

**Role of Project Management Maturity on Organizational Performance with mediating role  
of Organizational Culture in Pakistan**

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BAHRIA UNIVERSITY LAHORE CAMPUS

**RESEARCH THESIS**

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## **DEDICATION**

This research thesis is dedicated to my parents and fellows.

### **PARENTS**

For their kind support, continuous motivation and for being there as a symbol of hard work

### **FRIENDS**

First, my best friend, my wife, who has supported me throughout my time and always trusted me to perform my best in every phase of my life. Second specially thanks to my friend javed aslam.

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## ABSTRACT

The aim of this research is to analyze the impact of project management maturity (PMM) on organizational performance with mediating variable of organization culture in construction industry of Pakistan. Correlation shows the significant and positive relationship among variables. Regression analysis used to analyze the outcome of project management maturity on organizational performance. The result showed that project management maturity has direct and positive effect on organization culture and organizational performance. Mediating effect of organization culture was measured through Hierarchical regression. The results demonstrated that variable organization culture partially mediate project management maturity and organizational performance. Thus, overall result of this study showed that project management maturity has a direct effect on organizational performance and has indirect effect through mediating variable. These study proposals different managerial inferences. First, by developing levels of project management maturity and by exhibiting its value in refining organizational performance of construction sector of Pakistan, furthermore this study provides a valuable procedure and approaches for assessing the effectiveness of their current project management performance. Second, the findings of this study tend to support the view that the implementation of project management maturity has a significant impact on the organizational competence of construction industry of Pakistan. In this research researcher also evaluate the levels of PMM and these levels play a vital role in evaluation of firm performance such as which level is implemented in nine area of project management maturity i.e., project integration management, project scope management, project time management, project cost management, project quality management, project human resource management, project communication management, project risk management and project procurement management.



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## List of Abbreviation

PMM	project management maturity
OP	Organization performance
OC	Organization culture
PM	Project management
SPSS	Statistical Package for the social science
DV	Dependent variable
IV	Independent variable
MV	Mediator variable
ANOVA	Analysis of Variance
RA	Regression analysis

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## 1- Introduction

The term 'maturity' used as a tool to get into the company performance to do different functions. But recently several organizations are undergoing this maturity concept and analysis to find other ways to enhance and standardize the organizational services. The first maturity model "Capability Maturity Model" developed by software Design Institute to measure and evolves the organizational success in developing software with repeatable results (Crawford, 2007).

The maturity of the project management has pursued by the companies through proper implementation of stranded procedure. It seems that firm are facing more difficulties in implementing the organizational strategies (Meskendahl, 2010). The projects were recently seen as an instrument for implementing the planned strategies (Cleland et. al., 1999; Pennypacker, 2005; Dietrich et. al., 2006; Grundy, 2000). Maturity is defined as "the state of being mature; fullness or excellence of growth or progress" (Simpson et. al., 1989). Many firms aim to achieve the perfect development of their abilities in managing projects. As per research (Shi, 2011), maturity will affect the value that a company can achieve by implementing project management. As a consequence, the maturity in project management is turns out to be pursued by different organizations as are project management maturity models (PMMM's) that emerged as tools through which an organization could move towards perfect development in project management by conducting a progressive maturity process within the organization.

Project management philosophies and methods are perceived as an instrument to accomplish organizational objectives. PMMMs have been applied in order to develop capabilities in managing projects. They aim to prescribe how an association can achieve the its desired levels of project management maturity. This should guide how investments are made in project

management training, practices, systems, time, tools, technique, etc. Currently, a stream of researcher has criticized the abilities of these models to provide proper directions (Brookes et. al, 2009; Killen et. al., 2013; Kujala et. al., 2000; Mullaly, 2014).

The project management maturity models (PMMM's) have been applied as a mean by which to conduct the maturity process in a systematic and structured way (Project Maturity Management, 2010). The fundamental idea of maturity drives for organizational processes to continuous improvement and so requires understanding of an organization's current position and where it aim to be in the future. Initially, PMMM's were limited to the diagnosis of the level of maturity of project management within an organization (Cleland et. al., 1999). Concerning Shi (2011), maturity will affect the value which an organization can gain by implementing project management.

Numerous project management models have been created, particularly after the 1990s, with the point of creating organizational maturity, since higher levels of maturity suggest the ability to get better result from project. They set out to evaluate the organizational expertise and support to developments of further effort. The models that may have been utilized to assess the project management maturity includes: Capability Maturity Model Integration-CMMI (CMMI Product Team, 2001), the Organizational Project Management Maturity Model-OPM3 (Project Management Institute, 2008) the Project Management Maturity Model (PMMM's) developed by Kerzner (2001), the Project Management Process Maturity (PM2) introduced by Ibbs (2000), which uses a methodology that calculates return on investment in project management.

Despite the variety of the models and except for some differences, they converge on a conceptual framework, comprising well established processes through which an organization

develops itself in a systemic and planned way to achieve a desired future state. It is usually divided into five linear step to repeatable, refined, managed and optimized (Jugdev et. al., 2002). The optimized stage is best or perfect one. It shows the potential upgrades or improvements resulting that happen from a higher maturity level. However, it is up to the organization to decide if it is desirable to improve the next stage (Wendler, 2012).

The standardized approach usually evaluate whether processes are defined, characterized or established, perceived or applied, connected or controlled with consistently enhanced; to what degree an organization has implemented project management; and what distinct capabilities have been set up. The assessment illuminates the level of maturity in the management of the project, which can be frequently used for carrying out relative evaluations and encourage the improvement of performance (Jia et. al., 2011).

In General, PMMM's and research consider adopting "Best practices" as an approach to get the organization's project management maturity (Killen et. al., 2013). For this situation, after an investigation of the maturity, some PMMM's will deliver the list of recommended best practices to be implemented. These recommendations for the most reflect the best practices and techniques that are utilized in effective and successful organization (Killen et. al., 2009). Contingent upon the level of maturity, the arrangement of recommendations can be amazingly long and organization may need to set needs in which exercises to contribute. Some PMMM's, developed the well-known bodies of knowledge, provide direction for improvement project management using updated tools and techniques. However, the evaluation of maturity and organizational strategies are balanced towards decision-making is might be used special software or team for this purpose.

The PMMM's vary in their assessment strategy, such as: the number of aspect and dimensions covered and the evaluation process and how they aggregate results and levels of maturity. This happen due to organization is formulating different studies on best practices for project management (Killen et. al., 2009) and there is theoretical construct of project management maturity (Pasian et. al., 2012). In this way, the decision of a PMMM's is a managerial choice and the setting of the organization thought to ensure the suitability of the chosen model (Wendler, 2012).

Project maturity, recently modeled as the Organizational Project Management Maturity Model (OPM3®) by the Project Management Institute (2004), aims to integrate, assess, and improve project management practices. The effects of a company's project management system and management's ability to execute projects successfully are recognized (Kerzner, 2005). A 2004 survey of 200 respondents in 30 countries conducted by Price Waterhouse Coopers (PWC) concluded that the greater an organization's project management maturity (PMM), the greater the positive impact on overall project performance. However, there is no one optimum level of maturity that is appropriate for every organization (Wheatley, 2007). Although we would expect that companies with more mature project management practices will have better project performance, the previous findings are conflicting. There is no evidence of PMM's contribution on organization success as a means of competitive advantage (Grant et. al., 2006; Ibbs et. al., 2000; Jugdev et. al., 2002; Mullaly, 2006).



## 1.1- Problem Statement

Project management has five process group and ten knowledge area as per PMBOK 6<sup>TH</sup> it must go after the full business lifecycle, from description, endorsement and justification of the project, through to assigning confirmable compensation for the business. The assessment of maturity through PMMMs has the crucial and important function of identifying the potential room for enhancement. In the context there is a major gap to understand the project management maturity (PMM) concept (Farrokh et. al., 2013). Implementation of Project Management Maturity Model is major research problem in this research and researcher investigated the impact of project management maturity on organizational performance with provided mediation as organization culture in construction sector of Pakistan.

## 1.2- Research Questions

The nature of this research work is quantitative study and following are the key research question

- 1- Does the relationship exist between project management maturity and organizational performance in Pakistan?
- 2- Does the relationship exist between organizational culture and organizational performance in Pakistan?
- 3- Does organizational culture mediate the relationship between project management maturity and organizational performance in Pakistan?

### 1.3- Research Objective

This study has following objectives:

- 1- To investigate the effect of project management maturity on organizational performance of an organization.
- 2- To examine the mediation role of organizational culture in the relationship between project management maturity and organization performance.

### 1.4- Limitations of this Research

This study is only limited to construction related projects and nature of these projects related firms are high level of market worth and good financial reputation in Pakistan sector. This study is limited to industry of Pakistan. Sample size is kept small which itself is a limitation. More detailed and in-depth research can be conducted by increasing sample size.

### 1.5- Significance

Key significance of the research is analysis of influence of Project Management Maturity (PMM) on project performance with mediating role of organizational culture in context of industry of Pakistan with special emphasis on construction projects. This study will also provide the information about selected organizations performance and provide evaluation to project manager for implementation of project management maturity (PMM) and there firm performance with mediation of organizational culture. Through the execution of this research, we will also be able to analyse methodology that can help improving the organizational performance with enhance project management maturity concept and culture in context Pakistan.

## 1.6- Gap Analysis

The following are the key gaps that exist in context of research in this area:

- There is less work performed in this area of research in Pakistan in construction related projects.
- Few studies were conducted on relationship between project management maturity (PMM) and firm performance in Pakistan. (Farrokh J. et. al, 2013).

## 2- Literature Review

### 2.1 Project Management Maturity

Past research on PMM's contributed the result of project success and these results are conflicting, Ibbas (2000) explained the no statistically significant relationship between project management maturity and project success. Mullaly (2006) raised concerns regarding a lack of evidence of PMM's contribution to organization success as a means of competitive advantage. Grant and Pennypacker (2006) found no significant difference in PMM among four major industries. Ibbas and Kwak (2000) found that 38 large international companies, in sectors such as construction, telecommunications, IS, and high-tech manufacturing, averaged 3.26 on a relative scale, with 0 indicating the lowest maturity level and 5 indicating the highest maturity level.

A recent PWC study based on 200 respondents reported that the average maturity score was 2.5, that more than 60% of the respondents wished to increase their maturity level, and that 71% of companies wanted to increase their level by more than one step (Bannan, 2005). Grant and Pennypacker (2006) revealed that as a result of a survey of 126 organizations from various industries, the median PMM level is 2 out of 5 with respect to 36 of the 42 components analyzed. Mullaly's (2006) longitudinal study reveals that between 1998 and 2003, based on worldwide organizations ranging from 280 to 579, the number of Level 1 organizations increased, but there has been a decrease over time in organizations evaluated at Level 2 or above. The fact that Level 3 organizations declined to 0% is very disappointing. Furthermore, no significant relationship between PMM and performance was found.

### 2.1.1 Project Management Maturity Model

The project management maturity model is an important part of evaluating maturity level for a particular project (Kerzner, 2005). PMM models offer an established way to develop effective tools and techniques for achieving a suitable or desired maturity level of a project (Wheatley, 2007).

The PMM by PM Solutions, explained in the nine learning areas in *A Guide to Project Management Knowledge (PMBOK® Guide) - Third Edition* (PMI, 2004), is demonstrated as follows, and is based on the Capability Maturity Model (CMM) of the Software Engineering Institute (SEI) (Crawford, 2002; Grant et al., 2006; Ibbs et al., 2000):

This explains the nine areas of knowledge management, as per below.

- 1- Project Integration
- 2- Project Time
- 3- Project Scope
- 4- Project Cost
- 5- Project Human Resource
- 6- Project Quality
- 7- Project Risk
- 8- Project Communication
- 9- Project Procurement

Five levels of maturity are used as descriptors of the Maturity Capacity Model (Crawford, 2002; Humphreys, 1992; Mullaly, 2006). These levels are defined below:

**Level 5-Optimization Process:** a completely mature project organization with processes applied consistently throughout the organization as part of the overall management process. Processes are in place and are aggressively used to improve project management activities. Lessons learned are frequently reviewed and used to improve project management processes, standards and documentation. Administration and organization focus on continuous development.

**Level 4-Managed Process:** a mature project management process applied consistently to all projects, with project management recognized as a formal management castigation. Project management processes, standards and support systems are united with other business processes and systems. The management uses efficiency and effectiveness strictures to make decisions about the projects.

**Level 3-Organizational Standards and Institutionalized Process:** an organization with a refined and combined project management process that is continually applied in every project. All project management processes are standard and repeatable for all projects. The management has established the processes and standards with the formal documentation current in all processes and values.

**Level 2-Structured and Standard Process:** some project management skills are defined but not applied consistently. The administration supports the implementation of project management, but there is no consistent understanding, commitment or organizational mandate to comply with all projects.

**Level 1-Initial Process:** a capacity to manage the ad-hoc project, without consistent or repeatable processes. Although project management processes are recognized, there are no established practices or standards.

## 2.2 Organizational Performance

Despite the common assumption that organizational project management maturity improves project management performance, current research offers little to support this argument. When project management performance or success was previously studied, several factors were found to be significantly influencing project success.

These studies can be summarized in two streams: studies that emphasize project managers' individual characteristics and leadership (Anantatmula, 2008; Dvir, Sadeh, & Malch-Pines, 2006; Frame, 1987; Prabhakar, 2005; Shenbar, 1998; Turner & Müller, 2005; Wellman, 2007), and the research stream that investigates the influence of organizational factors on project success (Bani Ali, Anbari, & Money, 2008; Doolen et. al., 2003; Hyvari, 2006; Ives, 2005).

As concerns the influence of leadership characteristics on project success, Dvir (2006) studied the relationship between the project manager's personality, project types, and project success. Project success was measured along four dimensions:

- 1) Project efficiency (meeting project goals)
- 2) Customer benefits
- 3) Benefits to the parent organization
- 4) Benefit to the community and national infrastructure

Researchers found tentative support that project managers are more attracted to projects that fit their personality, and furthermore are more successful when their personality characteristics match their projects' profiles (e.g., some project managers fare better with platform projects, others with low-tech, derivative projects, and still other project managers work best with high-tech uncertainty projects). This finding agrees with Turner and Müller's review (2005), which demonstrated that a

project manager's personality and leadership may make a manager more competent and thus influence project success. These researchers also indicated the limitations of personality measures and the need for future research in measuring the impact of competence and leadership on performance.

The influence of organizational factors is the topic of ongoing research in project management. Ives (2005), as a result of interviews conducted with managers, concluded that effective sponsorship and governance, definition of scope and success, structure and authority, availability of funding and resources, and even simply organizational context were important factors for project success. Hyvari (2006) studied the relationships between critical success factors and organizational variables. Organizational context, especially the size of the organization, was perceived to be an important factor for project success. Belassi, Kondra, and Tukul (2007) found significant relationships between positive work environment, strong leadership, and new product development and project success.

### 2.3 Organization Culture

Organizational culture is defined as the set of values, beliefs, and behavioral norms that guide how members of the organization get work done. Many organizational factors were attributed to team effectiveness. Organizational context is defined as management processes, organizational culture, and organizational systems that exist within an organization. Early studies have confirmed that companies that place emphasis on key managerial components, such as customers, stakeholders, employees, and leadership outperform those that do not have these cultural characteristics (Kotter & Heskett, 1992; Wagner & Spencer, 1996). Doolen (2003), based on production teams of a Fortune 50 high technology company business unit, found a significant and positive linear relationship between team-leader effectiveness and team satisfaction and the organizational culture



that supports communication and cooperation among teams. Variables used to define organizational culture were based on parameters such as the extent to which organizational culture supports the positive inter team interactions or the integration of the team into the rest of the organization, and the extent to which organizational culture values and supports the teams and teamwork. Janz (2003) emphasized the importance of a knowledge-centered culture and found a significant relationship between organizational climate and cooperative learning.

According to Schein's progressive system gives a significant structure to understanding organizational culture, it is increasingly a measure of the organizational atmosphere that is considered by the measurements of hazard, reward, warmth, and support. This examination utilizes the organizational culture appraisal apparatus (OCAI) created by Cameron and Quinn (1999). OCAI is utilized to analyze an association's culture and is valuable for deciding manners by which to change culture. The OCAI is utilized by a few management specialists to evaluate organizational similarity (Berrio, 2003, Ritchie et. al., 2005, Zeitz, et. al., 1997).

The OCAI depends on a hypothetical model called the Competent Values Framework (CVF). CVF was at first created from explore led on the principle markers of powerful associations. Two primary measurements rose up out of the investigation that sorted out the markers into four principle gatherings. One measurement separates the viability criteria that underscore the adaptability, attentiveness and dynamism of the criteria that underline soundness, request and control. The second measurement separates the criteria of viability that stress an inside introduction, incorporation and solidarity based on criteria that accentuate outside introduction, separation and contention.

The OCAI contains 6 dimensional areas of organizational culture as under;

- 1- Dominant Properties
- 2- Management Style
- 3- Employee Management
- 4- Glue
- 5- Strategic
- 6- Success Criteria

#### 2.4 Relationship Between Organizational Performance and Project Management Maturity

It is hard to imagine that organizations may have a "Collective brain", but one can find organizations' knowledge and experience in operational procedures, description of labor processes, descriptions of position, paths, routines, and in knowledge databases in products and projects (Gareis; Huemann, 2000), especially in construction field in Pakistan. The maturity of project management of an enterprise can be understood as a measurement of its level of excellence in the area. The search for excellence in project management by organizations is measured by its maturity level in managing their projects, by measuring how much the processes of companies are dedicated to their projects. The maturity level in project management of an organization tells how much this organization has already moved towards the search for excellence achievement in the management of its projects (Patah, 2004). Maturity models in project management have been influenced by the work of Humphrey (1989), who identified maturity levels in the process of IT project development, relying mainly in managerial attitudes found in enterprises (Carvalho et. al., 2003; Laurindo et. al., 2003). Paulk et. al. (1995) identified the characteristics that distinguish the immature

organizations, marked by ad hoc procedures, from the mature ones, which make disciplined use of project management methodologies.

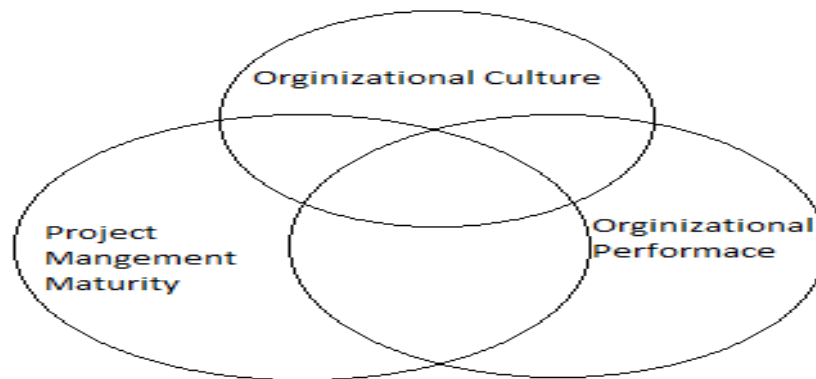
## 2.5 Relationship Between, Organization Culture, Organizational Performance and Project Management Maturity

Nahm (2004) revisited the impact of organizational culture on time-based manufacturing and performance. Based on a sample of 224 firms, they determined what espoused values support a high level of time-based manufacturing performance. Based on Schein's (1992) conceptualization of culture, positive relationships between customer orientation and beliefs, between beliefs and time based manufacturing, and between time-based manufacturing and performance were found.

Eskerod and Skriver (2007) found that the very basic assumptions of an organizational culture itself may restrain the knowledge-transfer processes. They claim that a project orientation, in fact, may restrain knowledge transfer, as it leads to knowledge silos. A case study is used to underline the restraining nature of organizational culture based on Schein's hierarchy. Schein describes a hierarchy of artifacts, underlying assumptions, and espoused values to measure organizational culture. Schein's measurement is based on risk, reward, warmth, and support dimensions. Risk is the orientation toward potentially innovative initiatives with uncertain outcomes. Reward is a measure of how employee performance is recognized. Warmth is a measure of friendliness of the atmosphere in the organization.

Finally, support is a measure of the organization's interest in the welfare of the employee (Koskinen, et. al, 2003; Mikkelsen et. al., 2000). Ajmal et. al, (2008) studied the role of organizational culture on knowledge transfer in project based organizations especially in

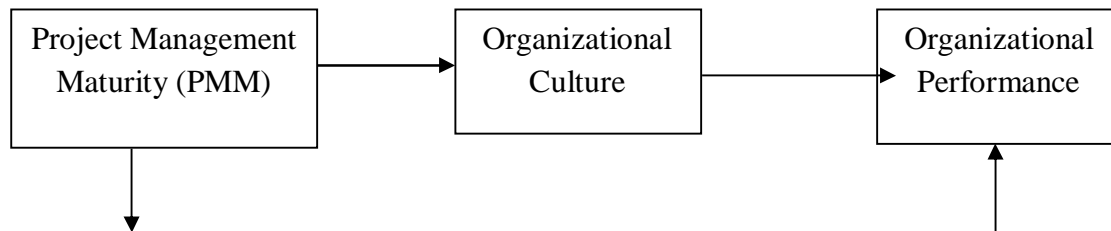
construction field in Pakistan. They emphasized the importance of organizational culture awareness in the creation, sharing, and utilization of knowledge.



**Figure 1-Circular Model (Organizational performance, Project Management Maturity, Organizational Culture)** Asif (2018)

## 2.6 Theoretical Framework

Based on detail literature review, below research framework will be discuss in this study.



## 2.7 Hypotheses

Based on research framework, below hypotheses will be testing in this study,

H1: There is a significant relationship between project management maturity and organizational culture in construction related projects.

H2: There is a significant relationship between organizational culture and organizational performance in construction related projects.

H3: There is a significant relationship between project management maturity and organizational performance in construction related projects.

H4: There is a significant relationship of organizational culture as mediator between project management maturity and organizational performance in construction related projects.

### 3- Research Methodology

The research methodology adopted in the current research is quantitative and descriptive in nature. Positivism epistemology paradigm was adopted to answer the research questions. Positivism is based on the idea that science happens to be the only way to explore the truth and can be observed and stated from an objective perspective. Positivism is basically a part of epistemology which can be defined as the philosophy of knowing. This usually includes the generation of hypotheses and tests: proof or refutation. In general, quantitative methods are used in positivism. The current study is totally based on study objectives. The hypotheses were developed and tested in this research. Primary data collection was used from the survey.

The focal point of this research is to recognize the role of project management maturity (PMM) in the organization's performance with the role of organizational culture mediation. In this study, project management maturity (PMM) used an independent organizational culture as a mediation and the organization's performance used as dependent variables with a focus on the industry or the construction industry in Pakistan.

In the methodology part the researcher will state the procedure for administration of questionnaire. Further sample size, sampling techniques and measures will be discussed.

#### 3.1 Research Design

The research project is a previously designed systematic project to collect and analyze data within a given period of time. Sometimes, research design is also known as a framework, an architect or a plan for a researcher created to search for the questions that fulfill all the research objectives. The questionnaires were formulated to examine the effect of the maturity of project management on the performance of the organization. The tool was tested before many

investigations and ensured that the phrasing, writing, design and order of the instrument were adequate. The questionnaire was adopted and modified by previous studies. Quantitative methods of investigation were used because previous researchers also used the quantitative method to conduct research on this topic. The measurements were measured at the individual level and the time dimension for this study is of a transversal nature.

Data were analyzed using Cronbach's analysis, descriptive analysis, correlation analysis, and regression models in SPSS 21.

## **3.2 Variables**

### **3.2.1 Dependent Variables**

This study includes only one dependent variable, that is, organizational performance. Organizational performance was measured through five adopted elements of Hulya et. al. (2009) using a Likert scale of five points (1 = "nothing" to 5 = "to a large extent")

### **3.2.2 Independent Variable**

This study includes only one independent variable, ie the maturity of project management (PMM). In this research project, management's maturity was measured through nine knowledge areas of the 3rd edition of the PMBOK guide (PMI, 2004), with the help of five levels of maturity as explained in the capacity maturity model (Humphreys, 1992; Mullaly, 2006, Crawford, 2002). A combination of nine areas of knowledge was recognized and adopted, we asked respondents to what extent the level of maturity of project management was implemented in the classification of their organization into five levels.

### 3.2.3 Mediating Variable

This study includes one mediating variable i.e. organization culture. This research measures the organizational culture through organizational culture assessment instrument (OCAI) which was developed by Cameron et. al., (1999) were identified Five-point scales (1= “Strongly Disagree” to 5= “Strongly Agreed”).

### 3.3 Instrument Development

Researcher used the quantitative research method; the questionnaire was the appropriate tool for this survey. Questionnaire was prepared for this research in the light of the literature review. The tools have been adopted for all the variables. The project management maturity was carried out through nine areas of knowledge of the third edition of the PMBOK guide (PMI, 2004), i.e., management of project integration, project scope management, project time management, cost management design, project quality management, human resource management, risk management and procurement management with the help of five levels of maturity, as explained by the capacity maturity model (Mullaly, 2006; Humphreys, 1992; Crawford, 2002). We asked the respondents at what point the level of maturity of project management in the classification of their organization was implemented in five levels. In this research, the organizational culture is used as a mediator and is measured through the organizational culture assessment instrument (OCAI) that was developed by Cameron (1999). Organizational culture was measured with this help of six dimensions i.e., dominant characteristics, organizational leadership, employee management, organizational glue, strategic emphasis, success criteria were identified Five-point scales (1 = "Very disagreement "a 5 =" Strongly agree "). Ten questions used to measure the dependent variable, that is, the organizational



performance adopted by Hulya (2009) using a five-point Likert scale (1 = "Definitely Worse" to 5 = "Definitely Better").

### 3.4 Coding Procedure

Coding is used in analyzing the research objectives in which we transform responses in a specific format that is easy to understand for a layman (Abbas, 2014). In the part of demographic information, nominal and ordinal scales are used to code the responses. Gender was included in nominal scaled question and coded as 1 and 2. Age, qualification, experience, current position, number of subordinates, type of organization, and working province in Pakistan, were the ordinal scaled question for which "1" was used for least rank and more than "1" were higher rank. Later a unique identification code was assigned to each questionnaire so that if any mistake found in the data can be easily rechecked or verified. In Gender variable (Nominal scaled question) was coded "1" for Males and "2" for females.

Moreover, an ordinal variable, "Age" was distributed into five groups (Less than 20 years = 1, 20 to 30 years = 2, 30 to 40 years = 3, 40 to 45 years = 4, and more than 45 years = 5). The qualification was distributed into five groups (Certification=1, Matric=2, Bachelor=3, Master=4, Doctoral=5) and work experience was also define in five groups (1-5 Years=1, 5-10 Years=2, 10-15 Year=3, 15-20=4 and above 20=5). The current position in organization was asked in 5 options (Project Officer=1, Project Supervisor=2, Project Coordinator=3, Project Manager=4, and General Manager=5). The variable "number of subordinates reporting directly to you" was measure into five levels (1-5=1, 5-10=2, 10-15=3, 15-20=4, and More than 20=5). The type of organization was measure into five option (Private=1, Semi Government=2, Government=3, 3<sup>rd</sup> Party Contractor=4 and other=5). The variable "organization operating provision" was categorized into four levels

(Punjab= 1, Sindh = 2, Khaberpahktoon Khan = 3 and Balochistan = 4). Remaining scales were measured in 5-Points Likert scale.

### 3.5 Pilot Testing of the Research Instrument

To guarantee the feasibility of this research, the researcher conducted a pilot study. Abbas (2011) affirms the importance of the pilot tests as "verification of the feasibility of the original research, sometimes to verify the practical existence and application of research or to explore the nature of the data compared to the research objectives" (p. 119).

The Section A consisted on eight items as predefine in above and the section B was originally consisted on 80 items comprised of five-point scales. And these scales measured the three variables; project management maturity, organization culture, and organizational performance.

For pilot-testing, data were taken from different organization such as services, manufacturing, private and government sector in United State of America and four hundred (400) questionnaires were distributed online among the projects managers and eighty four (84) questionnaire (21.5%) were treated in data analysis out of 400.

### 3.6 Targeted Population

This study is designed to measure the impact of project management maturity on organizational performance while organization culture plays the mediating role between those variables in construction industry of Pakistan. Approximate 200 organizations are selected in construction sector within four province of Pakistan. Thus the firms or organizations or project managers are the population of the study.

### 3.7 Sample Size

T. Yamne (1967) provides the formula to determine the sample size and the researcher used this formula in the present study.

$$n = \frac{N}{1 + Ne^2}$$

Where

N = population size

n = sample size

e = level of precision.

The level of precision and the level of confidence considered two main factors to determine the size of the sample. For this purpose, the 95% confidence interval and the 5% accuracy level were considered and the sample was

$$n = \frac{N}{1 + Ne^2}$$

Since, N = 200 and e = 0.06

So,

$$n = \frac{200}{1 + 200(0.06)^2} = 115$$

Thus, the calculated value of sample is at least 115 from different construction organization in Pakistan's. 120 questionnaires were distributed among the construction sector within four province of Pakistan. 110 questionnaires were returned. Thus the return rate was 91%. 10 questionnaires were dropped out of 110 as these questionnaires were not fully filled. Thus, the valid sample size was 100.

### 3.8 Sampling Techniques

The random sampling technique was used to select the organizations and project manager to get in depth information regarding this research.

## 4- Results

### 4.1 Demographic Section

In this section, we discovered demographic properties of responded. In this section eight major questions were asked to the respondent (gender, age, qualification, experience, current position in organization, number of subordinates reporting, type of organization, and operating provision of organization and type of organization). The percentage and frequencies of these variables are given in following table 4.1

**Table 1. Demographically described information of current study**

<b>Demographic Variables</b>	<b>Values f (%)</b>
<b>Gender</b>	
Female	05 (5%)
Male	95 (95%)
<b>Age</b>	
Less than 20 years	00 (0%)
20-30 years	10 (10%)
30-40 years	60 (60%)
40-50 years	20 (20%)
above 45 years	10 (10%)
<b>Highest level of education?</b>	
Certification	05 (5%)
Matric	15 (15%)
Graduation	25 (25%)
Masters	50 (50%)
MS/PhD	05 (5%)
<b>Working Experience?</b>	
01-05 years	05 (5%)
05-10 years	15 (15%)
10-15 years	25 (25%)
15-20 years	50 (50%)
above 20 years	05 (5%)

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**Current Position in Organization?**

Project Officer	05 (05%)
Project Supervisor	12 (12%)
Project Coordinator	18 (18%)
Project Manager	62 (62%)
General Manager	03 (03%)

**Number of Subordinates?**

1-5	00 (00%)
5-10	10 (10%)
10-15	52 (52%)
15-20	30 (30%)
More than 20	08 (08%)

**Operating provision of organization?**

Punjab	82 (82%)
Sindh	05 (05%)
KhaperPakton Khan	10 (10%)
Balochistan	03 (3%)

**Type of Organization**

Private	47 (47%)
Semi Government	10 (10%)
Government	10 (10.0%)
Contractor	33 (33%)
Other	00 (0%)

Table 4.1 shows the distribution of respondent with respect to gender, age, qualification, experience, current position in organization, number of subordinates reporting, type of organization, and operating provision of organization and type of organization.

## 4.2 Reliability Analysis

In this section reliability of variables has been tested through Cronbach Alpha. The alpha reliability range is from 0.914 to 0.985, which indicates the positive and significance reliability and internal consistency in the measurements.

**Table 2. Cronbach Alpha of each scales of the current study (N= 100)**

<b>Variables</b>	<b>No. of Items</b>	<b>Cronbach's alpha</b>
Project Management Maturity	46	0.985
Organization Culture	24	0.978
Organizational Performance	10	0.914

### 4.3 Correlation and Descriptive Analysis

Since the purpose of this study is to find the maturity of the relationship project management in organizational performance while the organizational culture plays the role of mediation between these variables in Pakistan's construction industry, we find the relationship between the study variables through the analysis correlation. The results are shown in table 4.3.

**Table 3. Correlation and Descriptive Analysis**

<b>Variables</b>	<b>Descriptive Statistics</b>		<b>Correlation</b>		
	<b>Mean</b>	<b>S.D</b>	<b>PMM</b>	<b>OP</b>	<b>Org. P</b>
<b>PMM</b>	2.836	.4057	1		
<b>OC</b>	2.778	.4953	.992**	1	
<b>Org. P</b>	3.255	.5636	.747**	.664**	1

Note: \*\* significant at  $P < 0.05$ , S.D= Standard Deviation, PMM=Project Management Maturity, OC=Organization Culture, Org. P= Organizational Performance

#### 4.4 Regression Analysis

The regression analysis examined how independent variables can vary the values of dependent variables. Assumptions such as normality, linearity, homoscedasticity and multicollinearity were assured for the execution of the ordinary multiple regression analysis.

#### Hypothesis 1

H<sub>1</sub>: There is significance relationship between project management maturity and organization culture in construction sector on Pakistan.



**Table 4. Regression analysis****Regression analysis (H1)**

H	Direction			t-Value	p-Value	Accepted/ Rejected
		<i>Beta</i>	<i>Standard Error</i>			
H1	PMM → OC	.992	.013	78.078	.000	Accepted

The regression analyses execute for testing the impact of project management maturity (PMM) on organization culture of construction industry of Pakistan is shown in above table. Standardized coefficient Beta value is 0.992 (Positive), T value is 78.078 (greater than standard 2.00) and P value or significance level is 0.000 (less than 0.05). Results show that there is highly significance positive relationship of project management maturity (PMM) on organization culture (OC) of construction industry of Pakistan. It means that 1 unit change in of project management maturity (PMM) causes 99.2% change in organization culture (OC).

**Table 4.5 Model summary (H1)**

R	R- Square	F- Value
0.992	0.984	96.12

Moreover, the value of R square for project management maturity (PMM) is .984 which shows that independent variable i.e project management maturity (PMM) has 98.4% effect on

dependent variable i.e organization culture (OC). This table show, it is signified that F is 96.12 which expressions that the model is significantly a good fit.

## Hypothesis 2

**H<sub>2</sub>:** There is significance relationship between organization culture and organizational performance in construction sector on Pakistan.

**Table 4.6 Regression Analysis (H2)**

H	Direction			t-Value	p-Value	Accepted/ Rejected
		<i>Beta</i>	<i>Standard Error</i>			
H2	OC → OP	.664	.070	8.780	.000	Significant

The regression analysis made for testing the result of organization culture on organizational performance (OP) on construction industry of Pakistan is shown in above table. The value of  $\beta$  is 0.664 (Which is positive), T-Value is 8.780 (which is greater than standard 2.00) and P-value or significance level is 0.000 (Which is less than 0.05). Results describes that there is highly significant positive relationship of organization culture and organizational performance. It means that 1 unit change in organization culture reasons 66.4% change in organizational performance.

**Table 4.7 Model summary (H2)**

<b>R</b>	<b>R- Square</b>	<b>F- Value</b>
0.664	.440	77.086

The value of R square for organization culture is .440 which shows that independent variable i.e., organization culture e has 44% effect on dependent variable i.e organizational performance. In this table, it is signified that F is 77.086 which shows that the model is significantly a good fit.

### **Hypothesis 3**

**H<sub>3</sub>:** There is significance relationship between project management maturity and organizational performance in construction sector on Pakistan.

**Table 4.8 Regression Analysis (H3)**

<b>H</b>	<b>Direction</b>	<i>Beta</i>	<i>Standard Error</i>	<b>t-Value</b>	<b>p-Value</b>	<b>Accepted/ Rejected</b>
H3	PMM → OP	.747	.065	11.115	.000	Significant

The regression analysis performed to test the effect of project management maturity (PMM) on organizational performance (OP) in Pakistan's construction sector is shown in the table above. The value of  $\beta$  is 0.747 (which is positive), the T value is 11.115 (which is greater than the

2.00 standard) and the P value or significance level is 0.000 (which is less than 0.05). The results describe that there is a highly significant positive relationship between the maturity of project management and organizational performance. It means that 1 change of unit in the project management deadline causes a change of 74.7% in the organization's performance.

**Table 4.9 Model Summary (H3)**

<b>R</b>	<b>R- Square</b>	<b>F- Value</b>
0.747	0.558	123.56

The value of R square for project management maturity (PMM) is .558 which shows that independent variable i.e project management maturity (PMM) has 55.8% effect on dependent variable i.e organizational performance. In this table, it is signified that F is 123.56 which shows that the model is significantly a good fit.

#### **Hypothesis 4**

**H<sub>4</sub>:** There is a significant relationship between the culture of the organization as a mediator between the maturity of the project management and the organizational performance in the construction sector in Pakistan.

The analysis of the mediation was used to see the impact of independent variables (maturity of project management) on the dependent variable (organizational performance) in the presence of a mediator (organizational culture). The method follows the steps. In the first phase (H1) the regression between the independent variables (expiry of the project management) and the dependent variable (organizational culture) that acted as mediator was carried out. In the second phase (H2), a regression was made between the mediator's variables (organizational culture) and the dependent variable (organizational performance). In the third phase, the regression (H3) was

performed between independent variables (project management maturity) and dependent variables (organization performance). In the fourth phase, the regression (H4) was performed between the independent variables (expiry of the project management) and the dependent variable (organizational performance) in the presence of the mediator variable (organizational culture).

**Table 4.10 Regression Mediation Analysis (H4)**

H	Direction			t-Value	p-Value	Accepted/ Rejected
	With mediating effect ( organization culture )	<i>Beta</i>	<i>Standard Error</i>			
H4		.747	.065	11.1156	.000	Significant
		.595	.062	23.322	.000	

As shown in Table 4.10, the results of the mediation analysis showed that the independent variables are positively related to the culture of the organization in the first step ( $R^2 = 0.984$ ,  $F = 96$ ,  $P < 0.01$ ). In the second step, organizational culture is positively related to organizational performance ( $R^2 = 0.440$ ,  $F = 77.086$ ,  $P < 0.01$ ). More specifically, the organizational culture coefficient is 0.664 which is significant. Third, the maturity of the independent variable project management and organizational performance also shows positive and significant ( $R^2 = 0.558$ ,  $F = 123.56$ ,  $P < 0.01$ ) and the value of the coefficient  $\beta$  (management maturity) of the project = 0.747) and the value t (management maturity project = 11,116).

Finally, in the presence of an organizational culture, the relationship between the maturity of project management and organizational performance is still positive and significant ( $R^2 = 0.936$ ,  $F = 70.32$ ,  $P < 0.01$ ) but the value of the  $\beta$  coefficient (expiration) of project management = 0.595) and the value  $t$  (project management deadline = 23.32) decreased due to the mediator variable (organizational culture). Therefore, the organizational culture mediates in part the relationship between the maturity of project management and organizational performance. Therefore, H4 is partially compatible.

## 5- Findings

This chapter reveals the findings attained in the earlier section. The discussion deals with the implementation of project management maturity on organizational performance. Furthermore, this study explored the impact of mediator (organization culture) between project management maturity and organizational performance.

In this research four hypotheses were formulated based on empirical evidence. Statistical criterions were used to find out the acceptance and rejection of hypotheses. Therefore the findings reveal that the project management maturity positively and significance impact on organizational performance in construction sector of Pakistan.

*The first hypothesis in current research* was to investigate impact of project management maturity on organization culture in construction sector of Pakistan. And the result conveyed that the project management maturity is positively and significantly related to the organization culture (Hulya, 2009; Yazici, 2009; Jiang, et. al., 2004).

*The second hypothesis in current research* was to investigate impact of organization culture on organizational performance in construction sector of Pakistan. And the result conveyed that the

organization culture is positively and significantly related to the organizational performance. (Hulya, 2009; Zheng et. al., 2010)

*The third hypothesis in current research* was to investigate impact of project management maturity on organizational performance in construction sector of Pakistan. And the result conveyed that the project management maturity are positively and significantly related to the organizational performance (Sirisomboonsuk, et. al., 2018; Hulya, 2009)

*The fourth hypothesis investigates* the mediation effect of organization culture between of project management maturity and organizational performance. The regression analysis showed the significant and positive relation among them. Moreover organization culture partially mediates among project management maturity and organizational performance.

## **5.1- Contribution of The Study**

Present study contributes in the following ways:

From theoretical point of view, current research support, contribute and broaden the earlier work conducted on project management maturity, organization culture and organizational performance of construction related project in Pakistan. This study advocates the theoretical framework that all variables are interrelated and harmonized and supports each other. It's examined that project management maturity has favorable effect on organization culture and organizational performance. All these have significant influence on organization for achieving the long run organizational goals.

From practical point of view, the present study proposes the top management of the organization to become more aware of importance of project management maturity. Organization should evaluate their current project management maturity levels and this study help to managers for evaluating and improving their current project management maturity levels. In the competitive

business world, the construction sector organization cannot ignore the importance of project management maturity levels. Thus, improvement in the project management maturity levels would lead to the improvement of organizational performance and ensure to achieve the organizational objectives and goals.

## **5.2- Conclusion**

Number of finding were observed in my research in which I say maturity level of organization, the PMM levels has been distributed into 5 levels (0-5 Levels). This study mean value of project management maturity levels is 2.83 which shows most of organization are near to achieve level 3 (describe in literature and questionnaire). Moreover, nine area of project management knowledge are also used in this research which explains the overall project maturity levels of organization.

In this study, the researcher found that most of the 62% of the project manager is involved in completing the questionnaires and shows that the tool was completed by the person concerned and that the information provided is reliable. Depending on the respondent's age, most of the population has an interval of 30-40 years (60%), which current professional experience is shown in this research.

This researcher also evaluates the levels of PMM and these levels play a vital role in the assessment of company performance, such as which level is implemented in nine areas of project management maturity, i.e. management of project integration, management project scope, project management time management, project quality management, project human resource management, project communication management, project risk management and project procurement management.

This study offers numerous managerial implications. Such as by developing levels of project management maturity and by exhibiting its value in enhance firm performance of



construction sector of Pakistan. However, this study provides a valuable technique for assessing the performance of their current project management system. Furthermore, the findings of this study tend to support the view that the implementation of project management maturity has a significant impact on the organizational efficiency of construction industry of Pakistan.

Pakistan's construction sector plays a dynamic role in enhance of infrastructure and development. Nowadays, China Pakistan Economic Corridor (CPEC) are most effective project for development the infrastructure of Pakistan, therefore numerous of project are functional in this region and researcher got useful information while filling the instrument for concern project manager. Project management maturity to support the construction sector for improves their competence and development with useful tools and techniques.

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## APPENDIX I:

### QUESTIONNAIRE

Questionnaire adopted but slightly adapted from Hulya 2009.

Survey Questions

DEMOGRAPHICS:

1. Years of service in the organization:

- a. 1-3
- b. 3-5
- c. 5-10
- d. 10-20
- e. More than 20

2. Current position:

\_\_\_\_\_

3. Sex:

- a. Female
- b. Male

4. Age

- a. 30 years or younger
- b. 31-35 years
- c. 36-40 years
- d. 41-45 years
- e. 46-50 years
- f. 51-55 years
- g. 56 years or older

5. Number of subordinates reporting directly to you

- a. 0
- b. 1-3
- c. 4-6
- d. 7-9
- e. 10-12
- f. 13-15
- g. 16-18
- h. More than 19

6. Qualification

- a Graduate
- b Master
- c MS
- d Engineer

## Organizational Culture Survey

Instructions: Each question has four alternatives (A, B, C, D). Answer the question on 5 point likert scale. 1 "Strongly disagree" to 5 "Strongly Agreed"

1. Dominant Characteristics						
A	The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves.	1	2	3	4	5
B	The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.	1	2	3	4	5
C	The organization is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement-oriented.	1	2	3	4	5
D	The organization is a very controlled and structured place. Formal procedures generally govern what people do.	1	2	3	4	5

2. Organizational Leadership						
A	The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing.	1	2	3	4	5
B	The leadership in the organization is generally considered to exemplify entrepreneurship, innovating, or risk taking.	1	2	3	4	5
C	The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus.	1	2	3	4	5
D	The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.	1	2	3	4	5

3. Management of Employees						
A	The management style in the organization is characterized by teamwork, consensus, and participation.	1	2	3	4	5
B	The management style in the organization is characterized by individual risk taking, innovation, freedom, and uniqueness.	1	2	3	4	5
C	The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement.	1	2	3	4	5
D	The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.	1	2	3	4	5

4. Organization "Glue"						
A	The "glue" that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high.	1	2	3	4	5
B	The "glue" that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge.	1	2	3	4	5
C	The "glue" that holds the organization together is the emphasis on achievement and goal accomplishment. Aggressiveness and winning are common themes.	1	2	3	4	5
D	The "glue" that holds the organization together is formal rules and policies. Maintaining a smooth-running organization is important.	1	2	3	4	5

5. Strategic Emphases						
A	The organization emphasizes human development. High trust, openness, and participation persist.	1	2	3	4	5
B	The organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.	1	2	3	4	5

C	The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.	1	2	3	4	5
D	The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are important.	1	2	3	4	5

## Project Management Maturity Survey:

Level 0:

Not Able to Evaluate

Level 1

Initial Process

- Ad hoc processes
- Management awareness

Level 2

Structure Process and Standards

- Basic processes; not standard on all projects; used on large, highly visible projects
- Management supports and encourages use
- Mix of intermediate and summary-level information
- Estimates, schedules based on expert knowledge and generic tools
- Mostly a project-centric focus

Level 3

Organizational Standards and Institutionalized Process

- All processes, standard for all projects, repeatable
- Management has institutionalized processes
- Summary and detailed information
- Baseline and informal collection of actuals
- Estimates, schedules may be based on industry standards and organizational specifics
- More of an organizational focus
- Informal analysis of project performance

Level 4

Managed Process

- Processes integrated with corporate processes
- Management mandates compliance
- Management takes an organizational entity view
- Solid analysis of project performance
- Estimates, schedules are normally based on organization specifics
- Management uses data to make decisions

Level 5

Optimizing Process

- Processes to measure project effectiveness and efficiency
- Processes in place to improve project performance

- Management focuses on continuous improvement

Based on the definition given above for each level, assess what level your organization is at for the following elements. When answering, think about all the projects that you are involved with.

Project Management Maturity  
Levels

1	2 5	3	4
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Project Integration Management						
A	Project plan development	1	2	3	4	5
B	Project planning execution	1	2	3	4	5
C	Change control	1	2	3	4	5
D	Project information system	1	2	3	4	5
E	Project office	1	2	3	4	5

Project Scope Management						
A	Requirement definition(business)	1	2	3	4	5
B	Requirement definition(technical)	1	2	3	4	5
C	Deliverables identification	1	2	3	4	5
D	Scope definition	1	2	3	4	5
E	Work-breakable structure	1	2	3	4	5
F	Scope change control					

Project Time Management						
A	Activity definition	1	2	3	4	5
B	Activity sequence	1	2	3	4	5
C	Schedule management	1	2	3	4	5
D	Schedule control	1	2	3	4	5
E	Schedule integration	1	2	3	4	5

Project Cost Management						
A	Resource planning	1	2	3	4	5
B	Cost estimating	1	2	3	4	5
C	Cost budgeting	1	2	3	4	5
D	Performance measurement	1	2	3	4	5
E	Cost control	1	2	3	4	5

Project Quality Management						
A	Quality planning	1	2	3	4	5
B	Quality assurance	1	2	3	4	5
C	Quality control	1	2	3	4	5
D	Management oversight	1	2	3	4	5

Project Human Resource Management						
A	Organization plan	1	2	3	4	5
B	Staff acquisition	1	2	3	4	5
C	Team development	1	2	3	4	5
D	Professional development	1	2	3	4	5

Project Communication Management						
A	Planning	1	2	3	4	5
B	Information distribution	1	2	3	4	5
C	Performance reporting	1	2	3	4	5
D	Issue tracking management	1	2	3	4	5

Project Risk Management						
A	Risk identification	1	2	3	4	5
B	Risk quantification	1	2	3	4	5
C	Risk response development	1	2	3	4	5
D	Risk control	1	2	3	4	5



E	Risk documentation	1	2	3	4	5
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KNOWLEDGE AREA MATURITY LEVEL						
A	Project integration management	1	2	3	4	5
B	Project scope management	1	2	3	4	5
C	Project time management	1	2	3	4	5
D	Project cost management	1	2	3	4	5
E	Project quality management	1	2	3	4	5
F	Project human resource management	1	2	3	4	5
G	Project communication management	1	2	3	4	5
I	Project risk management	1	2	3	4	5
J	Project procurement management	1	2	3	4	5

### Project Procurement Management

#### ORGANIZATIONAL MATURITY LEVEL

#### PROJECT PERFORMANCE MEASURES:

Instructions: Each question has four alternatives (A, B, C, D). Answer the question on 5-point likert scale.

1 "Strongly disagree" to 5 "Strongly Agreed"

As the assessment may vary among projects, give a higher number of scores to the alternative that most represents the majority of the projects.

1. Evaluate whether projects are completed on time						
A	To a great extent (exceeds expectation)	1	2	3	4	5
B	To a moderate extent (meet expectation)	1	2	3	4	5
C	To a little extent (some expectations are met— with some overtime)	1	2	3	4	5
D	Not at all (under expectation—overtime)	1	2	3	4	5

2. Evaluate whether projects met budget requirements						
A	To a great extent (exceeds expectation)	1	2	3	4	5
B	To a moderate extent (meets expectation)	1	2	3	4	5
C	To a little extent (some expectations are met— with some over budget)	1	2	3	4	5

D	Not at all (under expectation—completely over budget)	1	2	3	4	5
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### 3. Evaluate whether projects met expectations

A	To a great extent (exceeds expectation)	1	2	3	4	5
B	To a moderate extent (meets expectation)	1	2	3	4	5
C	To a little extent (not all expectations are met)	1	2	3	4	5
D	Not at all (under expectations—disappointed)	1	2	3	4	5

### 4. Evaluate whether team members are satisfied to work together

A	To a great extent—willing to work together for future projects	1	2	3	4	5
B	To a moderate extent—somewhat satisfied with minor issues	1	2	3	4	5
C	To a little extent—some conflicts and issues are present	1	2	3	4	5
D	Not at all—conflicts are present; team members never want to work together	1	2	3	4	5

### 5. Upon completion, evaluate the savings (\$) benefits of projects to the organization

A	To a great extent (exceeds expectation)	1	2	3	4	5
B	To a moderate extent (meets expectation)	1	2	3	4	5
C	To a little extent (some expectations are met)	1	2	3	4	5
D	Not at all (under expectation)	1	2	3	4	5

### 6. Evaluate whether projects resulted in sales growth

A	To a great extent	1	2	3	4	5
B	To a moderate extent	1	2	3	4	5
C	To a little extent	1	2	3	4	5
D	Not at all or not applicable	1	2	3	4	5

### 7. Evaluate whether projects helped the organization to increase market share

A	To a great extent	1	2	3	4	5
B	To a moderate extent	1	2	3	4	5
C	To a little extent	1	2	3	4	5

D	Not at all or not applicable	1	2	3	4	5
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8. Evaluate whether projects helped the organization improve its competitive position						
A	To a great extent	1	2	3	4	5
B	To a moderate extent	1	2	3	4	5
C	To a little extent	1	2	3	4	5
D	Not at all or not applicable	1	2	3	4	5

9. Evaluate whether as a result of the projects, overall performance of your organizational unit is improved compared to last year at this time						
A	To a great extent	1	2	3	4	5
B	To a moderate extent	1	2	3	4	5
C	To a little extent	1	2	3	4	5
D	Not at all or not applicable	1	2	3	4	5

10. Evaluate whether as a result of the projects, your unit's performance improved compared to your best worldwide competition?						
A	To a great extent	1	2	3	4	5
B	To a moderate extent	1	2	3	4	5
C	To a little extent	1	2	3	4	5
D	Not at all or not applicable	1	2	3	4	5