliable and frequent communication. A successful leader will share the impact of value-added aspects of team communication on the decision making process and improve team expectation with best-practice communication and feedback. De Vries et al.'s (2010) study confirms that an employee with high LMX can be very sensitive to the culture and LMX is a negative predictor of creativity performance.

Fernando et al. (2012) point out that organizational culture heterogeneity is measured by the team members' values. An organization with a strong project culture will confirm that team members share the same values and, therefore, they strengthen a project's success focus and achievement. This study showed that employees in the UAE context can benefit more and achieve project success if communication is properly monitored and facilitated within the project culture. This improvement can even enhance LMX and project culture impact on project success factors.

Knell and Chi (2012) have stated that communication and language can create barriers between team members. Besides anxiety and willingness to communicate, achievement proficiency categorizes four aspects of difficulties: oral proficiency, vocabulary, word identification and reading comprehension.

In line with the literature mentioned, the results support the hypotheses that team communication has a partially mediating impact on the relationships between LMX and project success and project culture and project success.

The study finds that information exchange helps in solving complex problems, generating and sharing ideas and benefiting individual creativity. This study, moreover, demonstrates that team communication has a significant impact on project success and scores $H6 = 0.25$. The literature also explains that team communication and trust can help to reduce cultural conflict between team members, increase goal understanding and improve performance (Doloi, 2009). The study reveals that team communication has a mediating impact on project culture ($H7: 0.108, P = 0.0002$). This finding is consistent with the literature, as Doyle et al. (1997) explain that communication mediation channels using a typology of cognitive styles can explain individual differences in leading team communication.

These findings support the understanding that project success achievement is improved by team communication and that team communication can positively influence the performance of LMX and project culture.

Conclusion

This study covers many aspects. First, the study investigates a new model structure where team communication plays the role of a mediating variable between LMX and the project culture relationship to project success. It demonstrates that project success is more about project team

communication and its impact on team productivity, team satisfaction and project management encoding or decoding, as supported by Henderson (2008). Furthermore, this study adds to the understanding of the structure of project success determinants. Management's ability to create reliable and frequent communication has a positive effect on reduction of conflicts, on informed decision making and on improvement in expectations. This finding is also supported by Doloi (2009).

Chapter 7

Limitations and Implications

Introduction

The following chapter consists of four sections, beside the introduction: research limitations, implications, future studies and recommendations.

Limitations

First, the sample describes seven organizations from government and semi-government, public, and private sectors only. Therefore, the sample does not reflect the total population. Second, the questionnaires were collected within three months and so cannot be compared to a longitudinal study. Nor do they represent a change in time. To overcome this issue, only pretested variables were used. Third, although Troth et al.'s study (2012) shows that emotion-related skills have an impact on project success and communication within a project team, the adopted variables of this research represent an investigation of good management practices at the project level and do not reflect those at the organizational or national level. Finally, this research is limited by the geographical boundary of the Abu Dhabi emirate.

Many studies (Larson & Gobeli, 1988; Aubry et al., 2010; De-Vries et al., 2010; Ahimbisibwe & Nangoli, 2012; De-Chih Lee et al., 2012) have highlighted the importance of the main four groups of variables excluding the demographic information this study concept examining are: project success factors, organization culture, leadership style and team communication. Therefore, the study is limited to the described variables in this context.

A project success factor was presumed as the dependent variable, but in other studies this may not be the case. The organization culture and leadership styles are the independent variables. Team communication is the mediator. The methodology explained the instrument development and SEM procedure used to measure the mediating impact of team communication on LMX, organizational culture and their relationship to subsequent project success. It is very common to end up with a small number (from 3 to 5) of factor variable components using SEM. Therefore, it reached a different conclusion compared to the regression analysis method test during the pilot study and accepted all the hypotheses.

The study also is limited to the survey mode of collection using a self-administered e-mail questionnaire, which leaves a window for self-interpretation by the respondents. The sample is limited to the Abu Dhabi region and the selected sample size, N=200. Therefore, the results of the study may differ with a bigger size sample.

Research Implications

This research investigated for the first time team communication's mediating role in LMX and looked at the relationship between project culture and project success in the UAE and the Middle East. The government of Abu Dhabi has set itself on a roadmap to success through the Abu Dhabi Economic Vision 2030. To ensure success, the government is taking serious steps to improve the efficiency of its legal framework and speed up resolution mechanisms to further increase public confidence (Abu Dhabi Government, 2009, pp. 53–54).

Project success factors require strong team communication, LMX and project culture practices. This study improves our understanding of successful project management, turning organizations' attention to focusing on training project members about project communication best practices. The literature findings explain that our understanding of successful project management includes the

important role of team communication project practices, project values in the culture and leader-member exchange relation (Chong et al., 2012; Troth et al., 2012).

Communication is not only verbal or always official. An organization has to apply a number of lessons learned in communication sessions. Organizations should create better communication achieving practices and policies. This will improve knowledge sharing and create a better project culture, which will lead to project success and organizational growth. The leader's or management's role is not only limited to setting goals; rather, it is required that they also communicate their expectations clearly and efficiently. Moreover, they should use empathy in their style of communication (Jabnoun & Al Rasasi, 2005). The study shows that project culture has a four times greater impact on project success than LMX. Therefore, a project-supportive culture should reduce project uncertainty, improve communication archiving and knowledge sharing, reduce project complexity and improve processes (Hong, 2004). Employees must be encouraged to meet more often with their peers and communicate new ideas or discuss conflicts (Doloi, 2009).

Jing et al. (2010) explain that success determinants can be used before the start of a project, such as in managing social responsibilities, formulating clear project missions and so on. Therefore, unsuccessful projects require one to step back, review the shortfalls, and document them. Furthermore, since UAE organizations invest heavily in different projects, it is recommended to assess areas of overall improvement in order to ensure appreciation of the projects' investments value. As well, more focus should be given to address environment, culture and economical benefit projects.

Karemu and George (2014) explain that evaluating organizational performance in strategy implementation suggests that the theoretical framework should focus on Fiedler's contingency theory. Similarly, this study suggests procedures or processes of project management best practices

and argues that communication best practices must be supported from the top management of any organization. Ahimbisibwe and Nangoli (2012) explain that for a successful culture, performance organizations need a communication network and continuance commitment. This study shows that the practice of team communication performance has an impact on project success, similar to that in Western cultures, and that it mediates LMX and project success or the relationship between project culture and project success. To maximize project team performance, one has to both establish the project team mind-set and accept best-practice communication habits to address management benefits and clarify the social subsystem. The study shows that project success can be achieved by more focus on project team communication and culture and less focus on leader-member exchanges.

Moreover, building a project team culture and sharing a common understanding of the conflict-resolving process and reward expectations can significantly enhance project success (Aubry et al., 2010; Boiral & Paille, 2012). Building strong team communication practices has many benefits. First, it can resolve conflicts; second, it can improve outcome expectation value; third, it can help teams share new ideas; fourth, it can help improve the working process and knowledge sharing; fifth, it can reduce the load on the leadership role of performance coaching; sixth, it can improve the understanding of team goals and responsibility. Finally, working in an environment with efficient communication can be an appealing aspect for employees and for branding a successful organization.

Future studies

While, indeed, the UAE's culture has the same international project success factors, the uniqueness of the UAE reveals that project success is dependent not only on LMX but even more so

on project culture and team communication. The SEM results show that team communication and project culture has a stronger impact on project success in this region.

The incorporation of social media creates an attractive opportunity for fields of future study or data collection modes. The study has nine control variables: gender, nationality, project position, project leader nationality, ownership, project management related experience, age group, overall work experience and level of education. Each control variable is represented by four or more categories. This information could be an opportunity for future study to reveal the significance of each component in the final study model results.

Future studies can focus on the LMX multi-dimensional prospective; where each dimension impact on project success is measured. It can also focus on the interactional culture impact on the project success. Moreover, future study can focus on the client satisfaction or evaluation of the project success and not only the leaders or members of the project.

Recommendation

The results have implications for all government, semi-government, public and private sectors, managers and project team members. The study shows that management in all sectors can improve project success significantly by focusing on team communication as a mediating role between leadership and organization culture. The study also suggests that we can study the impact of the control variable on LMX, project culture, team communication and project success over all.

As the study shows that LMX has not proven to have significant impact on project success, I recommend using new studies that include specific leadership styles, such as transformation. This is also supported by Batista-Taran et al. (2013), as they explain the weakness of LMX theory in supporting the performance of a team or group members of a project, recommending, instead, using transformational leadership theory for a better explanation of leader influence on team engagement.

Conclusion

The implementation and limitations chapter consisted of four sections: limitations, research implementation, future studies and recommendations. The first section explained the limitations of the research area of interest's methodology, instrument used, geographic location and sample selection. The research implementation section explained two main ideas: research managerial implementation in the region and the literature implementation and comparisons of the outcomes of the study. The future studies section explained the areas of opportunity or gaps found in the literature and the research limitations that can be addressed in future studies. The recommendations section is specifically related to the findings of this study and how they can be improved in the process of result implementation.

Chapter 8

Conclusion

As stated in the introduction of the study, project management is an important economy driver that can prove costly for a large portion of organizations around the world, as posted by Conner (2012) and Dominguez (2009). The UAE has succeeded in many projects and is, thus, useful for this study. The investigated model shown by the study is empirically significant. The model can explain much of the project success factors in the case of the UAE. The findings are in line with the literature, even though the case rejected the LMX impact on project success. The gap of knowledge appears in measuring the direction and significance of team communication to boost project success drivers. The model test used projects located in organizations in the city of Abu Dhabi, not all in the UAE. The research investigated the effects of LMX, project culture (independent variable) and team communication (mediator) on project success (dependent variable).

The study showed that LMX has no significant impact on project success when the model construct has project culture and team communication on board. In simple terms, that means that having a good relation with the project leader does not guarantee project success, which is very rational. This is in line with the findings of Kyootai et al. (2012) where they revealed that LMX relates negatively to team performance and innovation because more control from the leader hinders the creativity of the employees.

Moreover, the study revealed that team communication has a significant mediating influence on the relationship between LMX and project culture and project success factors. Project success factors heavily depend on project culture and team communication. The implications of the study suggest that project teams with strong team communication capabilities share more ideas, solve problems

and deal with complex situations. Team communicating helps achieve project goals by clarifying project objectives, responsibilities and creating an attractive organizational culture.

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Appendix A

Questionnaire

Complete Questionnaire

إستبيان متنبئ لنجاح المشاريع (47 سؤال) للمشاريع المنجزة
Project Success Predictor's questionnaire (47 Items) for completed project

جزء - أ : ثقافة المشروع (5 أسئلة) رعب الإجابات التالي من 1 = لا أوافق بشدة الى 5 = أوافق بشدة وذلك بوضع دائرة على الرقم الصحيح:

Part A: Project Culture (5 items) rank the following question from 1 is =strongly disagree to 5 is = strongly agree and circle the right score:

1	تدعم بيئة العمل ثقافة إدارة المشاريع My working culture supports project management culture	1 2 3 4 (5)
2	أشعر بطاقة تنسيقية متزامنة بين مديري المشاريع I feel strong synchronized energy among project managers	1 2 3 (4) 5
3	فريق العمل مجهزين بمهارات كافية لإدارة المشاريع The project team are well equipped with project management skills	1 2 3 4 (5)
4	أشعر عملي بشكل مناخ داعم قوي I feel my work has strong supportive work climate	1 2 3 4 (5)
5	بيئة عملي تدعم بقوة التوازن بين العمل والمنزل My work environment strongly supports work-home balance	1 2 3 (4) 5
6	نحن دائماً لدينا ما يكفي من الموارد لمشاريع متعددة We always have enough resources working in multi projects	1 2 3 (4) 5

جزء - ب : القيادة (12 سؤال)
Part B: Leadership LMX (12 items)

7	أنا أحب مسؤولي المباشرة كثيراً كشخص I like my supervisor very much as a person.	1 2 3 4 (5)
8	مسؤولي المباشرة من الأشخاص الذين يرغب الجميع في صداقته My supervisor is the kind of person one would like to have as a friend	1 2 3 (4) 5
9	مسؤولي المباشرة يقدم الكثير من المرح أثناء العمل للعمل My supervisor is a lot of fun to work with.	1 2 3 (4) 5
10	مسؤولي المباشرة يدافع عن إنجازاتي أمام الإدارة العليا My supervisor defends my work related actions to the top management.	1 2 3 (4) 5
11	مسؤولي المباشرة يدافع عن أخطائي العلوية عند الآخرين في المنظمة My supervisor would defend me in front of others in the organization if I made an honest mistake	1 2 3 (4) 5
12	مسؤولي المباشرة يدافع عن انتقاد الآخرين لي My supervisor would defend me if I was "Criticized" by others.	1 2 3 (4) 5
13	عملي يتجاوز متطلبات وظيفتي لتلبية احتياجات مسؤولي المباشرة My work exceeds my job requirement to satisfy my supervisor.	1 2 (3) 4 5
14	أنا لا أمتنع في تقديم جهود إضافية، تتجاوز تلك المطلوبة عادة، لتلبية أهداف عمل مسؤولي المباشرة	1 2 3 4 (5)

	I am willing to apply extra efforts, beyond those normally required, to meet my supervisor's work goals.	
15	أنا لا أمانع العمل بكقصى جهدي لمسؤولي المباشر I do not mind working my hardest for my supervisor	1 2 3 4 5
16	أنا معجب بمسؤولي المباشر I am impressed with my supervisor.	1 2 3 4 5
17	مسؤولي المباشر في العمل أنا أحترم معارف ومكافآت I respect my supervisor's knowledge and competence on the job	1 2 3 4 5
18	أنا معجب بالمهارات الاحترافية لمسؤولي المباشر I admire my supervisor's professional skills	1 2 3 4 5

جزء - ج : إتصال الفريق (8 أسئلة)

C. Team Communication (8 items)

19	في أغلب الأحيان يفشل المشروع في تحقيق النتيجة المطلوبة لإفقاره لإتصالات In most cases lack of communication result project out comes failure	1 2 3 4 5
20	في أغلب الأحيان يتطلب المشروع إتصالات حثيثة لتحقيق النجاح In most cases extensive communication is required for project successful delivery	1 2 3 4 5
21	تتميز الإتصالات داخل فريق المشروع بالاستمرارية ويمكن الاعتماد عليها My team experience lots of reliable and frequent communication	1 2 3 4 5
22	الإتصالات الموثوقة والمتكررة تقلل التعقيدات ضمن المشروع Reliable and frequent communication can decrease project conflicts	1 2 3 4 5
23	إتصالات الفريق تساهم بقيمة مضافة لصناع القرار Team communication provides an added value for decision makers	1 2 3 4 5
24	إتصالات الفريق تؤدي الى تحسن التوقعات Team communication has effect on improvement expectation	1 2 3 4 5
25	يواجه فريق العمل تناغم كبير في الرأي بين أعضاء الفريق There are increased harmony among team members	1 2 3 4 5
26	التغييرات على نطاق المشروع تمر بسهولة دون ان تشكل أي خلافات أو تأخير Project scope changes happen smoothly, involving no disputes or delay	1 2 3 4 5

جزء - د: مؤشرات نجاح المشروع (8 أسئلة)

D. Project Success Measures (11 items)

27	يمكن اعتبار هذا المشروع من المشاريع الناجحة My organization rank this project as a successful project	1 2 3 4 5
28	يمكن القول بأن هذا المشروع يحقق الاهداف المرجوة The project achieved/will achieve its stated objectives	1 2 3 4 5
29	يمكن القول بأن هذا المشروع يحقق العوائد المتوقعة The project is delivering/will deliver the expected benefits	1 2 3 4 5
30	يمكن القول بأن هذا المشروع يحقق المخرجات المتوقعة ضمن القيود المحددة والتمدة الزمنية المطلوبة The project delivered/will deliver the required outputs within the time constraints specified	1 2 3 4 5

31	يمكن القول بأن هذا المشروع يعتبر ناجح بنسبة للعميل The project was regarded/will be regarded as a success by the client	1 2 3 4 5
32	يعتبر المشروع ناجح بنسبة لأصحاب المصلحة The project was regarded/will be regarded as a success by other important stakeholders	1 2 3 4 5
33	يمكن القول بأن هذا المشروع حقق النتائج على مستوى الجودة المطلوبة The project outputs was/will be of the expected quality	1 2 3 4 5
34	يمكن القول بأن نتائج المشروع تحقق إحتياجات المستخدم The project outputs addressed/will address the requirements of the end user	1 2 3 4 5
35	يعتبر هذا المشروع ناجح من وجهة نظر العاملين فيه The project outputs was regarded/will be regarded as a success by the people working on it	1 2 3 4 5
36	يمكن القول بأن هذا المشروع يحقق النتائج المرجوة ضمن القيود المالية المحددة The project delivered/will deliver the outputs within the cost constraints specified	1 2 3 4 5
37	تتم عمليات إدارة المشاريع بفاعلية The project management process used was/is effective	1 2 3 4 5

هذه البيانات الديموغرافية (10 أسئلة) برجااء إختيار الإجابة المناسبة:

E. Demographic information (10 items): Kindly circle the right answers-

1	Gender	<table border="1"> <tr> <td>Male</td> <td>Female</td> <td>أنثى</td> <td>ذكر</td> </tr> </table>	Male	Female	أنثى	ذكر	الجنس	1				
Male	Female	أنثى	ذكر									
2	Nationality:	<table border="1"> <tr> <td>الإمارات</td> <td>عرب</td> <td>الغرب</td> <td>أخرى</td> </tr> <tr> <td>UAE</td> <td>Arab</td> <td>Western</td> <td>Other</td> </tr> </table>	الإمارات	عرب	الغرب	أخرى	UAE	Arab	Western	Other	الجنسية	2
الإمارات	عرب	الغرب	أخرى									
UAE	Arab	Western	Other									
3	Project Position:	<table border="1"> <tr> <td>الإدارة العليا</td> <td>مدير</td> <td>مسؤول</td> <td>قني / مبتدئ</td> </tr> <tr> <td>Top Management</td> <td>Middle Management</td> <td>Senior</td> <td>Junior</td> </tr> </table>	الإدارة العليا	مدير	مسؤول	قني / مبتدئ	Top Management	Middle Management	Senior	Junior	المستوى الوظيفي	3
الإدارة العليا	مدير	مسؤول	قني / مبتدئ									
Top Management	Middle Management	Senior	Junior									
4	Project Leader Nationality:	<table border="1"> <tr> <td>الإمارات</td> <td>عرب</td> <td>الغرب</td> <td>أخرى</td> </tr> <tr> <td>UAE</td> <td>Arab</td> <td>Western</td> <td>Other</td> </tr> </table>	الإمارات	عرب	الغرب	أخرى	UAE	Arab	Western	Other	جنسية قائد المشروع	4
الإمارات	عرب	الغرب	أخرى									
UAE	Arab	Western	Other									
5	Ownership:	<table border="1"> <tr> <td>حكومي</td> <td>شبة حكومي</td> <td>قطاع خاص</td> <td>قطاع عام</td> </tr> <tr> <td>Government</td> <td>Semi-Government</td> <td>Private</td> <td>Public</td> </tr> </table>	حكومي	شبة حكومي	قطاع خاص	قطاع عام	Government	Semi-Government	Private	Public	الملكية	5
حكومي	شبة حكومي	قطاع خاص	قطاع عام									
Government	Semi-Government	Private	Public									

6 My Projects management related Experience: عدد سنوات الخبرة لدي في إدارة المشاريع 6

5 أو أقل /less	سنوات 6-10	سنة 11-15 وات	16+ أو أكثر
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7 Age group: الفئة العمرية 7

20 أو أقل /less	21-30	31-40	41 +
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8 Overall work experience in the same organization: الخبرة في المؤسسة الحالية 8

5 أو أقل /less	سنوات 6-10	سنة 11-15 ات	16+ أو أكثر
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9 Level of education المستوى التعليمي 9

أقل من ثانوي	ثانوي	دبلوم	دبلوم عالي	جامعي / بكالوريوس	دبلوم بعد (البكالوريوس)	ماجستير	دكتوراة
below High School	High School	Diploma	High Diploma	college/university (BS or BA)	Diploma after BA	Master	PhD (Doctorate)

Appendix B

Coding Book

Sr .	Item	Coding			
1	Gender	1 = Male	2= Female		
2	Nationality	1=UAE	2=Arab	3=Western	4=Other
3	Project position		2= Middle Management		
4	Project leader nationality	1= Top Management	2=Arab	3=Senior	4=Junior
5	Ownership	1=UAE	3=Western	4=Other	
6	My projects management related experience	1= Government	2= Semi-government	3=Private	4=Public
7	Age group	1=5 or less	2= 6- 10	3=11-15	4=16+
8	Over all work experience	1=20 or less	2=21-30	3=31-40	4=41+
9	level of education	1=5 or less	2= 6- 10	3=11-15	4=16+
		1= Below high school	2= High school	3= Diploma	
		4=High diploma	5=Bachelor's or equivalent	6=Diploma after BA	
			7=Master's degree	8= PhD	

Letter to the respondent

التاريخ : 21 يوليو 2013

السيدات و السادة / المستجيبين

تحية طيبة و بعد ,,,

الموضوع: (استبيان) متبنيات نجاح المشروع : حالة مشاريع أبو ظبي

كجزء من استيفاء دراسة الدكتوراه لبرنامج إدارة الأعمال (DBA) في جامعة أبو ظبي أطلب التكرم بإرسال لي الاستبيان المرفق و ذلك لغرض المسح, وهو لتأكيد متغيرات الدراسة البحثية وتحديد أهمية العلاقات بينهما كجزء من بروتوكول الدراسة, أود أن أؤكد لكم سرية التامة في إجاباتكم.

سوف تكون مداخلات هذه الدراسة مساهمة في مجال الأبحاث في مجال التعليم ونجاح مشاريع أبو ظبي . إذا كنت مهتما في النتائج أو تظن أنك تحتاج إلى مزيد من التوضيح يرجى التواصل معي على البريد الإلكتروني : jmalqubaisi@gmail.com أو على الهاتف المتركب مئين أذناه .

مع أطيب التحيات,,,

جاسم محمد القبيسي

جامعة أبو ظبي

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