CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

The Impact of People-related Quality Management Practices on Project Performance with Moderating Role of Communication

by

Atia tul Wahab

A thesis submitted in partial fulfillment for the degree of Master of Science

in the

Faculty of Management & Social Sciences
Department of Management Sciences

2020

Dedicated to my parents who dedicated their life to teach me how to step forward...!

CERTIFICATE OF APPROVAL

The Impact of People-related Quality Management Practices on Project Performance with Moderating Role of Communication

by

Atia tul Wahab

(MPM183077)

THESIS EXAMINING COMMITTEE

S. No.	Examiner	Name	Organization
(a)	External Examiner	Dr. Kamran Azam	UoH, Haripur
(b)	Internal Examiner	Dr. S. M. M. Raza Naqvi	CUST, Islamabad
(c)	Supervisor	Dr. Lakhi Muhammad	CUST, Islamabad

Dr. Lakhi Muhammad
Thesis Supervisor
December, 2020

Dr. Mueen Aizaz Zafar
Head
Dept. of Management Sciences
December, 2020

Dr. Arshad Hassan
Dean
Faculty of Management & Social Sciences
December, 2020

Author's Declaration

I, **Atia tul Wahab** hereby state that my MS thesis titled "**The Impact of People-related Quality Management Practices on Project Performance with Moderating Role of Communication**" is my own work and has not been submitted previously by me for taking any degree from Capital University of Science and Technology, Islamabad or anywhere else in the country/abroad.

At any time if my statement is found to be incorrect even after my graduation, the University has the right to withdraw my MS Degree.

(Atia tul Wahab)

Registration No: MPM183077

Plagiarism Undertaking

I solemnly declare that research work presented in this thesis titled "**The Impact of People-related Quality Management Practices on Project Performance with Moderating Role of Communication**" is solely my research work with no significant contribution from any other person. Small contribution/help wherever taken has been duly acknowledged and that complete thesis has been written by me.

I understand the zero tolerance policy of the HEC and Capital University of Science and Technology towards plagiarism. Therefore, I as an author of the above titled thesis declare that no portion of my thesis has been plagiarized and any material used as reference is properly referred/cited.

I undertake that if I am found guilty of any formal plagiarism in the above titled thesis even after award of MS Degree, the University reserves the right to withdraw/revoke my MS degree and that HEC and the University have the right to publish my name on the HEC/University website on which names of students are placed who submitted plagiarized work.

(Atia tul Wahab)
Registration No: MPM183077

Acknowledgement

All praise be to Allah who Has enabled me to undertake and completed this dissertation. I would first like to thank my thesis advisor **Dr. Lakhi Muhammad** The door to Dr. Lakhi office was always open whenever I ran into a trouble spot or had a question about my research or writing. He consistently allowed this paper to be my own work, but steered me in the right the direction whenever he thought I needed it.

I would also like to acknowledge my friends and colleagues for their unconditional support. I would also like to thank all the people around me (**Nusrat Sahab , Mr. Zain , Mr. Waqas , Mr. Uzair**) who helped me to be able to write it.

Finally, I must express my very profound gratitude to my parents and siblings specially **Ms. Tahira Sammer** for providing me with unfailing support specifically regarding my kitchen duties and continuous encouragement throughout process of researching and writing this thesis. This accomplishment would not have been possible without them..

Thank you all.

Atia tul Wahab

Abstract

This study focuses on the relationship between people-related quality management practices (QMP) and project performance (PP) with the moderating role of Communication between team members (CC). These practices include top management support (TMS), participant involvement (PI), customer focus (CF) and quality training (QT). Data were collected by surveying a usable sample of 253 employees involved in quality-related activities working in context of project based firms in Pakistan. Results indicate that two of the constructs participant involvement and quality training (QMP) are positively related with project performance. Further results also confirm the moderating role of communication only in the case of quality training, only people related QMP. Such findings have practical and theoretical implications.

Keywords: Project performance, Quality Management Practices, Quality Training, Participant Involvement.

Contents

List of Figures

List of Tables

Chapter 1

Introduction

1.1 Background of the Study

A project is a temporary endeavor of any organization which is designed to achieve any specific objective.With rapidly changing working environments, projects have become significant as they provide flexible ways to deal with such environments (Bakker, Knoben, De Vries & Oerlemans, 2011). There exists an exponential rise towards an interest in project management over the past 15 years. The Project Management Institute (PMI) had 64,000 members in 2000. By 2010 there were 334,019 members and by 2020 there are 500,000. With an increasing number of projects and their usability, the significance of their performance has also increased. The reason for this rise is primarily the perception of improved performance with projects as compared to non-project environments. Resources are expected to return efficiently when used in a project environment. As project participation over the past 20 years has increased, projects are now considered as the organizational norm, which should increase the project performance.

According to Masters and Frazier (2007), better indicators of project success such as Project Quality Activities, will provide guidance to project managers for time and energy investment in goal setting and thus increasing project performance. QM practices are defined as a set of activities to achieve high-quality results (Flynn, Schroeder & Sakakibara, 1994) and require efforts of all participants (Sun, Zhao & Yau, 2010).To have competitive advantages, QMP of projects have to be

integrated with external organizations (Kosmol, Reimann & Kaufmann, 2018).According to Arditi and Gunaydin (1997)quality in a construction perspective can be defined as "meeting the functional, legal and aesthetic" needs of a construction project.

The literature of TQM in the global construction industry indicates that the presence of TQM in many construction organizations of developed countries proved to be advantageous. Results of a study carried out in some developed countries to observe TQM implementation concludes that fully developed TQM,quality awareness and assurance makes Japanese contractors superior in quality performance(Xiao & Proverbs, 2002)

According to a case study regarding TQM in Construction and Manufacturing Companies of Pakistan, the comparison of the extent to which QM systems are adopted among Japanese, UK and USA contractor indicate that the Japanese contractors are more focused towards TQM as compared to UK and USA contractors. They also summarized the benefits of TQM in construction industries which include more top management focus on the activities, improved project performance, better client satisfaction,better market share, etc(Memon, Khatri & Memon, 2013).

The economy of any country is linked to the construction sector. Expert Management is required based on its nature and complexity to consider quality along with budgets and schedules (Howell & Ballard, 1998). Thus best performance is achievable through facilitating the industry. Implementation deficiencies, influence capability in terms of time and cost wastage, cause sufferings in most of the construction projects. For such projects, management with a commitment to coordination and communication will balance the waya specific technical function is performed(Wideman, 1990). Quality is recognized quality as a main issue in the construction sector due to an increase in clients demand for quality certifications project quality plan and clear statements of quality control needs are responsible for construction quality(Stukhart, 1989).

The importance of construction in Pakistan cannot be underestimated in any way. Maqsoom, Charoenngam and Awais (2013) identified it as the largest employment

generating sector within the country. According to the Pakistan Bureau of Statistics, the share of construction is 2.33% out of 19.74% contribution of the industrial sector. The construction sector in 2019 has registered a decline of 7.6% against the growth of last year ("Table 7 — Sectoral Shares in GDP (at constant basic prices) — Pakistan Bureau of Statistics", 2020).Like many other developing countries, Pakistan is facing critical time, cost and quality management issues. To address them, timely monitoring of project performance and quality is required on regular basis.

The process of acquiring data is less focused on local construction organizations. Customer suggestions are not considered as an important factor and their satisfaction is not assessed. Quality is mostly ignored due to cost constraints and such practices are not implemented on a priority basis in construction industry organizations (Farooqui, Arif & Rafeeqi, 2008). Similarly, lack of skills and fewer resources in construction project management are other major obstacles for improving performance (Naveed & Bhowmik, 2016). According to Farooqui et al. (2008),ignorance of quality in construction project management results in inefficient contract administration, slow decision making and lack of communication. For the improvement of project performance, many researchers and project managers have applied different philosophies. However, the literature lacks the research on performance improvement while considering the defects involved in the construction operations.

During the early stages of research, TQM has been studied to measure TQM practices such as Garvin (1988)compared to TQM practices in Japanese and US firms. Mohrman, Tenkasi, Lawler and Ledford (1995)studied the association of QM practices and organizational performance.

A. Das, Handfield, Calantone and Ghosh (2000) investigated have relationships among QM techniques and their effects on performance. Different research designs have been used to study TQM.

For example,Douglas and Judge Jr (2001) used TQM as a single construct for analysis of the association between TQM and firms performance, while it is used

as a multidimensional construct by Samson and Terziovski (1999).He used performance only at operating levels while it is measured multiple levels in research conducted by A. Das et al. (2000).

Many studies have indicated a positive relationship between QM practices and project performance(Hoonakker, Carayon & Loushine, 2010; Panuwatwanich & Nguyen, 2017)but some found this relation insignificant(Haupt & Whiteman, 2004; Sullivan, 2011; Tang, Qiang, Duffield, Young & Lu, 2009).The contextual factors are suggested to be the reason for the lack of universal validity of QMP and remained the focus of the researcher. Lu, Cai, Wei, Song and Wu (2019)declared that factors affecting the QM-performance relationship need to be further explored.

1.2 Research Gap and Present Study

A project is associated temporarily formed to achieve mutual goals (Levering, Ligthart, Noorder haven & Oerlemans, 2013).It is difficult to establish cooperation among participants (Love, Irani & Edwards, 2004),thereby minimizing the efficiency of QMP. One of the major factors involved in the failure of QM practices is the lack of communication(Fotopoulos, Psomas & Vouzas, 2010). Communication is considered as an important factor in the effective implementation of QMpractices (Schroeder & Flynn, 2002; Thiagarajan & Zairi, 1998). Singh (2008) declared that communication support process-related QM practices to achieve high performance. Zeng, Anh and Matsui (2013)discussed the role of communication in effecting QM practices and resultant quality performance. Although the existing literature of QM tells the importance of trust, contract governance, coworker support, organization support, goal feedback, continuous improvement and knowledge sharing for the successful implementation of QM, Little detailed study has been conducted on specific dimensions of people-related QM practices with moderating role of communication to obtain project performance.

Current study contributes to the literature by splitting people-related QM practices into four types and providing specific empirical evidence on the relationship between each type of people-related QM practices, communication and project

performance as it remains to be evaluated if all the constructs are significant and of the significant constructs, if any have higher predictive power of project performance than the others.

Contract governance control participants' behavior (Abdi & Aulakh, 2012)and improve the impact of people-related QM practices on project performance (Han, Trienekens & Omta, 2011).Trust improves cooperation, thereby the efficiency of QM practices (Ning, 2017).Lu et al. (2019)found out that Both Contract governance and Trust are considered tothe moderate association of people-related QMP and project performance. Extending the suggestions by Lu et al. (2019) to examine the moderating impact of communication, this study inspects the impact of communication as a moderator between people-related QMP and project performance.

1.3 Problem Statement

The studies on project management generally indicate a concern for assessing factors that cause issues in the implementation of a successful project. One the major factor which affects any type of organization is the failure of a project to achieve the required goals or quality product/services. In the present era of rapidly changing market environments, managers of projects need external organizations for QMP implementation (Kosmol et al., 2018). Singh (2008) found that communication can support process-related Quality management practices to achieve high performance. Zeng et al. (2013) discussed the role of communication in inuencing QM practices and resultant quality performance.However, we find limited evidence that how this communication can moderate the association of people related QM practices and project performance.

Communication is a favorable factor that improves the control of quality activities and project managers in the implementation of a successful project. Thus, we argue that its moderating role is important to assess in this particular relationship. Moreover,the abundance of studies in US/Western contexts on project management limits their generalizability to another cultural context like Pakistan.

What will be the combined effect of communication on project performance in a project environment which ensures the implementation of people-related QMP? The answer to this question is missing in the extant literature, which the current study is going to address.

1.4 Research Questions

At its core, the present study is intended to find answers for some briefly summarized questions which are as follows;

RQ 1: What is the impact of top management support on project performance?
RQ 2: What is the impact of participant involvement on project performance?
RQ 3: What is the relationship between customer focus on project performance?
RQ 4: What is the relationship between quality training on project performance?
RQ 5: Does communication moderate the association of people-related QM practices and project performance?

1.5 Research Objectives

The research objective is to explore the relation between the variables according to the proposed model, that all of the variables are interrelated with each other to provide the desired results of increased project performance. Besides, communication will be used as a moderator to identify the strength of the relation between QM practices and project performance. The main aim is to illustrate the importance of communication as for efficient implementation of QM practices in projects.

RO1: To examine the impact of top management support on project performance.
RO2: To examine the impact of participant involvement on project performance.
RO3: To examine the impact of customers' focus on project performance.
RO4: To examine the impact of quality training on project performance.
RO5: To examine the moderating impact of communication between top management support and project performance.

RO6: To examine the moderating impact of communication between participant involvement and project performance.

RO7: To examine the moderating impact of communication between customer focus and project performance.

RO8: To examine the moderating impact of communication between people-related quality training and project performance.

1.6 Significance of the Study

The study will serve the project practitioners in Pakistan and to the body of knowledge in numerous manners. According to the quality management assessment framework (QMAF), communication is one of the core drivers for influencing elements of quality management (Lobo, Samaranayake & Subramanian, 2019).

This study will highlight the moderating effect of communication between people-related QM practices and project performance and will contribute positively to the accomplishment of quality management through people-related practices. Besides, this study will support the contingency view of QM practices and could serve as an account for mixed results of QM practices. Furthermore, it will also evaluate if all the constructs of people-related QM practices are considerable and of the significant constructs, if any have a higher predictive power of project performance than the others. Like many other developing countries, the construction sector in Pakistan is facing critical time, cost and quality management issues.

Timely monitoring with efficient communication of project performance and quality plays a vital role in addressing such issues. Thus this study will also serve the literature concerning developmental projects as this domain is not focused much. Lastly regarding academic research, project management observes a rise and growing interest in Pakistan too.

Thus this study will serves the project management literature and fills the gap with the fewer amount of studies conducted in this domain and opens up new ways for the upcoming researchers as well.

1.7 Supporting Theory

Donaldson (2001)formulated the Contingency Theory of Organizations which supports the study and will help to understand the relationship between variables.

1.7.1 Contingency Theory of Organizations

CT is a provides a way to view organizations theoretically. In its most rudimentary form, Donaldson, (2001) explained that structures of an organization are adapted to maintain adjustments according to changing contextual factors. Theoretical and practical contributions of this approach are achieved by

1. Identification of important contingency variables to distinguish between contexts.
2. Making groups of different contexts based on these contingency variables.
3. Determination of the most effective internal organization designs or responses in each major group.

Our study is related to this theory as it can examine the contextual factors of QM in projects. It will help managers to tailor the existing QM practices to their particular organizational context. Sila (2007) and Jayaram, Ahire and Dreyfus (2010) focused on internal and external organizational contextual factors (e.g., firms size, industry type, market environment) at the firm-level, this study will focus on construction projects.It is proven to be difficult to establish consistency and cooperation among participants (Love et al., 2004), thus it reduces the efficiency of QMP. Effective communication can enhance the efficiency of QMP(Schroeder & Flynn, 2002). Therefore, communication may function as a contextual factor for the implementation of QMP in the project. Considering the mixed results in examining the relationship between QM practices and project performance(Haupt & Whiteman, 2004; Panuwatwanich & Nguyen, 2017; Sullivan, 2011; Tang et al., 2009), this study examines the moderating effect of communication on the relationship between people-related QM practices and project performance.

1.8 Definition of Variables

1.8.1 People-related Quality Management Practices

Quality management (QM) practices are defined as the suitable usability of products to ensure the most accurate qualities and hence best performance(R. Saeed et al., 2013; C. Salami & Ufoma Akpobire, 2013). Managerial measures in terms of QM activities are referred to as QM practices(Flynn et al., 1994).People-related QMP focus on leadership, participants and customers involvement.

1.8.1.1 Top Management Support

In general, top management is comprised of the individuals at senior management level having the competence to work as CEO, President, Chairman/Chairperson, Director, or other authorized positions(D. J. Denis & Denis, 1995). Individuals at senior ranks must have leading and managing skills. For project implementation, top management facilitates and supports the working environment(David Bryde, 2008).

TMS is a combined effect of acquiring attention and the provision of resources to project leaders for project success(B. Chollet, Brion, Chauvet, Mothe & Geraudel, 2012). TMS is defined as the environment of the support that fulfills the expectations of project leaders from the top management both for the project and for himself as a leader (Pinto and Slevin 2008).

In terms of QMP, TMS in terms of quality strategies formulation, quality goals formulation, own participation in quality activities, acceptance of responsibilities regarding quality,ensuring an environment that emphasizes quality and by encouraging participation in quality activities (Lu et al., 2019).

1.8.1.2 Participant Involvement

Participant Involvement is considered as the extent to which participants use their abilities, efforts, skills and time to participate in activities (Dholakia, 2001). In the TQM environment, participant involvement is characterized as participation

in activities for quality improvement, engagement in teamwork, proposing problem solutions, initiating for quality improvements and understanding of quality standards(Lu et al., 2019).

1.8.1.3 Customer Focus

Customer Focus is defined as to increase the contacts between customers and the organization, to recognize their needs and requirements, to review their satisfaction and to focus on activities responsible for increasing customer satisfaction(Lu et al., 2019).

Methods to ensure customer focus include listening to customer complaints and then improving accordingly, recognizing customer needs by surveys and market research,and assessing customer satisfaction after project completion(Conca, Llopis & Tari, 2004).

1.8.1.4 Quality Training

Training is the action of teaching and developing particular skills, knowledge, or behavior in an individual to increase his/her competencies. The provision of training can be in general as well as on a specialized level.

General level training is provided to both managers and employees, in basic aspects of quality. Activities for general training include training for job needs, individual training plan and general training program(Conca et al., 2004).

Specialized training is aimed to induce specific skill in an individual According to Ishikawa, (1985), training is a continuous process and must not stop at initial levels. Therefore, to achieve higher employee involvement in improvement, training in problem-solving and teamwork should be provided.

Such training is evaluated and acknowledged by the management(Kaynak & Hartley, 2008). Methodologies for providing such training are specialized training plans (statistical techniques), assessment of employee performance, evaluation of employee satisfaction and recognition and reward systems(Conca et al., 2004).

1.8.2 Project Performance

Attainment and accomplishment of project goals are referred to as project success, also known as project performance (Zaman, Jabbar, Nawaz & Abbas, 2019). Early literature identified different criteria for project performance evaluation. These are efficiency, business success and impact on the team as well as on customers Lu et al. (2019). Series of measures for evaluation of project performance include cost, quality requirements and team satisfaction. Shenhar, Dvir, Levy and Maltz (2001)proposed that project success should not only be measured by schedule, cost, or good quality but also consider customer requirements.

1.8.3 Communication

Kerzner (2003) declared communication as a key factor in project management. Communication may be defined as "the process of creating and sharing information to attain mutual understanding" (Rogers & Kincaid, 1981). Guimaraes (1997)identifies communication as one of the basic elements of TQM.

Chapter 2

Literature Review

2.1 People-related Quality Management (QM) Practices and Project Performance

The term quality has been defined based on the competitive environment among advanced industrial countries on industrial and technological level for controlling production and gaining customer confidence(A.A., 2010). They are defined as the appropriateness of the product to deliver the best performance(R. Saeed, Mussawar, S., Lodhi, R. N., Iqbal, A., Nayab, H. H. & Yaseen, S., 2013; C. Salami & Ufoma Akpobire, O., 2013). Al-Zubi (2013) found out that, quality is the broad specification of a unit which could be a product or individual, for the satisfaction of existing needs. It is the degree to which the product fulfills the specifications set, and customer's needs. Quality is a broad philosophy and organizations method that ensures continuous improvement to fulfill the customers needs(Houjun, 2013). It is a process of management, intended to attain long-term success by appreciating employee responses, meeting their needs, beliefs(Houjun, 2013).

QMP ensures the reduction of production costs and time, resulting in quality improvement of products (Barad & Raz, 2000). QMP induce cooperation to achieve objectives and contribute positively to performance(Lagrosen & Lagrosen, 2012).

TQM can be characterized as an authorized company broad and plant broad operational work structure, integrated well specialized and administrative methods,

documented effectively to direct the coordinated activities of the people, machines and organizational and place information in the best and most viable ways to guarantee customer satisfaction in terms of quality and affordable cost of quality. Hence, it can be concluded that TQM creates a favorable organizational culture that focuses on customer satisfaction through continuous advancement.

Most organizations have realized this fact that TQM philosophy is the most effective to survive in todays competitive market(Madu, 1996).By following this approach an organization can gain the title of total quality organization. Moreover, there has been found a critical relation between organizational competitiveness and TQM practices, in the literary work(X. Zu, Robbins & Fredendall, 2010). Eventually, TQM commotions for continuous enhancement, it will become inevitable that new ideas will emerge to ruling organizations in the upcoming centuries. The quality tools associated with TQM do not explicitly enhance the production, but they contribute to certain implicit behaviors such as employee empowerment(Wilkinson, 1998)and organizational culture(Gimenez-Espin, 2013). Edwards Deming played a prominent role in the quality revolution of Japan(Tsutsui, 1996).

Following up on a special program was initiated in the 1980s under the title if Japan Can then Why Cant WE This program explains Demings contribution to the quality enhancement in Japanese products. This program was a big hit all over the world and its viewership increased aggressively all over the world. After that, the US government announced that quality is the major issue for the economic well-being of the country and businesses. The industries then started paying extreme attention to quality. The Malcolm Baldrige National Quality Award MBNQA became a symbol for the declaration of companies committed to delivering quality leadership(Zairi, 1994). Other developed countries also introduced such awards and declarations attributed to quality (Lazaros, 2017). P. B. Crosby (1979) and J. M. Juran, Gryna, F.M. and Bingham, R (1975) prominently worked together and provided the concepts and practical approaches related to quality management. An 8 number of researchers worked collectively on TQM elements and project management and led to a debate about the efficiency of TQM elements for continuous improvement. Wang (2006)studied the effectiveness of TQM elements for

continuous improvement. Their research sample consisted of 3000 people from all over the world selected arbitrarily. The survey questionnaire realized a reply rate of 30.9% within a time frame of two months. The results revealed that continuous improvement is significantly affected by employee relations. The sample population consisted of managerial level employees that were involved in international projects between US and other countries China, Korea and Japan(Wang, 2006).

TQM has been developing since the mid-1950s. The definition of TQM is simple: better assessment of product quality requirements throughout the organization, integration of product and quality and evaluation of product quality requirements. Research about TQM was published in the 1990s for the first time. The necessity of TQM measurement was one of the main objectives. This absence of objectivity issues with research, as the term "quality" can be the representation of many individuals and organizations with many things. Quality researchers at the initial stage, for example, J.M. Juran (1981), P.B. Crosby (1979) and Saraph (1989)built up a scale for evaluating TQM. The scale was structured to be used with managers. Researchers proposed a useable scale with strong reliability and validity with the help of assessment and statistical methodology(Flynn et al., 1994). Black (1996) and S. L. Ahire, D. Y. Golhar and M. A. Waller. (1996)using the two scales as a basis, developed scales that reported higher reliability and validity. For reliable assessment of TQM, good scales are required, linked with increased firm performance (T. C Powell, 1995). A case study of the successful implementation of TQM in two Finnish companies was provided (Savolainen, 2000). Literature also linked the success of TQM with the Malcolm Baldrige National Quality Award. The Baldrige Award was introduced as industry recognition to important success in TQM, not only in execution but also in implementation. A Malcolm Baldrige National Quality Award criterion, for example, requires firms to develop a process for deploying and monitoring strategic quality plans (Ittner, 1997) and Black (1996)examined the relationship between the Baldrige Award and stock prices. They concluded that there is a significant, positive relationship between TQM and stock performance. TQM being presented by The Baldrige Award, which remains one of the primary measures of TQM implementation.

If the broad exploration has been identified with TQM and performance, a comparative correlation with other quality performance and execution might be conceivable. There are many factors such as leadership, client relationships, setting standards, seller relations, etc that complement TQM and PQA. The basic purpose of both TQM and PQA is to achieve maximum conformance to the provision. They both are associated with quality enveloping the extent of the undertaking, instead of some part of it. TQM includes reevaluating the job of the team, connections to clients and suppliers, having top administration allegiance and quality review as a method of achieving the best outcomes, not simply constrained to few or some specific departments. PQAs are additionally associated with the whole extent of the project scope, require the support of the top management and spotlight on achieving maximum output and limiting waste to the minimum level.

The outstanding contrasts among TQM and PQA reside in the structure of the organization. TQM is continuous and requires a long-term practice, whereas PQA is constrained to the life of the venture. J. M Juran (1981)and Gilmore (1990)concur that organizations ought to improve the quality of the product and better performance. Quality is free or expressed discretely, quality-related exercises don't cause a net increment in costs (P. B. Crosby, 1979; Deming, 1995). Objectively, this appears to be conceivable: increments in quality-related expenses would be recovered by achieving high sales targets, and reducing expenses may be incurred due to poor-quality of the product. Balanced by expanded deals and diminished low-quality expenses. Different theories can be utilized in clarifying strategies adopted to improve quality and achieving targets and goals. Contingency theory, for one, holds that there isn't one general fit; rather, there are factors that may improve or impede a particular feature. "There are different leadership styles but most effective that is used as contingent upon the situation. CT has been utilized by different authors and gives the premise of looking at essentially arbitrators or go-between according to quality plan implemented to achieve the quality goals of the project. It is recommended the need to distinguish the possibilities of TQM(Sitkin, 1994; R. Sousa, and C. Voss. , 2002). Sitkin (1994) distinguishes three as measures, organizational, and product or procedure vulnerability. A. Das, R. B. Handfield, R. G. Calantone, and S. Ghosh. (2000)express that a great part

of the quality literature has been composed inside a resource-based perspective on the firm. They suggest a contingency view. R. Reed, D. J. Lemak, and J. C. Montgomery. (1996) see TQM regarding CT and focus that there is a lot of research that recommends succeeding, organizations need to be aligned with their external environment. Considering the perception from Dean (1994) and Sitkin (1994) of how the widespread idea of TQM stands out from the contingency approach, PQAs are implemented at a lot smaller scope than TQM and in this way are bound to have recognizable components adding to their success. Some TQM external and internal factors are also discussed by (Masters & Frazier, 2007). Notwithstanding contingency theory, the resource-based perspective on the firm likewise is recommended for the organization. As per this resource-theory, firms increase unique resources and align them with other unique resources, to stand out in competition(T. C Powell, 1995). These resources, be that as it may, are not handily reproduced by different firms due to various components. Additionally, if the firm needs to pay to get these ideal assets, the net present value of the obtaining might be zero or less. In a simple manner, if a resource provides a significant advantage, every other organization in the competition will try to acquire the resource, until no upper hand is innate in the resource.

An increase in demand for resources in a firm increases its price(Montgomery, 1991). It suggests that to have maximum benefits every organization should take quick decisions regarding any initiative. A unique environment is a need for quality initiatives to give a significant advantage. For example, if by TQM implementation Company ABC achieves improved firm performance that does not confirm the similar success of Company XYZ implementing TQM. Diffusion of innovation theory is one of the reasons for the non-universal degree of implementation success (T. C Powell, 1995). This diffusion exists when the circumstances of supposed relative advantage and simplicity are satisfied(Abrahamson, 1993). The argument can be that a smaller organizational setting may please the circumstances effortlessly. These circumstances can easily be fulfilled in a project environment than in the whole firm.

Project teams have different characteristics than whole organizations, which can

speed up the diffusion process. The organizations have procedures to deal with problems in past. They have long term culture which is not altered in time. Projects, however, have an identified timeline, thus cannot overcome culture easily. PQAs are more linked to the primary project goals: improved performance on time, cost and product qualifications. The ease of the quality activities let somebody apply them easily. In an organization, increased project performance can be observed more easily by individuals in the organization. Finally, the quality activities are more similar to project activities written in any project management handbook, thus guiding to same project and tasks related to quality. In summary, if there is improved innovation in project settings, increased adoption of quality practices into project management can be observed.

On the basic level, the crucial reason organizations explore new initiatives is to increase performance. The project setting is no exception. In reality, one of the main drivers of project popularity is the capability of measuring performance more accurately. Projects have defined goals, limited resources and deadlines. The core focus of managers and firms are mainly on achieving improved project performance. Using quality activities throughout the project will enhance the projected growth by providing helpful tools to the project management and its team members. The organization can boost its efficiency by using the right tools at the right time. Based on earlier stated project objectives definition in regards to quality management, PQAs are defined as process improvement activities within a defined project that maximize conformance to requirements while minimizing project capital. PQAs should be linked to the increased performance of the organization. There have been very few studies, however, examining significant results in using quality activities in project management. This is intriguing, given the effort expended to identify the need for PQA through the (Q10006., 1997). guideline and the popularity of project management. An extensive search was made of the empirical literature and only a few articles were found. Thomas (2004), in analyzing construction projects, reported a 4 percent cost savings through the use of design and information technology. Hong (2004) investigated the process of minimizing uncertainty in the project environment. Inciting, K. Clark and S.

Wheel right. (1993) the authors emphasized that it is necessary to define performance outcomes as the beginning stage of the project which includes total product quality, efficiency/cost and speed. The greater the uncertainty of the environment, the greater is the need for mission and target clarification and cross-functional teamwork (Hong, 2004). Minchin (2005)addressed project management for the Department of Transportation. A qualification model was established to measure the quality standards of the bidder before awarding the contract. It was hypothesized that while a company may submit a quotation with a low price to get more chance to win the project whereas a lower level of quality can produce an inferior product, which ultimately lead towards rework and, eventually, higher costs resulting in decline of project performance. This further supports the proposal that PQAs are positively related to increased project performance. Zwikael (2004)identified the importance of project planning as a significant component of project success. A project management planning quality (PMPQ) model was developed and tested using a questionnaire.

The timing of TQM implementation is important for firms who are going to implement it. This is a very important part of the TQM; to assess the right time for implementation of TQM. This assessment will help the organization in deciding when to implement TQM. Studies have been done to assess which is the right stage to implement TQM. It is suggested that the adoption of TQM in a products lifecycle is most advantageous in the growth stage; this is a practical approach to compete for other firms(G. Yu, Park, M. & Hong, K., 2017). Early adoption of TQM depicts remarkable performance improvements of organizations as compared to companies that adopt TQM at a later stage(Karniouchina, 2013). This suggests that firms should value ad recognizes the importance of TQM adoption in an earlier stage as the companies with later execution of TQM not get completely beneficial with the process. Firms should proactively understand the need to adopt TQM in the early stages of a products lifecycle such as the overview or development stages. In addition, execution of TQM is also dependent on companies culture, philosophy and principles which allow their employees to grow, attain knowledge and advance their expertise(Dow, 1999; R. Sousa and C. Voss. , 2002;

X. Zu, Robbins, T. L. & Fredendall, L. D., 2010). It is recommended that organizations take a practical strategy to ensure such internal environments to take advantage of TQM early. The organization needs to check if it is healthy enough to implement a change in QMS or if an organization has a history of effective responsiveness to the environment. Also, when needed it has been able to change the way it operates, TQM will be easier to implement(G. Yu, Park, M. & Hong, K., 2017).

Flynn, Schroeder and Sakakibara (1995) identified two dimensions of QM practices. One dimension refers to practices related to people and the other refers to practices associated with process factors (X. Zu, 2009). The former focuses on leadership, participants and customers involvement. Such kinds of practices are referred to as people-related practices Prajogo & Cooper, (2010). The later focus on managerial processes and are called as process-related practices. Lu et al. (2019) grouped six QM practices based on the above-mentioned dimensions. These are TMS; quality training, employee involvement and customer focus (people related practices), quality strategic planning and process management (process-related practices).

Literature review shows that organizations adopting TQM are more competent than organizations not adopting TQM (Brah, 2002). Firms that allow participant involvement, encourage employees to achieve quality output and give attention to customers satisfaction are expected to do better than firms that do not have such focus. Thus, we can expect that level TQM practices implementation in an organization determines its performance.

Several studies have been conducted on the relationship between QMP and performance. According to some studies, QMP are positively related to performance (Panuwatwanich & Nguyen, 2017; Prajogo & Cooper, 2010) while Tang et al. (2009)and Sullivan (2011) were unable to find a positive relationship between these two variables. The inconsistencies in quality management implementations are well explained by the contingency theory (R. Sousa & Voss, 2008). Researchers have focused on contextual factors leading to effectiveness variations in QMP at the industry or firm level. These factors include the country (Rungtusanatham,

Forza, Filippini & Anderson, 1998), size of a firm(Sila, 2007), quality program duration Jayaram et al., (2010) and uncertainties (Zhang, Linderman & Schroeder, 2012). According to McAdam, Miller and McSorley (2019), there exists a room to consider more contextual factors in QM practices implementation.

2.1.1 Top Management Support and Project Performance

Hwang (2012) and Young (2013)investigated top management support as a critical role in project success. Individuals having the ability to work at official positions such as CEO, President, Chairman/Chairperson, Director lies generally under the umbrella of top management (Denis, 1995). Top management support is one of the most important critical factors for the successful implementation of projects (Liu, 2013). Organizational objectives are achieved through projects and top management ensures facilities and support for project implementation (Bryde, 2008), but lack of top management support is one of the common factors in projects(U. Ali, Kidd, C., 2013). Most of the industries consider top management support as common critical success factors (Belassi, 1996). For a successful project, top management support plays a role of active stakeholder (Kuen, 2009). The expectation of project leaders in terms of top management supportive behavior is regarded as top management support (J. K. Pinto, Slevin & D. P., 2008). Leadership is the most important characteristic of top management to ensure project success (Sarker, 2003). The high-level planning and/or support from top management is involved in high level planning such top management support is the most critical factor for project success (Young, 2013).

The support of executive management especially in terms of resource availability is very important for the people handling important projects of the company and it ensures a high success rate. On the other hand, non-supportive management becomes a huge reason for the failure of the project and the loss of vulnerable resources (Belassi, 1996). The Head of projects must be ensured abutment from higher authorities for favorable results of the project(Anantatmula, 2010). The project leads should be given direct access to the top executives where higher authorities should support them by providing them relevant resources, permitting

them to make use of authorities in a prescribed manner, ensuring them support in catastrophe and making them more compatible by providing them training and development programs. Project heads are dependent on their superiors in terms of relevant support, guidelines, command, etc but thats not it, they are dependent in terms of implementation also of the formulated plan and set goals (Beck, 1983). The project leads have a general organizational influence which is linked to uppermost ranks of authority and which is differentiated by his or her social standing in a particular organization(K. B. Clark, Fujimoto, T., 1991; Eis enhardt, 1995; S. Scott, 1997; Tatikonda, 2000). The project heads having a better or higher post in the organization are considered as comparatively better negotiators in terms of gaining resources and support from the executives and it is these resources and support awarded to the project making impression on the project leaders capabilities to impact on decision making(Chollet, 2012).

The help from the top administration is analytic for project heads in accomplishing the projects goals, particularly where top administration is the key to the project. A functional hierarchical structure encourages better asset sharing for the projects as opposed to a network structure(Belassi, 1996; Dwivedi, 2013).Top administration support is an important component for conveyance of the guaranteed advantages to the customer. For effective conveyance of product or services, top administration support and devotion are noteworthy all through the length of the project. Top administration organizes and implements relevant procedures, techniques and project structures for accomplishing the projects destinations, framework transformation, improving hierarchical adequacy, viable controlling component, executing authoritative change and fortifying the stakeholders support(Boonstra, 2013).Top executives should convey their initiatives, dreams, strategic direction and business objectives with the project groups (Chen, 2003). Top executives routinely impart to support the project, rouse the team, offer the project to the remainder of the organization, examine organizational ramifications and hierarchical changes, clarify potential framework changes and team up with a group of stakeholders (Boonstra, 2013).Higher authorities have the capacity and they can use it to strengthen the project, ensuring team members safety, easing the changes in the system, describing the needs, roles and responsibilities of project stakeholders(Boonstra,

2013). Powerful top administrations support is critically important for the projects (Chander, 2013; Knapp, 2006).In the end, the project heads are liable for dealing with their activities effectively where top administration is resolved to give assets and a lot of prerequisites. Top administration center around strategic planning for offering help and guaranteeing responsibility in all periods of project usage. Top administration should have progressed social abilities, for example, comprehension of job hypothesis, job strife, character recognizable proof and correspondence for managing project stakeholders (Ehsani, 2013).

The Senior Management of the organization firmly believes that the implementation of total quality management can provide benefits to the organization and it is very important for them to allocate the budget in the training of the employees related to qualitative methods. The expectations of the employee with the organization, the market trends and the most important vision must be identified by the leaders for success (Program, 2014). The main reason belonging to total quality management success is the firm support from top management. The adaptation of all the activities of total quality management depends on the ability of senior management to convince and influence employees. Strengthening the culture of quality and for enhanced the staff capabilities relating to performance and organizational tasks, strong leadership commitment to the QMP is significant. To ensure the successful implementation of total quality management, the firm belief of organizational top management is also important (Riggs, 2014). Leadership plays an important role in achieving TQM by decreasing the executive levels, providing employees' confidence, and emphasizing training instead of traditional management roles. It also includes making quality assurance compulsory for all administrative activities. The commitment of senior management to total quality management includes training to get benefits from quality practices. Resources allocation and changes to achieve the success of TQM are advantageous and to improve the performance of employees within them through reward systems(Fadlallah, 2015).

Top management provides support in the formulation of quality strategies and goals. It accepts quality responsibility and emphasizes quality. Moreover, participation in quality improvement activities and encouraging participation is also one

of the supportive roles of top management (Lau, Tang & Li, 2015). There exists a direct relation between top management commitment and product quality(S. L. Ahire & O'shaughnessy, 1998). Hale Kaynak (2003)suggested that securing complete top management commitment to TQM implementation provides the foundation for effective TQM implementation. In some organizations, the possible reason for TQM systems failure is found to be the false implementation of TQM.

Top Management support refers to workers' impression of being esteemed and thought about by their association (Eisenberger, 1986). This idea is hypothetically founded on correspondence in the social trade relationship. In circumstances of perceived support, workers' trust that their expanded exertion toward arriving at association objectives will be seen and rewarded(Allen, 1997; Eisenberger, 1986). Although an association may encourage support in various zones, this study centers explicitly around association support for innovativeness, which refers to the degree to which a worker sees that the association empowers, regards, compensates and perceives workers who show inventiveness (Zhou, 2001). Without a doubt, the organizational inventiveness literature has shown that hierarchical settings can assume a huge job in empowering or blocking worker imagination (S. a. B. Scott, R., 1994). For instance, association settings may encourage innovative execution by coordinating workers' consideration and psychological vitality toward the age of new and helpful thoughts. As stated above, one of the focal precepts of powerful TQM usage is the workers' responsibility to continual improvement of procedures. Organizations executing TQM practices that additionally acknowledge and reward representatives' new and helpful thoughts are bound to encounter a good impact on execution. Going to the TQM literature, in a near study of non-TQM and TQM organizations, Allen (1997)found that apparent organization support was higher in TQM associations than non-TQM associations. Further, another relative TQM/non-TQM study focusing on firms in the engine vehicle parts and accessories industry, showed that respondents (directors) in TQM firms were happier with top management support, responsibility and consolation (significant components of in general association support) contrasted with non-TQM firms(Golhar, 1997). Both these comparative studies give observational proof of the huge role of organization support in practicing TQM rules. The impact on the execution of

high organizational support in TQM receiving firms, however, was not inspected in both cases.

Leadership, characteristics of TMS have a positive relation with performances. For example, with operational performance (A.C.Phan, 2011; Dow, 1999; OShaughnessy, 1998; Terziovski, 1999), employee performance (Dow, 1999; Terziovski, 1999; Zehir, 2010), innovation performance (A.C.Phan, 2011), market and financial performance (E. E. Adam, 1997; Zehir, 2010)and aggregate firm performance(Thomas C Powell, 1995; X. Zu, Fredendall & Douglas, 2008).To improve project outcomes, higher management and the whole team should work and put effort into it (Al-Otaibi, Alharbi & Almeleehan, 2015). Moreover, Lu et al. (2019)declared that people-related QMP including TMSis positively linked with inter-organizational project performance.

Top management is vital for running any organization. TMS is important for determining firm design as top management is involved in the formulation of quality strategies and goals depending on internal and external organizational contextual factors that goes parallel to Contingency theory, stating that organizational structure is adapted based on changing contextual factors. Given the above-cited literature, we hypothesize that:

H1: *Top management support is positively related to project performance.*

2.1.2 Participant Involvement and Project Performance

Participant involvement provided by management results in effective TQM implementation (Hale Kaynak, 2003). It also enhances the cooperative performance of employees, thus promotes participatory strategies implementation. It also allows participation in decision-making processes to achieve organizational goals. (Kumar Sharma, Gupta & Singh, 2014).S. L. Ahire & O'shaughnessy, (1998) and Saffar & Obeidat (2020) added that the contribution of people to continuous improvement leads to problem-solving due to open discussions within the organization, thus realizing their responsibilities and creativity to promotes organizations objectives, therefore such participation improves performance.

Elaborating TQM is a working atmosphere that provides trust, ability and obligation to employees resulting in enhanced productivity, customer satisfaction and achievements of organizational milestones (Obeidat, 2018). The delegation of requiring decisions to different average and operational levels also comes under TQM practices. The process of staff involvement, to delegate tasks to make their own decisions about their work, is a good motivational practice. This makes them more sensitive about their decision-making quality and hence their capabilities of making decisions will enhance(Juda, 2014). Therefore, to make total quality management successful, the employees involvement is very important. The implementation of strategies to make everyone participate is to increase employees cooperative performance and record it in the form of documentation with the managers in decision making processes to increase the organizational goals (Kumar Sharma et al., 2014). One of the important things for the employees in getting their services is total quality management. The rules and principles of quality management in the organization are the responsibilities of all the employees working in that organization. Therefore, the employee finds it difficult to promote collective work, boost morals, achieve a continuous increase in the performance and develop a stronger contribution to eradicating the problems, be more productive in solving operational problems among the employees. The organizational productivity and efficiency will enhance when the employees will participate more and this all comes with motivating the employees so that they get themselves more involved in setting the objectives and meet all the challenges faced in the market (Titi, 2010). According to S. L. Ahire & Dreyfus, P. (2000), people who are concerned and responsible for making their employee performance better are those who contribute more to the continuous improvement of employees. They believe that participation of employees in organizational objectives creates frankness among the colleagues, this leads to solve much complex problems within the organization and they feel more confident and take their responsibilities to solve different issues related to employees within the organization. They recognize value of their contributions and participation in achieving organizational goals.

An increase in demand for challenging tasks over the past few years is all due to well-educated staff and the impact of advanced technology; it also improved the

power of decision making(Tansel, 2013). Improved performance of an organization can only be possible when employees are rewarded for their achievements. For that, an organization can organize multiple training for its employees to excel more. For continuous improvement, an organization needs to promote hard-working employees. Better quality products are the result of quality management performance and this can only possible if employees are trained in total quality techniques. When employees are, confident enough to make good decisions it will lead to success(Wang, 2006). At the workplace level, when employees are given decision with certain conditions such as they can use their freedom of expression through making their own decisions in an organization. To get a better product top management must trust and building confidence in their employee to take decisions, to achieve productive work and thus better salary(Yusof, 2016). The meaning of Employee involvement is that every employee should not be considered as a part of the machine, they are viewed as unique human beings and employees should take part to meet organization objectives. Management should encourage and value employees, when management and employees work as one there are more chances for better results. To achieve some target in business, the involvement of every individual in the project is significant. Employee involvement is involving employees for better productivity and other organizational objectives while on the other hand the meaning of employee empowerment is the identification of problems process and providing their solutions for completing the goals of an organization. For continuous improvement in any task, the potential of each participant must be considered and utilized.

People of any organization are most important to them; the management must realize and resolve problems upon identification. Managers all alone cannot improve productivity and performance without employees' participation and the more improvement in skills through different training in employees will lead managers in a better position (Wang, 2006). As an organization grows it becomes difficult to manage it to gain better productivity. Organizations wish to be competitive in the market, focus on employee development programs. The organizations victory or failure depends on the expertise of its employees. The more the employees skills are improved, the better results will be obtained. Therefore, organizations

are dumping a large amount of money in the development and training of their employees. It is favorable for companies to focus on growth, expertise and ability of employees. Vast groups of researchers discuss the effect of development and training programs on employers and employees.

The relationship between employees and management is of vital importance, but it is seen that in huge organizations there is gap between employees and their superiors which consequently becomes the reason for poor or lower job satisfaction.Furthermore there are results showing that companies are attempting to assure for their proportions through customary negotiation of approval assurance, needs for trainings and disputes over pay.The results shown are of pivotal importance for managers when they are engaged in implementing policies regarding relationship between employees and their management.When there is improvements in managements and employees relationship it has consequences like high job satisfaction level, but it lessens turnover and excess productivity (Tansel&Gazioglu, 2013).The driving force behind achieving higher goals and significant success is high motivation levels.It is very important to measure level employees motivation to better understand how they get motivated and what factors are contributing in making and keeping them motivated.Adding to this, managers must keep an eye on those tasks which are becoming the source of employees motivation, making them more productive and improving their performance.These days the main focus of managers while creating smooth relation with management is how much the employees are motivated (Haleblian& Finkelstein, 1993).The relationship between employees and management is of vital importance, but it is seen that in huge organizations there is a gap between employees and their superiors which consequently becomes the reason for poor or lower job satisfaction. Furthermore, results are showing that companies are attempting to assure their proportions through customary negotiation of approval assurance, needs for training and disputes overpay. The results shown are of pivotal importance for managers when they are engaged in implementing policies regarding the relationship between employees and their management. When there are improvements in management and employees relationship it has consequences like high job satisfaction level, but it lessens turnover and excess productivity(Tansel, 2013). The driving force behind

achieving higher goals and significant success is high motivation levels. It is very important to measure the level employees motivation to better understand how they get motivated and what factors are contributing to making and keeping them motivated. Adding to this, managers must keep an eye on those tasks which are becoming the source of employees motivation, making them more productive and improving their performance. These days the focus of managers while creating smooth relations with management is how much the employees are motivated.

Number of researches and studies have come up with this approach that the key to attain greater profitability and aggressive competitions is satisfied and motivated work force, (Belout&Gauvreau,2004).The approach of taking human resource management at higher level where strategies are made is the key to attract, retain flourished and motivate the work force.The longer the period an employee is associated with the company, they become assets for the company, this is the reason human resource management pay more attention towards improving their satisfaction levels and they do this by offering them unique incentives and advanced career opportunities (Sheehan, De Cieri, Cooper & Brooks, 2014).The main focus of every organization is to attain maximum level of performance from their experienced employees.

Several kinds of research and studies have come up with this approach that the key to attain greater profitability and aggressive competition is a satisfied and motivated workforce(Belout, 2004). The approach of taking human resource management at a higher level where strategies are made is the key to attract, retain flourished, and motivate the workforce.The longer the period an employee is associated with the company, they become assets for the company, this is the reason human resource management pays more attention to improving their satisfaction levels and they do this by offering them unique incentives and advanced career opportunities(Sheehan, 2014). The focus of every organization is to attain maximum level of performance from their experienced employees.

Competitors can become a source of getting well-experienced employees, thats where companies offer unmatchable packages to candidates to make them part of the company (Sheehan, 2014). It is concluded by many analysts that human

resource operations are most vital in the companys success and provides a competitive edge (Belout, 2004). Human resource management is evolving and its importance is now evident and now emerging as an important strategic part of companies. One of the most foundational elements of project management is human resource management that is backed by the project management body of knowledge (PMBOK).

In a TQM environment, employee involvement is a significant factor in the HRM domain. Participant involvement is also referred to as the employees involvement/employee engagement enhances performances (Ketikidis et al., 2006). Rahman (2001) concluded that TQM practices enhance organizational performance in terms of improvement in employees attitudes towards quality. Joiner (2007) found that the greater the firm motivates its employees the higher would be the performance. Abdullah, Tar and Akhtar (2010)concluded that soft factors of TQM like people management and relationship with the employees have a positive and significant impact on the overall performance of the firm. Research on some construction projects resulted in management engaging all the participants from all the companies to give different strategies that would eventually lead to a quality project (Altayeb & Alhasanat, 2014). A survey about developing a new product showed that people fulfill their quality responsibilities and their efforts lead to improved quality products(Sun et al., 2010). According to the above-cited literature, we hypothesize that:

H2: *Participant involvement is positively related to project performance.*

2.1.3 Customer Focus and Project Performances

Firms focusing more on customers are different from typical organizations. These organizations' decision making is mainly focused on reducing cost and increasing productivity, that is their main objective and driving force. Now in these changing times, this approach of running the businesses is not enough. Organizations now value customer expectations and focus on customer satisfaction, their decision-making process moves around their customers satisfaction. Firms spend more time knowing what their customers are expecting from the companys product and

by knowing that they can offer unique products to get a competitive advantage. Customers expectations can be best known by their feedback and that should be included in taking any decisions (Hale Kaynak, 2003). Studies show the relations of an employee to make simple changes like employees involvement in decisions, collaborative work and activities, emphasizing on implied communication to make everyone aware of the companys goal.

Organizations use these advancing strategies to reflect as the most apposite human resource application to make the most out of TQM (Wang, 2006). The main idea and purpose of TQM are to focus on customers and the reason behind it is that quality makes the customers needs and quality is approved when customers accept the product offered with positive reviews (Chang, 2009). The way the company interacts with its customers is called customer relationship management CRM. The general approach towards customer relationship management is that it only contains the customers general information. Nevertheless, that does not describe the story, CRM contains the technology of surveillance that a company needs to give its customers the best support and service. This means that CRM helps companies to make the best of the information by meeting the needs of their customers and attracting potential customers, consequently adding more profits for the company (Dr. K. Vanitha, 2012). Most studies show customer satisfaction as the main factor and mainly responsible for accurately implementing and getting success from TQM. It makes an organization successfully able to comprehend the expectations and needs of the customers and the motivation to exceed those expectations and making it a surprise every next time (Bull, 2003). TQM also consider customer and supplier relationship and their participation in and outside and there are a lot of procedures mixed-up at each stage. There should be given attention to quality, the transmission of quality and the realization towards recognizing the demand for change in the perception of the company to shape total quality. These all are the core of TQM, which are backed by the pivotal executive affair of people, procedures and arrangements in companies. A good company should assure the quality of all interfaces of production. While producing, the approach of the quality supplier should be effective. The role of manufacturing materials provider is censorious in several ways. Firstly, focusing on the quality of

materials and how the organization buying those materials evaluates. Secondly, the quality of the product presented to customers depends on the quality of the parts that came in from the supplier. Thirdly capability of the supplier to react towards the needs of the buyer and in return determining the buyers pliability towards customers needs. TQM brought the consideration of the authorities towards the importance of quality and quality of coming in equipment, components and assistance and to get a unique combative advantage over potential competitors (Yan, 2015). Likewise, suppliers knowledge of insights and maturity in the field are found as pivotal in the designing of new products and in accomplishing soaring quality and agile acknowledgment to emerging needs of the market.

The customer is a key factor in TQM. Customer focus cannot be ignored as it is the starting point of any quality initiative (R. Sousa & Voss, 2008). It is important to realize customer demands, to consider the improvement of customer satisfaction and to keep close contact to customers. Many researchers studied the impact of customers focuses on different performances. (Grandzol & Gershon, 1997) identified that product/service quality has a major influence on customer focus. According to S. L. Ahire and Oshaughnessy (1998), customer focus and empowerment play emerge significant role in considering product quality. Customer focus is positively related to different performances such as operating performance (A.C.Phan, 2011; Claver, 2008; M. Terziovski, 2003), employee performance (Claver, 2008; Terziovski, 1999; Zehir, 2010) and financial performance(M. M. F. Fuentes, 2006; Nair, 2006). Customer satisfaction is responsible for enhancing organizational performance (Cai, 2009). Attakora-Amaniampong, Salakpi & Bonye (2014) studied project-based construction firms of Ghana and concluded that the fulfillment of customer needs, time targets and quality requirements leads to the achievement of stated goals. Given the above-cited literature, we hypothesize that:

H3: *Customer focus is positively related to project performance.*

2.1.4 Quality Training and Project Performance

The success or failure of an organization depends on how good employees skills are and the more the employees skills are improved, the better results will be

obtained. Therefore, organizations are dumping a large amount of money in the development and training of their employees. It is supportive for companies to emphasize the knowledge, expertise and ability of employees. There is considerable discussion among professionals and researchers about the effect that the development program has on both employee and organization.

People-related QMP leads us to higher performance with cooperation and learning. Learning is always important for the success of any project (Brady & Davies, 2004). Literature indicates that training as TQM practices has a positive impact on various performances. These include operational performance (A.C.Phan, 2011; H. Kaynak, 2003; Zehir, 2010), Employee performance (M. M. F. Fuentes, 2006; W. MacKelprang, 2012; Zehir, 2010) and financial performance (M. M. F. Fuentes, 2006; Zehir, 2010). Training & skills are the project resources needed to complete the project requirements, thus increasing project quality(Masters & Frazier, 2007). Training and markets play important role in learning quality information and help in project participation (Lau et al., 2015). Samsudin, Ayop, Sahab and Ismail (2012) declared that the competence of project participants to fulfill customers needs is increased potentially by Quality training. More focus on customers and quality training results in accurate task completion by project participants (Iyer, Saranga & Seshadri, 2013). It is essential to introduce quality training programs for successful completion of project completion (Ahmed, Mohamad & Ahmad, 2016). According to the above-cited literature, we hypothesize that:

H4: *Quality training is positively related to project performance.*

2.2 Communication as a Moderator between people related QMP and Project Performance

Effective communication is defined as the ability of participants to achieve agreement in the shortest possible time in their communication actions (Sarhadi, 2016). Communication leads to efficient coordination. The absence of communication can

cause people not to be on the same page or working for an indifferent purpose. Good communication can avoid misuse of time and resources while working on any project (A. H. Reed & Knight, 2010).

According to the quality management assessment framework (QMAF), communication is one of the core drivers for influencing elements of quality management (Lobo et al., 2019). Individual behavior is considerably effected by self-interest (Van Vugt, 2009).To align the behavior of all participants towards a single goal has been a challenge for projects (Leufkens & Noorderhaven, 2011). Effective communication and coordination induce trust in different participants and a high level of contract governance in projects which control participants behavior, thereby, ensuring better QMP(Lumineau & Qulin, 2012; J. K. Pinto, Slevin & English, 2009).

Communication increases the extent to which QMP impact project performance. There exist a significant difference between high and low project performance based on the effectiveness of communication (Schroeder & Flynn, 2002). Project success is not solely dependent on Implemented quality management but effective communication act also as a key factor for it (Morita, Sakikabara, Matsui & Sato, 2001). They also identified that high performance can be achieved if there is a culture of encouraging employees to communicate. Yeung and Chan (1999) indicated that the positive execution of QM in manufacturing firms in China is possible through effective communication channels.

2.2.1 Communication as a Moderator between Top Management Support and Project Performance

Top management is vital for running any organization. The role of top management in ensuring QMP in an organization has been studied so far and contributed positively to organizational performance (Macinati, 2008; Thomas C Powell, 1995; X. Zu et al., 2008). Moreover, the involvement of top management is a major critical aspect of a successful project(Ullah, Thaheem, Siddiqui & Khurshid, 2017). Top management encourages workers to participate thus improve

production by discussing their ideas. By introducing compensation procedures and quality-based incentives, top management can support quality improvement (Bonito, 1990; Flynn et al., 1995). According to Joiner (2007), motivated managers invest time and resources to implement TQM programs, associated with enhanced organizational performance. Communication between managers and team members allows them to have a better understanding of QMP (Conca, Llopis & Tari, 2004). Management effort to induce open communication and cooperation ensures effective cultural changes in an organization and hence ensures successful implementation of TQM (Hale Kaynak, 2003). Meirovich, Galante and Kanat-Maymon (2006) also found out that communication patterns between managers and subordinates are considered as a positive stance to accept TQM. Therefore, higher management support improves project outcomes by effective implementation of TQM (Al-Otaibi et al., 2015). Providing the opportunity of communication between employees working in several departments of the ministry, the Qatari Ministry of Interior ensured TQM practices and thus was able to increase their performance(Saffar & Obeidat, 2020). Organizational support helps in sharing knowledge through communication to produce a synergistic effect on the TQM and performance relationship (Joiner, 2007). He also, establish that an environment of support within an organization increases the efficiency of TQM implementation which confirms the suitability of the contingency theory approach to successful TQM implementation. Given the above-cited literature, we hypothesize that:

H5: *Communication moderates positive relation of top management support and project performance such that it strengthens the relation.*

2.2.2 Communication as a Moderator between Participant Involvement and Project Performance

Participation leads to high motivation in workers thereby more involvement in improving quality (Linderman, Schroeder, Zaheer, Liedtke & Choo, 2004; X. Zu et al., 2010). Conflicting individual goals results in a weak relationship between PQA and project performance (Masters & Frazier, 2007). Good communication

brings different participants on common goals by suppressing conflict (Kadefors, 2004).

The quality of products and facilities is improved through the implementation of Human resource management practices, allowing participant involvement in terms of commitment and dedication(Joiner, 2007). Workforce knowledge and creativity are increased as a result of group communication (Linderman et al., 2004), thus proposing quality improvement initiatives. influence of implemented TQM is revealed through reward and appreciation programs specifically to encourage employees participation in different activities and through the provision of better communication (Ul Hassan, Hassan, Shaukat & Nawaz, 2013). Adebanjo and Kehoe (1999) declared participant involvement as a crucial factor in the process of change. He also found out that the work environment, promoting open communication, effects participant involvement. When participants appreciate each-others involvement, fresh ideas and new concepts are conveyed more easily and openly (Joiner, 2007). Communication of a clear strategy to employees improves quality(Bonito, 1990; Flynn et al., 1995), therefore resulting in improved performance. Organizations practicing TQM ensure quality improvement with the help of an effective communication system (Sureshchandar, Rajendran & Anantharaman, 2001). Because product lines and organizational functions need to be communicated to different customers, at different work locations and across the organizational level. This will help employees to take preventive measures (Pfau, 1989).

Participant Involvement depends on the organizational structure. Because of the contingency theory, the firm design is adapted according to the changing contextual factors. The effect of TQM is contingent on contextual factors, i.e. communication among team members in the current study. Given the above-cited literature, we hypothesize that:

H6: *Communication moderates the positive relation of participant involvement and project performance such that it strengthens the relation.*

2.2.3 Communication as a Moderator between Customer Focus and Project Performance

Customer focus is defined as Increasing contacts between the organization and customers, identifying their requirements, assessing their satisfaction and supporting activities improving customer satisfaction (Conca et al., 2004).TQM has become important to organizations through increasing customer satisfaction thus attaining competitive improvement and extraordinary revenues(Fernandes, Sampaio, Sameiro & Truong, 2017). Flynn et al. (1994) found that customer interface in the product design phase is a key aspect of performance. This includes continuous interaction with customers in the form of feedback. Grandzol & Gershon (1997) identified that Customer focus is a crucial factor for product/service quality. Therefore, for customer handling, the employees should have enough information regarding the organizational system, best suited for the customer (Attakora-Amaniampong et al. (2014). Irfan & Kee, (2013)discussed that project-based companies achieved their goals by meeting customer needs.

Constant communication with customers results in a better understanding of customer requirements (Panuwatwanich & Nguyen, 2017), which sets specific goals for improved quality hence better project performance(Saffar & Obeidat, 2020). The most effective internal organization design is determined by customer feedback. Companies plan and design their activities depending on changing customer demands. This indicates that the effect of customer focus is depending on the changing level of interaction with customers. So, we hypothesize that:

H7: *Communication moderates the positive relation of customer focus and project performance such that it strengthens the relation.*

2.2.4 Communication as a Moderator between Quality Training and Project Performance

In addition to on-the-job training required to induce problem-solving ability y in workers, Quality-oriented training includes problem-solving in small groups, communication, statistical process control and other relevant areas (Flynn et al.,

1994). According to Hale Kaynak (2003), Quality training increases awareness of quality-related issues. It is impossible to improve project performance without a well-trained workforce.

The training related to a specific task is known as typical instructive communication and has a positive relationship with performance (Zeng et al. (2013)). Task-related training induces problem-solving ability in workers so that they can perform better and encourage their involvement in jobs (Hale Kaynak, 2003). The provision of necessary resources for quality-related training is the responsibility of top management (Flynn et al., 1995).

Takeuchi (1981), in his surveys of organizations with extraordinary performance, found that 89% had members who participated in training programs. Saffar and Obeidat (2020) noted an increase in performance through training and motivating workers. Li (2000)found that HRM strategies such as training, information sharing and participative management help to enhance firm performance. Training in quality-related issues promotes problem-solving in small groups via active communication (Flynn et al., 1994), which is responsible for the improvement of project performance. Therefore, we hypothesize that:

H8: *Communication moderates the positive relation of quality training and project performance such that it strengthens the relation.*

2.3 Theoretical Framework

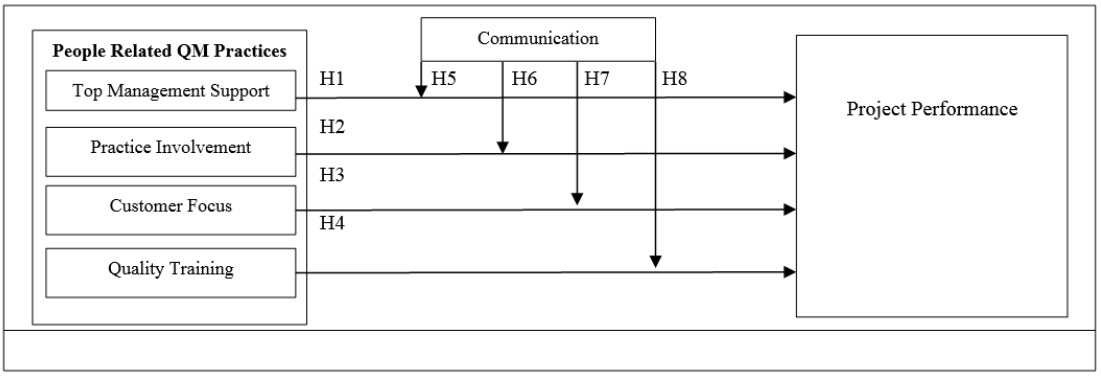

FIGURE 2.1: Research Model

The theoretical framework for this study is shown in figure 1. This framework illustrated the effect of people related QMP on project performance and the moderating effect of communication. This framework shows one of the dimensions of QMP, i.e. people-related QMP which includes four constructs. These are top management support, participant involvement, quality training and customer focus.

2.4 Research Hypotheses

H1: Top management support is positively related to project performance.

H2: Participant involvement is positively related to project performance.

H3: Customer focus is positively related to project performance.

H4: Quality training is positively related to project performance.

H5: Communication moderates the positive relation of top management support and project performance such that it strengthens the relation.

H6: Communication moderates positive relation of participant involvement and project performance such that it strengthens the relation.

H7: Communication moderates the positive relation of customer focus and project performance such that it strengthens the relation.

H8: Communication moderates the positive relation of quality training and project performance such that it strengthens the relation.

Chapter 3

Research Methodology

This chapter describes the necessary steps taken to investigate the proposed theoretical framework, research design and methodology. It also provides details about selecting and analyzing the data techniques. Further detail about measurement and instrument reliability analysis are also presented in this chapter.

3.1 Research Design

Research design is a framework of a research plan of action. Zikmund, McLeod and Gilbert (2003) define research design as a plan of the researcher that defines the procedure and method for collecting and analyzing the necessary information.

To obtain good results and effectiveness in research a good research design is compulsory (Wiersma & Jurs, 2005). The most common techniques used in research are qualitative-quantitative research.Quantitative research design is preferred due to its effectiveness and reliability than qualitative and produce more authentic results (Chase, Teel, Thornton-Chase & Manfredo, 2016). The quantitative approach is more suitable when reporting the strength of variables because in qualitative techniques cannot find the strengths between their relationships (Froman & Owen, 2014). Research design includes study type, time horizon, unit of analysis, types of setting and sample which are discussed below;

3.1.1 Types of Study

This is a causal study that tends to investigate the impact of people-related QMP on project performance with the moderating role of communication was measured.

3.1.2 Study Setting

The nature of the study was cross-sectional. Data were collected using questionnaire surveys. Many researchers prefer to use this technique for data collection. This is a cost-effective minimum interference of researchers that also helps to reduce the biases of respondents (Cavanaugh & Noe, 1999). It also helps respondents to respond at their ease and allowed time for a good response. The survey questionnaire is cost-effective, less time consuming and data examination also easy. Data were collected in a natural and neutral environment with almost no interference from the researcher.

3.1.3 Time Horizon

Due to the cross-sectional nature of the study, data were collected in one month for this study.

3.1.4 Unit of Analysis

The unit of analysis was employees involved in quality practices in construction sector.

3.1.5 Population

The population in the current study is employees from construction sector in Islamabad, Rawalpindi and Lahore, Pakistan. Using the personal and professional network, data were collected from professionals working in construction sector.

3.1.6 Sampling

Sampling is an appropriate representative portion selected from the total population to determine different parameters(Weber, Martin & Cayanus, 2005). Two different types of sampling are probability and non-probability sampling. Each type has its own merits and demerits, but the selected type of sampling usually depends upon the type of research objectives and data. Probability sampling could be more suitable when complete information about the population available (Wiersma & Jurs, 2005). The population of this study was unknown. A convenience sampling technique for data collection was used.

3.1.7 Sample Size

A sample is aa small part of the entire population. Few members are selected from the population instead of selecting all the elements of the population to make a sample. Employees involved in quality activities working in different organizations and their immediate supervisors comprise the population for this study. The population size of this study was unknown; while individuals were unit of analysis and data was collected from different organizations of construction sector. This sector has contributed significantly to different parts of Pakistan as well. Due to a large number of populations of this sector, it is not possible to cover all employees due to different constraints such as time scarcity, scarcity and cost. Hence a sample was selected to collect data from this industry.

According to Leguina (2015), G*power calculator can be used for minimum sample size calculation.Hence the effect size was 0.15,and power needed as kept 0.90. The required sample was around 130. This required sample size calculation approach is beneficial and being used in literature (Muhammad, Mahadi & Hussin, 2017). Accordingly, the useable data from 253 respondents were selected. The total numbers of 300 questionnaires were distributed online in different firms of construction sector.270 questionnaires were obtained, filled for data analysis. 17 incomplete questionnaires were excluded. 86.9% highly positive response rate was

observed. Some of organizations include Metracon, Al Ghani Group, Habib Rafiq Construction Company,IBECHS, Descon Engineering,etc.

3.2 Sampling Techniques

For data collection non probability, convenience sampling technique was used due to unknown population size. Data were collected from Rawalpindi , Islamabad and Lahore. Respondents were quality engineers, site supervisors, site engineers and assistant managers working in construction sector.

3.3 Sample

The population in the current study is employees involved in quality activities related to construction projects. Using personal and professional network, data were collected from professionals working in construction sector. Some of organizations include Metracon, Al Ghani Group, Habib Rafiq Construction Company, IBECHS, Descon Engineering, etc.Approximately 300 questionnaires were distributed in above-mentioned organizations out of which reverted 270 responses were received and 253 responses were included in this study for empirical analysis. Respondents qualifications were Matric/Intermediate, Graduation, Maters and Ph.D.

3.4 Data Collection Procedure

Data was collected from using the reference of friends, teachers and professionals to fill the questionnaires. Complete confidentiality about data was ensured to extend the cooperation. A cover was also attached that mentioned the purpose of conducted research to assure respondents that data would be accessible only relevant persons involved in the research. A soft copy of the questionnaire through google docs sent to selected participants. Basic instructions were also given to

the respondents about the conducted survey so that everyone could fill the survey without any hesitation. The approximate time required to fill the complete questionnaire was 10 minutes only. All the contact details were kept anonymous which was necessary to follow the ethics in research. The questionnaire contained items regarding top management support, participant involvement, customer focus, quality training, project performance and communication. Questionnaires were filled by Quality Engineers, Site Engineers, Assistant Managers, Architectural Designers, Contractors, etc.

3.5 Measurements

In this study close-ended questionnaire was used to measure five variables, on five Likert scales except for communication. Using five Likert scales, Items were rated from Strongly Disagree to Strongly Agree. Where 1= strongly disagree, 2=disagree, 3= neutral, 4= agree, 5= strongly agree. Communication was measured using seven Likert scales, Items were rated from Strongly Disagree to Strongly Agree. Where 1 = strongly disagree; 2 = disagree; 3 = disagree somewhat; 4 = neither agree nor disagree; 5 = agree somewhat; 6 = agree; 7 = strongly agree. These variables were used for divers source.

3.5.1 Dimensions of People-related QMP

Lu et al.(2019) developed QMP around two dimensions. Our research focuses only on people-related quality management practices. Practices grouped in this classification were measured using individual scales. The scales for people-related QMP constructs are adopted from quality literature.

3.5.1.1 Top Management Support

Top management support (5 items)was measured with the questions from Ahmed, Mohamad and Ahmad (2016). The questions were designed on 5 points Likert.

The sample questions for this construct were: Top management actively participates in quality improvement activities; Top management encourages participants to take part in quality improvement activities. The Reliability was 0.881.

3.5.1.2 Participant Involvement

Participant involvement (4 items)was measured with the questions from Conca et al. (2004). The questions were designed on 5 points Likert. The sample questions for this construct were: Participants actively participate in quality improvement activities; Participants have problem-solving skills. The Reliability was 0.854.

3.5.1.3 Customer Focus

Customer focus (3 items)was measured with the questions from Conca et al. (2004). The questions were designed on 5 points Likert. The sample questions for this construct were: This project can comprehend the demand of the customer,;This project always reflects improving customer satisfaction. The Reliability was 0.792.

3.5.1.4 Quality Training

Quality training (3 items) was measured with the questions from Kaynak and Hartley (2008). The questions were designed on 5 points Likert. The sample questions for this construct were: This project provides quality training for participants; This project provides quality training for management.The Reliability was 0.842.

3.5.2 Project Performance

Project performance was a dependent variable in this study and was measured by adapting the questionnaire originally constructed by Nidumolu (1995) but adapted from Gu, Hoffman, Cao & Schniederjans (2014). Some sample questions of this variable were: In a firm where I work Projects are completed on time.In a firm

where I work Projects meet budget requirements. The reliability of this measurement was 0.851.

3.5.3 Communication

Communication among team members involved in QMP was taken as a moderator in this study. It was measure with the help of the questions developed by Gibson and Vermeulen (2003) which had three questions. Some sample questions related to this variable were: There is open communication in this team; Team members maintain a high level of idea exchange. The reliability of this measurement was 0.808.

3.6 Scales Reliability

To test the reliabilities of the scales, values of Cronbach's alpha shown in table 1. Nunnally and Bernstein (1994) explained the standard of Cronbach's Alpha is more or equal to 0.70.

TABLE 3.1: Cronbach's Alpha of each Scale of the Current Study (N= 253)

Variables	**Items**	**Cronbach's alpha**
Top Management Support	5	.881
Participant Involvement	4	.854
Customer Focus	3	.792
Quality Training	3	.842
Project Performance	8	.851
Communication	3	.808

For top management support, Cronbach's alpha is 0.881, the Cronbach's value of participant involvement, customer focus and quality training in this study is 0.854, 0.792 and 0.842 respectively. Project performance Cronbach's value is 0.851 and communication Cronbach's is 0.808.Top management support contains five items, participant involvement contains four items, customer focus and quality training contains three items. Eight items were related to project performance and three items were related to communication.

Chapter 4

Results

This chapter contains correlations, regression and moderation results which are discussed one by one in detail. SPSS software was used for data analysis and the following results were obtained.

4.1 Descriptive Statistics

The descriptive statistics table is the summarized presentation of the large data to get statistical information such as the minimum value and maximum value of the Likert scale response, mean and standard deviations of the data collected. The details of the data collected under this research are presented in Table 4.1. The first column contains constructs used in this research; the second column represents the sample size (N) of the study. The total sample size was 253. The minimum and maximum values for each construct are presented in third and fourth columns respectively for the mean calculation. The independent variables i.e., top management support (TMS) has a mean value of 4.20 and standard deviation of 0.83, participant involvement (PI) has the mean value for 4.27 and a standard deviation of 0.77, customer focus (CF) has a mean value of 4.26 and standard deviation of 0.76, quality training (QT) has to mean value of 4.20 and standard deviation of 0.86. The dependent variable, project performance (PP) has a mean value of 4.03 and a standard deviation of 0.77. The moderating variable, communication (CC) has a mean value of 5.71 and a standard deviation of 1.2

Table 4.1: Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std.Deviation
TMS	253	1.60	5.00	4.2	0.83
PI	253	2.00	5.00	4.27	0.77
CF	253	2.33	5.00	4.26	0.76
QT	253	1.67	5.00	4.2	0.86
PP	253	2.00	5.00	4.03	0.77
CC	253	2.00	5.00	5.71	1.2
Valid N	253				

4.2 Sample Characteristics

In the early stage of data analysis, demographics and basic characteristics were drawn to have an idea about the frequency of demographics. Table 4.2 shows the characteristics of gender.

4.2.1 Gender

Table 4.2: Gender Frequency and Percentage

	Frequency	Valid Percent	Cumulative percent
Male	224	88.5	88.5
Female	29	11.5	100
Total	253	100	

This table shows the gender composition of the sample. 88.5% were male and 11.5% female. Our sample contains more data from males.

4.2.2 Age

Table 4.3: Frequency and Percentage of Age

	Frequency	Percent	Cumulative percent
18-25	84	33.2	33.2
26-33	96	37.9	71.3
34-41	26	10.3	81.4
42-49	22	8.7	90.1
50 above	25	9.9	100
Total	253	100	

Table 4.3 displays the composition of the sample based on age groups. 33.2% of respondents age were 18-25, 37.9% respondents age were 26-33 range, 10.3% respondents age were in 34-41 range, 8.7% respondents age were in 42-49 range and just 9.9.% respondents were more than 50years. In that study, the percentage of 26-33 respondents is high.

4.2.3 Qualification

Table 4.4: Respondents and their Qualification

	Frequency	Valid Percent	Cumulative percent
Metric/Inter	17	6.7	6.7
Bachelor	107	42.3	49
Master	56	22.1	71.1
MS/MPhil	47	18.6	89.7
Ph.D.	11	4.3	94.1
Post doc	15	5.9	100
Total	253	100	

Table 4.4 explains the qualification of respondents. The respondents' qualification, matric/inter qualified was 6.7%, bachelor qualified was 42.3%, master qualified was 22.1%, MS/Mphil qualified was 18.6%, Ph.D. qualified respondent was 4.3%, Postdoc qualified was 5.9%. The Bachelors's qualified percentage is high.

4.2.4 Work Experience

Table 4.5: Experience

	Frequency	Valid Percent	Cumulative percent
0-5	118	46.6	46.6
06-10	65	25.7	72.3
11-16	23	9.1	81.4
17-22	19	7.5	88.9
23-28	11	4.3	93.3
29 above	17	6.7	100

Table 4.5 displays the respondents' work experience, in which high percentage of respondents work experience is 46.6% in range (0-5), in range (6-10) the respondent's experience was 25.7%, in category (11-16) the respondents' experience was 9.1%, in category (17-22) the respondent experience was 7.5%, in category (23-28) the respondent experience was 4.3% and above 29 the experience of respondents were 6.7%.

4.3 Correlation Analysis

Correlation analysis was performed before regression to find out the level of association existing within the variables. Table 4.6 displays the correlation analysis results for the variables. The results show that there exists a positive significant correlation between top management support, participant involvement, customer focus, quality training and project performance with a significant value of .676**, .669**, .633** and .630** respectively. Communication is also positively and significantly correlated with top management support (r=.679, p<.01), participant involvement (r=.594, p<.01), customer focus (r=.583, p<.01), quality training (r=.663, p<.01) and project performance (r=.637, p<.01)

Table 4.6: Results of Correlation

	1	**2**	**3**	**4**	**5**	**6**
1. Top Management Support	1					
2. Participant Involvement	.821**	1				
3. Customer Focus	.789**	.755**	1			
4. Quality Training	.753**	.685**	.669**	1		
5. Project Performance	.676**	.669**	.633**	.630**	1	
6.Communication	.679**	.594**	.583**	.663**	.637**	1

$**.Correlationissignificantatthe0.01level(2-tailed).$

4.3.1 Multicollinearity of Indicators

Multicollinearity is when two or more items of a construct are highly correlated and is measured through "Variance Inflation Factor" (VIF) (Hair Jr, Sarstedt, Matthews & Ringle, 2016). The general rule is that VIF values should not be

greater than 5 (Wong, 2013), otherwise there exists a collinearity issue. As depicted in the table 4.7, the multicollinearity issue did not exist among the items of exogenous constructs as all VIF values are within the acceptable range.

TABLE 4.7: Inner Variance Inflation Factor

Constructs	**Tolerance**	**VIF**
1. Top Management Support	0.226	4.415
2. Participant Involvement	0.291	3.44
3. Customer Focus	0.336	2.978
4. Quality Training	0.424	2.356

4.3.2 Regression Analysis

Linear regression analysis was performed between independent and dependent variables to check the relationship using Software SPSS 21. An ordinary least square method was used. For this method, the average was calculated by summing up different questions for each variable. The results are presented in Table 4.8.

TABLE 4.8: Results of Regression Analysis

Project Performance

Variable	**B**	**S.E**	**Beta**	**T**	**Sig.**
Top Management Support	0.147	0.085	0.158	1.733	0.084
Participant Involvement	0.248	0.08	0.249	3.087	0.002
Customer Focus	0.145	0.076	0.144	1.917	0.056
Quality Training	0.237	0.06	0.265	3.973	0.000
Note:	R^2=0.535				

In addition to correlation analysis, linear regression was also done between dependent and independent variables i.e. top management support, participant involvement, customer focus, quality training and project performance. For this purpose, the mean values for the variables were selected. The results showed that the relationship between top management support and project performance was positive but insignificant (β=.16, p>0.01) so H1, "Top management support is positively related to project performance" is rejected. The relationship between customer focus and project performance was also positive but insignificant (β=.14,

p>0.01). So H3, "Customer focus is positively related to project performance" is rejected. While Participant Involvement and project performance have a positive and significant relationship (β=.25, p<0.01) so H2, "Participant involvement is positively related to project performance" is accepted. The relationship between quality training and project performance was also positive and significant (β=.27, p<0.01) so H4, "Quality training is positively related to project performance" is also accepted. Hence results for regression analysis rejects hypothesis H1, H3 accept hypothesis H2, H4.

4.4 Moderation Analysis

The moderation was used to find out whether the association between top management support, participant involvement, customer focus, quality training and project performance depends on communication between team members. The moderation analysis is linear regression equations with an interaction term. Hayes's process (Model 1) was used to test the moderation hypothesis. Moderation results are displayed in tables below

Table 4.9: Moderation Analysis Results for Top Management Support

		Project Performance					
		B	SE	T	p-value	LLCI	ULCI
Step 1	Top Management Support	0.14	0.18	0.77	0.44	-0.2195	0.5024
	Communication	-0.03	0.14	-0.92	0.92	-0.2939	0.2665
Step 2	Top Management Support * Communication	0.52	0.03	0.12	0.12	-0.0137	0.1172

Note: N=253, **p<.01, *p<.05, R^2=.52

Table 4.9 shows the result of moderation analysis for top management support. Insignificant interaction value (β=.52, p>0.05) shows there is no moderation of communication between top management support and project performance. Hence H5, "Communication moderates the positive relation of top management support and project performance such that it strengthens the relation" is unaccepted because P=0.12 showing insignificance and zero is present between the upper and lower confidence interval 95%.

TABLE 4.10: Moderation Analysis Results for Participant Involvement

		Project Performance					
		B	SE	T	p-value	LLCI	ULCI
Step 1	Participant Involvement	.39	.21	1.81	.07	-.0337	.8216
	Communication	.18	.16	1.12	.26	-.1381	.5057
Step 2	Participant Involvement * Communication	.01	.03	.25	.81	-.0660	.0849

Note: N=253, **p<.01, *p<.05, R^2=.54

Table 4.10 shows the result of moderation analysis for participant involvement. Insignificant interaction value (β=.01, p>0.05) shows there is no moderation of communication between participant involvement and project performance. Hence H6, Communication moderates the positive relation of participian involvement and project performance such that it strengthens the relation" is not accepted because P=0.81 showing insignificance and zero is present between the upper and lower confidence interval 95%.

TABLE 4.11: Moderation Analysis Results for Customer Focus

		Project Performance					
		B	SE	T	p-value	LLCI	ULCI
Step 1	Customer Focus	0.2	0.22	0.9	0.37	-0.2383	0.6413
	Communication	0.08	0.17	0.49	0.62	-0.2593	0.4332
Step 2	Customer Focus * Communication	0.04	0.04	0.9	0.37	-0.043	0.1164

Note: N=253, **p<.01, *p<.05, R^2=.51

Insignificant interaction value (β=.04, p>0.05) shows there is no moderation of communication between top management support and project performance. Hence H7, Communication moderates the positive relation of customer focus and project performance such that it strengthens the relation" is not accepted because P=0.37 showing insignificance and zero is present between the upper and lower confidence interval 95%.

TABLE 4.12: Moderation Analysis Results for Customer Focus

		Project Performance					
		B	SE	T	p-value	LLCI	ULCI
Step 1	Quality Training	-0.13	0.18	-0.73	0.47	-0.4881	0.2252
	Communication	-0.16	0.14	-1.14	0.26	-0.4328	0.1159
Step 2	Quality Training * Communication	0.09	0.03	2.84	0.0049	0.0285	0.1577

Note: N=253, **p<.01, *p<.05, R^2=.51

Significant interaction (β=.09, p<0.05) shows the moderation effects of communication in the relationship between Quality Training and project performance and no zero is present between the upper and lower confidence interval 95%. Hypothesis 8, "Communication moderates the positive relation of quality training and project performance such that it strengthens the relation" is accepted.

4.4.1 Moderation Graph

To check the moderator effect between quality training, communication and project performance, the mode graph was calculated. The independent variable was plotted on the x-axis and the dependent variable was plotted on the y-axis.

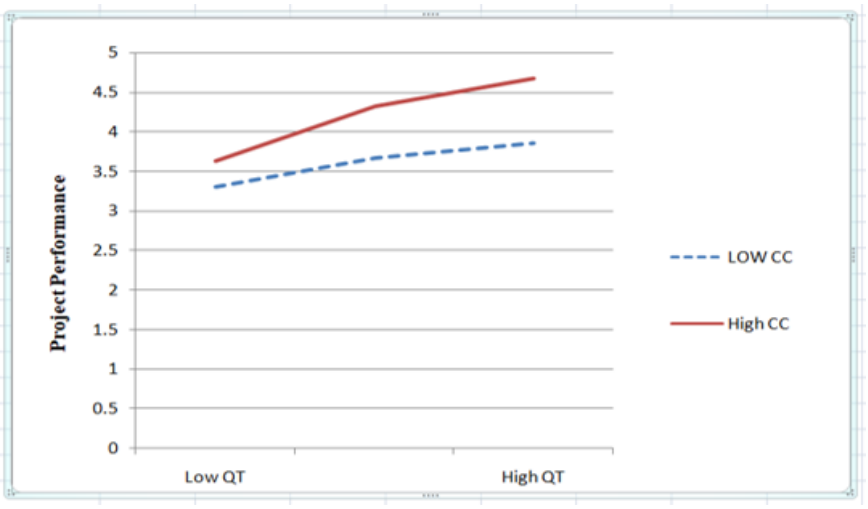

FIGURE 4.1: Graph 1. Interactive Effect of Quality Training and Communication on Project Performance.

The positive relation was proposed between the quality training and project performance would be stronger in the presence of communication. Results suggest a significant relationship for communication. According to these findings, low level of communication results in weak the quality training and project performance relationship but high level of communication strengthens the quality training and project performance relationship. The graph reflects the similar results; if the communication (CC) is low then the slope of graph is not steep. In other case, when the communication (CC) is high, the relation between quality training and project performance becomes stronger and the slope line steeper than the moderator value.

4.5 Summary of Acceptance/Rejection of Proposed Hypothesis

Table 4.13: Summary of Hypothesis Testing

No	Hypothesis Statement	Results
H01	Top management Support is positively related to project performance.	**Rejected**
H02	Participant involvement is positively related to project performance.	**Accepted**
H03	Customer focus is positively related to project performance.	**Rejected**
H04	Quality training is positively related to project performance.	**Accepted**
H05	Communication moderates the positive relation of top management Support and project performance such that it strengthens the relation	**Rejected**
H06	Communication moderates the positive relation of participant involvement project performance such that it strengthens the relation	**Rejected**
H07	Communication moderates the positive relation of customer focus and project performance such that it strengthens the relation	**Rejected**
H08	Communication moderates the positive relation of quality training Support and project performance such that it strengthens the relation	**Accepted**

Chapter 5

Discussion and Conclusion

This section relates to the detailed discussion of the hypothesis generated with literature support and explanation of the results considering the theory and empirical evidence. The chapter is divided into three major parts where part 1 discusses the hypothesis results, the second portion discusses the implications to the theory and practitioners and the last portion discusses the limitations and future research. Our study focuses on the implementation of quality management practices specifically in project-based organizations to impact project performance.

Considering the need for quality in organizations, researchers are interested in quality activities in project management. There exists collaboration between the American Society for Quality (ASQ) and the PMI in the form of ANSI/ISO/ASQ Q10006 (1997) guidelines. These guidelines focus on the significance of communication and control of the project (Masters & Frazier, 2007). According to the literature review, Talib and Rahman (2010) declared communication within a company as a critical success factor (CSF) for QMP implementation. The absence of communication is considered as a major barrier in project performance improvement(Azhar, Farooqui & Ahmed, 2008).

This research aimed to investigate the direct and indirect relationships of people related to QMP on project performance. In addition to the direct effects, the study in the conceptual model explored the moderating effect of communication on people-related QMP and project performance in organizations working in the construction sector of twin cities. The results revealed a significant relationship

between dependent and independent variables. The study serves evidence from the construction sector of Pakistan and the findings can be used by the policy-makers and managers for effectiveness in the project fields. The study developed 8 hypotheses and all hypotheses were supported by data findings and theory as well.

Hypothesis H1 states that top management support is positively related to project performance. Findings in this study suggest that top management support is not positively related to project performance. Our results are in line with that of Malik, Nasim, & Iqbal (2013), who identified that top management support is a highly ranked dimension of QMP but lack of their experiences and resistance to change are barriers to QMP implementation. In another study it was also found that the lack of dependency of workers for consulting the quality guidance is a common barrier for TQM implementation (Bhat and Rajashekhar, 2009).N. A. Ali, Zairi and Mahat (2008) studied Malaysian Industries and declared resistance to change as the key obstacle to TQM implementation. Another study in Turkey suggests that leadership, which is also part of top management support, is not significantly related to any performance (Sadikoglu & Olcay, 2014). This is also supported by the results of other researchers (Choi & Eboch, 1998; Kannan & Tan, 2005). The link among multiple dimensions of top management support and project success is also discussed in the literature (Ahmed et al., 2016) and concluded that not all dimensions (except provide resources and power) effect significantly project success.

Hypothesis 2 states that participant involvement is positively related to project performance and our findings also suggest that participant involvement is positively related to project performance. In a TQM environment, employee involvement is a significant factor in the HRM domain. Another dimension of people-related QMP, participant involvement is also referred to as employee involvement/employee engagement enhances performances. Our results support the findings of prior researches of Ketikidis et al., (2006) and Rahman (2001) by showing that TQM practices enhance organizational performance in terms of improvement in employees attitudes towards quality. Joiner (2007)concluded that the greater the

firm motivates its employees the higher would be the performance. Abdullah et al. (2010)concluded that soft factors of TQM like people management and relationship with the employees have a positive and significant impact on the overall performance of the firm.

QMP is defined as meeting customer expectations and project performance is measured by the extent to which a project satisfies customer needs. Hypothesis 3 states that customer focus is positively related to project performance while our study indicates that there exists an insignificant relation between customer focus and project performance. Customer focus has no impact on project performance. Our results coincide with the study of Sadikoglu & Olcay (2014), indicating insignificant relation between customer focus and other performances such as employee performance, inventory management performance and innovation performance.

Training related to quality practices is provided depending upon project resources. Without education and good training QMP cannot be implemented efficiently. Hypothesis 4 states that quality training is positively related to project performance and our study also shows a positive significant relationship between quality training and project performance. So it is essential to introduce quality training programs for successful completion project completion (Ahmed et al., 2016). For smooth implementation of QMP, quality training should be provided at each level i.e. from top management to employees, so that innovative ideas and new programs can be implemented.

Hypothesis 5 states that communication moderates the positive relation of top management support and project performance such that it strengthens the relationship. The rejection of H5 shows communication does not moderate positive relation of top management support and project performance such that it strengthens the relation but our findings report that communication does not moderate positive association of top management support and project performance communication moderates positive relation of top management support and project performance such that it strengthens the relationship. Zeng et al. (2013) found out similar results. According to Flynn et al., (1994), face-to-face communications

increase the quality of problem solutions but this advantage is offset by the frustration of workers who mind too much top management involvement. Stressed workers ultimately are unfavorable to project performance. This can also be explained as poor quality performance also leads to increased supervisory interaction facilitation, which concludes to insignificant results when mixed with the positive impact of supervisory interaction facilitation on performance.

Hypothesis 6 indicates that communication moderates the positive relation of participant involvement and project performance such that it strengthens the relationship. The rejection of H6 indicates that communication does not moderate the positive relation of participant involvement and project performance such it strengthens the relationship. Organizations practicing TQM ensure quality improvement with the help of an effective communication system (Sureshchandar et al., 2001) because employees communicate product lines and organizational functions to different customers, at different work locations and across the organizational level. (Pfau, 1989).Therefore, lack of communication results in conflicts among employees Isa (2015) thus hindering participant involvement and small group problem-solving.

Hypothesis 7 indicates that communication moderates positive relation of customer focus and project performance such that that it strengthens the relationship. The rejection of H7 indicates that communication does not moderate the positive relation of customer focus and project performance such it strengthens the relationship. Communication with customers increase customer satisfaction(M.-C. Yu, 2017)and in the form of customer feedback, inform timely about changes required in project activities but can result in scope creep. A study conducted for a construction project of Ghana indicates that Scope creep is a result of client changes demanded upon frequent communication which ultimately reduces project performance in terms of resource wastage (Amoatey & Anson, 2017). So, communication does not strengthen the relationship between customer focus and project performance.

Hypothesis 8 states that communication moderates the positive relation of quality training and project performance such that it strengthens the relationship. The

findings of our study also show that communication moderates the positive association of quality training and project performance such that higher communication makes this association stronger. The results show that training is the only dimension of people related QMP whose association with project performance is moderated by communication between participants. These results are parallel to those of a study by Zeng et al., (2013). The training related to a specific task is known as typical instructive communication and has a positive relationship with performance. Task-related training induces problem-solving ability in workers so that they can perform better and encourage their involvement in jobs (Hale Kaynak, 2003).

Based on the above discussion, this study highlights the importance of quality and provided resources to TQM in terms of high-performance level in the organization.

5.1 Theoretical Implications

The outcomes of this study tell the impact of the TQM elements including top management support, participant involvement, customer focus and quality training on the project performance in the construction sector of Pakistan. The study serves the project practitioners in Pakistan and to the body of knowledge in the following manner. It supported the contingency view of quality management practices and validated empirically the moderating effect of communication on the link between quality management practices and performance. Moreover, the moderating effect of communication in case of quality training, the only quality management practice affecting project performance, could serve as accountable evidence for the mixed results of quality management practices. This study can also be considered as empirical support that serves as an initial point for future context studies on quality management practices. Besides, it contributes positively to the accomplishment of quality management through people-related practices as it indicates that not all four people-related practices are significant to increase project performance in terms of quality. Furthermore, it provides support to quality concerns in construction projects as project management in the construction sector

observes a rise and growing interest in Pakistan too. Thus, this study serves the project management literature and fills the gap with the fewer amount of studies conducted in this domain and opens new ways for the upcoming researchers as well.

5.2 Practical Implications

This study has important suggestions for managers. First, it encourages managers to put in the time and resources for successful implementations of TQM programs. Based on the results of this study, the implementation of people-related TQM practices is related to improved project performance. Second, this discussion highlights the significance of confirmation of an environment inspiring effective communication for the efficient execution of TQM.

Evidence from this study suggests that there should be an environment in an organization which includes promoting communication among colleagues, for the successful execution of TQM. If employees are unable to communicate about problems and issues to coworkers with whom they work, then firms may not obtain the beneficial outcomes of TQM plans. Therefore, managers should provide a hindrance-free environment to team members for communication as it will allow the exchange of knowledge and experience and sharing at the time of training. Communication among co-workers will increase the level of awareness regarding preventive work performance. Moreover, there must be reward and recognition programs so that employees can be motivated to participate in activities related to quality. Managers should ensure teamwork, improved communication and should provide feedback to employees.

Quality training, which reflects positively on project performance, is also important for the effective execution of TQM. Managers are accountable for providing quality training programs for employees. This training will empower employees in terms of innovative ideas, problem-solving abilities and encouragement in jobs. Thus effort drew in Participant Involvement and quality training, elements of TQM will be productive for the project performance.

5.3 Limitations and Future Directions

Though this study comprehensive and provide considerable insights yet it has some limitations. Firstly, questionnaires are used for data collection, taken as non-serious activity by most people and provide perception-based data that may lack a factual position. Therefore, the validity of data can be enhanced via structured interviews. Secondly, this study considered communication as a single construct, types of communication (face to face communication or virtual communication), or frequency of communication cannot be studied due to time constraints. A future researcher can investigate this limitation by examining different dimensions of communication. Thirdly, our research findings can be biased based on the data, not collected from customers, for construct customer focus. Future studies should obtain data from the customer for such constructs. Lu et al. (2019) suggested studying the moderating role of conflict in such settings as well but due to time constraints, moderation through conflict is not studied in this research. Future researchers are encouraged to include conflict as a moderator too. Lastly, the sample was targeted to a single industry and country; our study might be extended to other contexts, to have better generalizability.

5.4 Conclusion

This study focus on the relationship between people-related QMP and project performance with the moderation role of communication. Our results indicate that participant involvement and quality training are positively related to project performance and communication moderates the relation of quality training and project performance such that it strengthens the relationship. This moderation effect of communication synchronizes with contingency theory explains that communication.

In a developing country like Pakistan, project management practices are not as mature as found in a developed country and there exists an informal implementation of these practices including QMP in the construction sector of Pakistan. It is pertinent to mention that project management is growing its roots in Pakistan as

a huge amount of projects are observed in the past decade. This study focused on the construction sector in twin cities and has tried to find empirical evidence for the positive relationship of people related QMP on performance. The project managers in this industry are responsible to deliver the promised results in time but this evidence will help the managers to better control the outcomes and efficiently utilize different kinds of resources by avoiding rework in their respective projects. By identifying the relationship, it was also important to explore the significant QMP applicable to projects in this industry which can be taken into consideration to enhance performance. These practices can be ranked based on our results as quality training, participant involvement, customer focus and top management support, considering quality training as the most significant and top management support as the least significant. The study also concludes that team communication plays amoderating role specifically in the relationship of quality training and project performance which must be taken into consideration by project managers. Since the Pakistani construction sector is reluctant to adopt new techniques and rely on traditional methods to resolve quality issues, managers tend to neglect the quality of projects. Hence it can be said that due to such cultural difficulties and reluctance, managers may not have enough communication regarding project quality to impact significantly on project outcome

Bibliography

A.C.Phan, A. B. A., and Y.Matsui. (2011). Quality management practices and competitive performance: empirical evidence from Japanese manufacturing companies. International journal of production economics., 133(2), 518-529.

Abdi, M. & Aulakh, P. S. (2012). Do country-level institutional frameworks and interfirm governance arrangements substitute or complement in international business relationships? Journal of International Business Studies, 43(5), 477-497.

Abdullah, M. M. B., Tar, J. J. & Akhtar, S. (2010). The effect of soft factors and quality improvement on performance of Malaysias electrical and electronics industry. International Journal of Management Science and Engineering Management, 5(1), 39-43.

Abrahamson, E., and L. Rosenkopf. (1993). Institutional and competitive bandwagons: Using mathematical modeling as a tool to explore innovation diffusion. Academy of Management Review 18(1), 487-517.

Adebanjo, D. & Kehoe, D. (1999). An investigation of quality culture development in UK industry. International Journal of Operations & Production Management, 19(7), 633-650.

Ahire, S. L. & Dreyfus, P. (2000). The impact of design management and process management on quality: an empirical investigation. Journal Of Operations Management., 18(2), 549-575.

Ahire, S. L., Golhar, D. Y., & Waller, M. A. (1996). Development and validation of TQM implementation constructs. Decision sciences, 27(1), 23-56.

Ahire, S. L. & Oshaughnessy, K. (1998). The role of top management commitment in quality management: an empirical analysis of the auto parts industry. International Journal of Quality Science, 3(1), 5-37.

Ahmed, R., Mohamad, N. A. B. & Ahmad, M. S. (2016). Effect of multidimensional top management support on project success: an empirical investigation. Quality & Quantity, 50(1), 151-176.

Al-Otaibi, F. M. S., Alharbi, M. F. & Almeleehan, A. (2015). Effect of total quality management practices factors on the competitiveness: Evidence from Saudi Arabia. International Journal of Business and Management, 10(5), 85.

Al-Zubi, A. (2013). The role of total quality management in reducing risks in the Jordanian higher education sector in the context of the global economic crisis (Applied Study). The Arab Journal for Quality Assurance of Higher Education., 6(11), 3-39.

Ali, N. A., Zairi, M. & Mahat, F. (2008). People resistance in TQM implementation: a qualitative study on Malaysian universities. International Journal of Productivity and Quality Management, 3(1), 1-11.

Ali, U., Kidd, C. (2013). Barriers to effective configuration management application in a project context, an empirical investigation. International Journal of Project Management. 32(3), 508-518.

Allen, E. a. B., R. (1997). Total quality management, organisational commitment,perceived organisational support and intraorganisational communication. Management Communication Quarterly, 10(1), 316-341.

Altayeb, M. M. & Alhasanat, M. B. (2014). Implementing total quality management (TQM) in the Palestinian construction industry. International Journal of Quality & Reliability Management. 31(8),878-887.

Amoatey, C. T. & Anson, B. A. (2017). Investigating the major causes of scope creep in real estate construction projects in Ghana. Journal of Facilities Management.15(4), 393-408.

Anantatmula, V. S. (2010). Project manager leadership role in improving project performance. Engineering Management Journal, 22(1), 13-22.

Arditi, D. & Gunaydin, H. M. (1997). Total quality management in the construction process. International Journal of Project Management, 15(4), 235-243.

Attakora-Amaniampong, E., Salakpi, A. & Bonye, F. (2014). Total Quality Management and its impact on the level of Customer Focus within Construction Project Management in Ghana. International Journal of Business and Management Invention, 3(7), 36-48.

Azhar, N., Farooqui, R. U. & Ahmed, S. M. (2008, August). Cost overrun factors in construction industry of Pakistan. In First International Conference on Construction in Developing Countries (ICCIDC-I), Advancing and Integrating Construction Education, Research & Practice (pp. 499-508).

Bakker, R. M., Knoben, J., De Vries, N. & Oerlemans, L. A. (2011). The nature and prevalence of inter-organizational project ventures: Evidence from a large scale field study in the Netherlands 2006-2009. International Journal of Project Management, 29(6), 781-794.

Barad, M. & Raz, T. (2000). Contribution of quality management tools and practices to project management performance. International Journal of Quality & Reliability Management.17 (4/5), 571-583.

Beck, D. R. (1983). Implementing Top Management Plans Through Project Management. Van Nostrand Reinhold.

Belassi, W., Tukel, O.I. (1996). A new framework for determining critical success/failure factors in projects. International Journal of Project Management, 14(3), 141-151.

Belout, A. a. G., C. (2004). Factors influencing project success: the impact of human resource management. International Journal of Project Management, 22(1), 1-11.

Bhat, K. S. & Rajashekhar, J. (2009). An empirical study of barriers to TQM implementation in Indian industries. The TQM Journal, 21(3),261-272.

Black, S. A., and L. J. Porter. (1996). Identification of the critical factors of TQM. Decision Sciences. 27(1), 1-21.

Bonito, J. (1990). Motivating employees for continuous improvement efforts. Production and Inventory Management Review with APICS news, 8(1), 225-236.

Boonstra, A. (2013). How do top managers support strategic information system projects and why do they sometimes withhold this support? . International Journal of Project Management, 31(1), 498-512.

Brady, T. & Davies, A. (2004). Building project capabilities: from exploratory to exploitative learning. Organization studies, 25(9), 1601-1621.

Brah, S. A., Lee, S.L. and Rao, B.M. (2002). Relationship between TQM and performance of Singapore companies. International Journal of Quality & Reliability Management., 19(1), 356-379.

Bryde, D. (2008). Perceptions of the impact of project sponsorship practices on project success. International Journal of Project Management, 26(8), 800-809.

Bull, C. (2003). Strategic issues in customer relationship management (CRM) implementation. Business Process Management Journal, 9(1), 502-602.

Cai, S. (2009). The importance of customer focus for organizational performance: a study of Chinese companies. International Journal of Quality & Reliability Management, 26(4), 369-379.

Cavanaugh, M. A. & Noe, R. A. (1999). Antecedents and consequences of relational components of the new psychological contract. Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 20(3), 323-340.

Chander, M., Jain, S.K., Shankar, R. (2013). Modeling of information security management parameters in Indian organizations using ISM and MICMAC approach. Journal Model Management, 8(2), 171-189.

Chang, G. (2009). Total Quality Management in Supply Chain. 2, 82-85.

Chase, L. D., Teel, T. L., Thornton-Chase, M. R. & Manfredo, M. J. (2016). A comparison of quantitative and qualitative methods to measure wildlife value orientations among diverse audiences: A case study of Latinos in the American Southwest. Society & natural resources, 29(5), 572-587.

Chen, I. J., Popovich, K. (2003). Understanding customer relationship management (CRM): people, process and technology. Business Process Management Journal, 9(1), 678-688.

Choi, T. Y. & Eboch, K. (1998). The TQM paradox: relations among TQM practices, plant performance, and customer satisfaction. Journal of Operations management, 17(1), 59-75.

Chollet, B., Brion, S., Chauvet, V., Mothe, C. & Geraudel, M. (2012). NPD projects in search of top management support: The role of team leader social capital. Management, 15(1), 44-75.

Clark, K. B., Fujimoto, T. (1991). Product Development Performance: Strategy, Organization, and Management in the World Auto Industry.

Conca, F. J., Llopis, J. & Tar, J. J. (2004). Development of a measure to assess quality management in certified firms. European journal of operational research, 156(3), 683-697.

Crosby, P. B. (1979). Quality is free: The art of making quality certain 94.

Das, A., Handfield, R. B., Calantone, R. J. & Ghosh, S. (2000). A contingent view of quality managementthe impact of international competition on quality. Decision sciences, 31(3), 649-690.

Dean, J. W. J., and D. E. Bowen. (1994). Management theory and total quality: Improving research and practice through theory development. Academy of Management Review 19(2), 392-418.

Deming, W. E. (1995). Out of the Crisis (Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study, 1986). Reprinted from Out of the Crisis by W. Edwards Deming by permission of MIT and W. Edwards Deming. Published by MIT, Center for Advanced Engineering Study, Cambridge, MA, 2139(1), 97-148.

Denis, D. (1995). Performance changes following top management dismissals. Journal Finance, 50, 1029-1057.

Denis, D. J. & Denis, D. K. (1995). Performance changes following top management dismissals. The Journal of finance, 50(4), 1029-1057.

Dholakia, U. M. (2001). A motivational process model of product involvement and consumer risk perception. European Journal of marketing. 35 (11/12),1340-1362.

Donaldson, L. (2001). The contingency theory of organizations,Sage,1.

Douglas, T. J. & Judge Jr, W. Q. (2001). Total quality management implementation and competitive advantage: the role of structural control and exploration. Academy of Management Journal, 44(1), 158-169.

Dow, D., Samson, D. & Ford, S. (1999). Exploding the myth: Do all quality management practices contribute to superior quality performance? Production and Operations Management, 8(2), 1-27.

Dr. K. Vanitha, D. (2012). Customer Relationship Management on Customer Satisfaction. International Journal Of Scientific Research, 3(1), 1-3.

Dwivedi, Y. K., Ravichandran, K., Williams, M.D., Miller, S., Lal, B., Antony, G.V., Kartik, M. (2013). IS/IT project failures: a review of the extant literature for deriving a taxonomy of failure factors grand successes and failures in IT. Public and Private Sectors,1(1) 73-88.

E. E. Adam, L. M. C., B. E. Flores et al. (1997). An international study of quality improvement approach and firmperformance. International Journal of Operations and Production Management,, 17(2), 842-873.

Ehsani, M., Izadi, B., Yoon, Y.-J., Cho, K.M., Koozechian, H., Tojari, F. (2013). An investigation of the effect of fan relationship management factors on fan lifetime value. Asian Social Science, 9(2), 248.

Eisenberger, R., Huntington, R., Hutchison, S. and Sowa, D. (1986). Perceived organizational support. Journal of Applied Psychology, 71(2), 500-507.

Eisenhardt, K. M. & Tabrizi, B. N. (1995). Accelerating adaptive processes: Product innovation in the global computer industry. Administrative science quarterly, 84-110.

Fadlallah, A. O. (2015). The impact of total quality management on the performance of employees in service organizations. (Master's Thesis in Business Administration,), Shandi University, Sudan.

Farooqui, R. U., Arif, F. & Rafeeqi, S. (2008). Safety performance in construction industry of Pakistan. Paper presented at the First International Conference on Construction In Developing Countries, Karachi, Pakistan,2(2) 74-87.

Fernandes, A. C., Sampaio, P., Sameiro, M. & Truong, H. Q. (2017). Supply chain management and quality management integration. International Journal of Quality & Reliability Management. 34(1),53-67.

Flynn, B. B., Schroeder, R. G. & Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. Journal of Operations management, 11(4), 339-366.

Flynn, B. B., Schroeder, R. G. & Sakakibara, S. (1995). The impact of quality management practices on performance and competitive advantage. Decision sciences, 26(5), 659-691.

Fotopoulos, C. V., Psomas, E. L. & Vouzas, F. K. (2010). Investigating total quality management practice's inter-relationships in ISO 9001: 2000 certified organisations. Total quality management, 21(5), 503-515.

Froman, R. D. & Owen, S. V. (2014). Why you want to avoid being a causist. Research in nursing & health, 3(37), 171-173.

Garvin, D. A. (1988). Managing quality: The strategic and competitive edge: Simon and Schuster,3.

Gibson, C. & Vermeulen, F. (2003). A healthy divide: Subgroups as a stimulus for team learning behavior. Administrative science quarterly, 48(2), 202-239.

Gilmore, H. L. (1990). Continuous incremental improvement: An operations strategy for higher quality, lower costs, and global competitiveness. Advanced Management Journal 55(3), 21-25.

Gimenez-Espin, J. A., Jimnez-Jimnez, D. & Martinez-Costa, M. (2013). Organizational culture for total quality management. Total Quality Management & Business Excellence, 24(1), 678-692.

Golhar, D., Deshpande, S. and Ahire, S. (1997). Supervisors' role in TQM and non-TQM firms,International Journal of Quality & Reliability Management. 14(3), 555-568.

Grandzol, J. R. & Gershon, M. (1997). Which TQM practices really matter: an empirical investigation. Quality Management Journal, 4(4), 43-59.

Gu, V. C., Hoffman, J. J., Cao, Q. & Schniederjans, M. J. (2014). The effects of organizational culture and environmental pressures on IT project performance: A moderation perspective. International Journal of Project Management, 32(7), 1170-1181.

Guimaraes, T. (1997). Assessing employee turnover intentions before/after TQM. International Journal of Quality & Reliability Management. 14(1), 46-63.

Hair Jr, J. F., Sarstedt, M., Matthews, L. M. & Ringle, C. M. (2016). Identifying and treating unobserved heterogeneity with FIMIX-PLS: part I-method. European Business Review. 28(1), 63-76.

Han, J., Trienekens, J. H. & Omta, S. O. (2011). Relationship and quality management in the Chinese pork supply chain. International Journal of Production Economics, 134(2), 312-321.

Haupt, T. C. & Whiteman, D. E. (2004). Inhibiting factors of implementing total quality management on construction sites. The TQM magazine.16 (3),166-173.

Hong, P., A. Nahm, and W. Doll. (2004). The role of project target clarity in an uncertain environment. International Journal of Operations and Production Management, 24(1), 1269-1291.

Hoonakker, P., Carayon, P. & Loushine, T. (2010). Barriers and benefits of quality management in the construction industry: An empirical study. Total quality management, 21(9), 953-969.

Houjun, L., Y., J. (2013). Towards a frame work of quality management for cooperative higher education. The International Conference on Education Technology and Information System (ICETIS 2013).ISSN: 1951-6851

Howell, G. & Ballard, G. (1998). Shielding Production: An Essential Step in Production Control.Implementing lean construction: understanding and action. 124 (1) 18-24.

Hwang, M. I., Lin, C. T. & Lin, J. W. (2012, March). Organizational factors for successful implementation of information systems: Disentangling the effect of top management support and training. In Proceedings of the Southern Association for Information Systems Conference, Atlanta, GA, USA (pp. 23-24).

Irfan, S. & Kee, D. (2013). Critical success factors of TQM and its impact on increased service quality: A case from service sector of Pakistan. Middle-East Journal of Scientific Research, 15(1), 61-74.

Isa, A. A. (2015). Conflicts in organizations: causes and consequences. Journal of Educational Policy and Entrepreneurial Research (JEPER), 2(11), 54-59.

Ishikawa, K. (1985). What is total quality control? The Japanese way: Prentice Hall,3.

Ittner, C. D., and D. F. Larcker. (1997). Quality, strategy, strategic control systems, and organizational performance. Accounting, Organizations and Society, 22(3), 293-314.

Iyer, A., Saranga, H. & Seshadri, S. (2013). Effect of quality management systems and total quality management on productivity before and after: Empirical evidence from the Indian auto component industry. Production and Operations Management, 22(2), 283-301.

Jayaram, J., Ahire, S. L. & Dreyfus, P. (2010). Contingency relationships of firm size, TQM duration, unionization, and industry context on TQM implementationA focus on total effects. Journal of Operations management, 28(4), 345-356.

Joiner, T. A. (2007). Total quality management and performance. International Journal of Quality & Reliability Management. 24(6), 617-627.

Juran, J. M. (1981). Product quality-A prescription for the West., 70, 8-14.

Juran, J. M., Gryna, F.M. and Bingham, R. (1975). Quality Control Textbook,2.

Kadefors, A. (2004). Trust in project relationshipsinside the black box. International Journal of Project Management, 22(3), 175-182.

Kannan, V. R. & Tan, K. C. (2005). Just in time, total quality management, and supply chain management: understanding their linkages and impact on business performance. Omega, 33(2), 153-162.

Karniouchina, E. V., Carson, S. J., Short, J. C. &Ketchen, D. J. (2013). Extending the rm vs. Industry debate: Does industry life cycle stage matter? Strategic Management Journal, 34(2), 1010-1018.

Kaynak, H. (2003). The relationship between total quality management practices and their effects on firm performance. 21(2), 405-435.

Kaynak, H. (2003). The relationship between total quality management practices and their effects on firm performance. Journal of Operations management, 21(4), 405-435.

Kaynak, H. & Hartley, J. L. (2008). A replication and extension of quality management into the supply chain. Journal of Operations Management, 26(4), 468-489.

Kerzner, H. (2003). Project management: A systems approach to planning. Scheduling, and Controlling, 7.

Ketikidis, P. H., Koh, S. L., Gunasekaran, A., Demirbag, M., Tatoglu, E., Tekinkus, M. & Zaim, S. (2006). An analysis of the relationship between TQM implementation and organizational performance. Journal of manufacturing technology management. 17 (6), 829-847.

Knapp, K. J., Marshall, T. E., Rainer Jr, R. K. & Morrow, D. W. (2006). The top information security issues facing organizations: What can government do to help. Network security, 1(2), 327.

Kosmol, T., Reimann, F. & Kaufmann, L. (2018). Co-alignment of supplier quality management practices and cognitive maps-A neo-configurational perspective. Journal of purchasing and supply management, 24(1), 1-20.

Kuen, C. W., Zailani, S., Fernando, Y. (2009). Critical factors influencing the project success amongst manufacturing companies in Malaysia., 3(1), 16-27.

kumar Sharma, S., Gupta, S. V. & Singh, R. (2014). Implementation of TQM for improving organizational effectiveness. International Journal of Application or Innovation in Engineering & Management (IJAIEM), 3(9).

Lagrosen, S. & Lagrosen, Y. (2012). Trust and quality management: Perspectives from marketing and organisational learning. Total Quality Management & Business Excellence, 23(1), 13-26.

Lau, A. W., Tang, S. & Li, Y. (2015). The level of TQM application by construction contractors in Hong Kong. International Journal of Quality & Reliability Management. 32(8),830-862.

Lazaros, A., Sofia, A. & George, I. (2017). Malcolm baldrige national quality award (MBNQA) dimensions in greek tertiary education system. KnE Social Sciences, 436-455.

Leguina, A. (2015). A primer on partial least squares structural equation modeling (PLS-SEM): Taylor & Francis, 1.

Leufkens, A. S. & Noorderhaven, N. G. (2011). Learning to collaborate in multi-organizational projects. International Journal of Project Management, 29(4), 432-441.

Levering, R., Ligthart, R., Noorderhaven, N. & Oerlemans, L. (2013). Continuity and change in interorganizational project practices: The Dutch shipbuilding industry, 1950-2010. International Journal of Project Management, 31(5), 735-747.

Li, C. (2000). Human Resource Management-12 Lessons. Taipei: Bookzone, 2.

Linderman, K., Schroeder, R. G., Zaheer, S., Liedtke, C. & Choo, A. S. (2004). Integrating quality management practices with knowledge creation processes. Journal of Operations management, 22(6), 589-607.

Lobo, S. R., Samaranayake, P. & Subramanian, N. (2019). The impact of TQM and information communication technology (ICT) as an enabler in the quality management assessment framework (QMAF) on business outcomes. International Journal of Systems Science: Operations & Logistics, 6(1), 69-85.

Love, P. E., Irani, Z. & Edwards, D. J. (2004). A seamless supply chain management model for construction. Supply chain management: an international journal.9(1),43-56.

Lu, P., Cai, X., Wei, Z., Song, Y. & Wu, J. (2019). Quality management practices and inter-organizational project performance: Moderating effect of governance mechanisms. International Journal of Project Management, 37(6), 855-869.

Lumineau, F. & Qulin, B. V. (2012). An empirical investigation of interorganizational opportunism and contracting mechanisms. Strategic Organization, 10(1), 55-84.

M. M. F. Fuentes, F. J. L. M., and L. M. Fern'andez. (2006). Total quality management, strategic orientation and organizational performance: the case of Spanish companies. Total Quality Management and Business Excellence, 17(1), 303-323.

M. Terziovski, D. P., and A. S. Sohal. (2003). The longitudinal effects of the ISO 9000 certification process on business performance. European Journal of Operational Research, 146(2), 580-595.

Macinati, M. S. (2008). The relationship between quality management systems and organizational performance in the Italian National Health Service. Health policy, 85(2), 228-241.

Madu, C. N., Aheto, J., Kuei, C. H. & Winokur, D. (1996). Adoption of strategic total quality management philosophies multicriteria decision, analysis model. International Journal of Quality & Reliability Management. 13(3),57-72.

Malik, S. A., Nasim, K. & Iqbal, M. Z. (2013). TQM practices in electric fan manufacturing industry of Pakistan. International Journal of Productivity and Quality Management, 12(4), 361-378.

Maqsoom, A., Charoenngam, C. & Awais, M. (2013). Internationalization process of Pakistani contractors: An exploratory study ICCREM 2013: Construction and Operation in the Context of Sustainability (pp. 59-72).

Masters, B. & Frazier, G. V. (2007). Project quality activities and goal setting in project performance assessment. Quality Management Journal, 14(3), 25-35.

McAdam, R., Miller, K. & McSorley, C. (2019). Towards a contingency theory perspective of quality management in enabling strategic alignment. International Journal of Production Economics, 207(1), 195-209.

Meirovich, G., Galante, I. & Kanat-Maymon, Y. (2006). Attitudes towards TQM and the communication process between managers and subordinates. Journal of Applied Management and Entrepreneurship, 11(1), 74.

Memon, N. A., Khatri, K. L. & Memon, A. B. (2013). TQM in construction and manufacturing companies of Pakistan: a case study. Mehran University Research Journal of Engineering & Technology, 32(2), 261-268.

Minchin, R. E., and G. Smith. (2005). Quality-based contractor rating model for qualification and bidding purposes. Journal of Management in Engineering 21(1), 38-43.

Mohrman, S. A., Tenkasi, R. V., Lawler, E. E. & Ledford, G. E. (1995). Total quality management: practice and outcomes in the largest US firms. Employee relations. 17(3),26-41.

Montgomery, C. A., and B. Wernerfelt. (1991). Sources of superior performance: Market share versus industry effects in the U.S.brewing industry. Management Science, 37(1), 954-959.

Morita, M., Sakikabara, S., Matsui, Y. & Sato, O. (2001). Japanese manufacturing organization: are they still competitive. High Performance Manufacturing: Global Perspectives. John Wiley & Sons, New York, 2(1) , 9-12.

Muhammad, L., Mahadi, B. & Hussin, N. (2017). Influence of social capital on customer's relationship satisfaction in the Pakistani banking industry. Asia Pacific Journal of Marketing and Logistics, 29(5),1036-1054.

Nair. (2006). Meta-analysis of the relationship between quality management practices and firm performance-implications for quality management theory development. Journal of Operations Management, 24(1), 948-975.

Nidumolu, S. (1995). The effect of coordination and uncertainty on software project performance: residual performance risk as an intervening variable. Information systems research, 6(3), 191-219.

Ning, Y. (2017). Combining formal controls and trust to improve dwelling fit-out project performance: A configurational analysis. International Journal of Project Management, 35(7), 1238-1252.

OShaughnessy, S. L. A. a. K. C. (1998). The role of top management commitment in quality management: an empirical analysis of the auto parts industry. International Journal of Quality Science, 3(3), 5-37.

Obeidat, A. M., Abualoush, S. H., Irtaimeh, H. J., Khaddam, A. A. & Bataineh, K. A. (2018). The role of organisational culture in enhancing the human capital applied study on the social security corporation. International Journal of Learning and Intellectual Capital, 15(1), 258-276.

Panuwatwanich, K. & Nguyen, T. T. (2017). Influence of organisational culture on total quality management implementation and firm performance: evidence from the Vietnamese construction industry. Management and Production Engineering Review, 8(1), 5-15.

Pfau, L. D. (1989). Total quality management gives companies a way to enhance position in global marketplace. Industrial Engineering, 21(4), 17-18.

Pinto, J. K. & Slevin, D. P. (1988). 20. Critical Success Factors in Effective Project implementation*. Project management handbook, 479, 167-190.

Pinto, J. K., Slevin, D. P. & English, B. (2009). Trust in projects: An empirical assessment of owner/contractor relationships. International Journal of Project Management, 27(6), 638-648.

Powell, T. C. (1995). Total quality management as competitive advantage: a review and empirical study. Strategic management journal, 16(1), 15-37.

Powell, T. C. (1995). Total quality management as competitive advantage: A review and empirical study. Strategic Management Journal 16(3), 12-27.

Prajogo, D. I. & Cooper, B. K. (2010). The effect of people-related TQM practices on job satisfaction: a hierarchical model. Production Planning and Control, 21(1), 26-35.

Q10006., A. I. A. (1997). Quality management Guideline to quality in project management. Milwaukee:. ASQ Quality Press, 2.

Rahman, S. u. (2001). A comparative study of TQM practice and organisational performance of SMEs with and without ISO 9000 certification. International Journal of Quality & Reliability Management. 18(1), 35-49.

Reed, A. H. & Knight, L. V. (2010). Effect of a virtual project team environment on communication-related project risk. International Journal of Project Management, 28(5), 422-427.

Reed, R., D. J. Lemak, and J. C. Montgomery. (1996). Beyond process: TQM content and firm performance. Academy of Management Review 21(3), 173-202.

Riggs, D. E. (2014). Strategic quality management in libraries. Englewood, CO. A Sourcebook, Libraries Unlimited,2.

Rogers, E. M. & Kincaid, D. L. (1981). Communication networks: Toward a new paradigm for research: Free Pr, 3.

Rungtusanatham, M., Forza, C., Filippini, R. & Anderson, J. C. (1998). A replication study of a theory of quality management underlying the Deming management method: insights from an Italian context. Journal of Operations management, 17(1), 77-95.

Sadikoglu, E. & Olcay, H. (2014). The effects of total quality management practices on performance and the reasons of and the barriers to TQM practices in Turkey. Advances in Decision Sciences. vol. 2014, Article ID 537605, 17 pages,

Saeed, R., Mussawar, S., Lodhi, R. N., Iqbal, A., Nayab, H. H. & Yaseen, S. (2013). Factors affecting the performance of employees at work place in the banking sector of pakistan. Middle-East Journal of Scientific Research, 17(9), 1200-1208.

Saeed, R., Mussawar, S., Lodhi, R. N., Iqbal, A., Nayab, H. H. & Yaseen, S. . (2013). Factors affecting the performance of employees at work place in the banking sector of Pakistan. Middle-East Journal of Scientific Research., 17(2), 1200-1208.

Saffar, N. & Obeidat, A. (2020). The effect of total quality management practices on employee performance: The moderating role of knowledge sharing. Management Science Letters, 10(1), 77-90.

Salami, C. & Ufoma Akpobire, O. (2013). Application of total quality management to the Nigerian education system. Global Advanced Research Journal of Educational Research and Review, 2(5), 105-110.

Samson, D. & Terziovski, M. (1999). The relationship between total quality management practices and operational performance. Journal of Operations management, 17(4), 393-409.

Samsudin, N. S., Ayop, S. M., Sahab, S. & Ismail, Z. (2012, September). Problems and issues on the implementation of Quality Management System in construction projects. In 2012 IEEE Symposium on Business, Engineering and Industrial Applications (pp. 684-689). IEEE.

Saraph, J. V., Benson, PG. & Schroeder, R.G. (1989). An instrument for measuring the critical factors of quality management. 20(2), 810-829.

Sarhadi, M. (2016). Comparing communication style within project teams of three project-oriented organizations in Iran. Procedia-Social and Behavioral Sciences, 226(1), 226-235.

Sarker, S., Lee, A.S. (2003). Using a case study to test the role of three key social enablers in ERP implementation.

Savolainen, T. (2000). Leadership strategies for gaining business excellence through total quality management: A Finnish case study. Total Quality Management & Business Excellence, 11(1), 211-226.

Schroeder, R. G. & Flynn, B. B. (2002). High performance manufacturing: Global perspectives: John Wiley & Sons, 3.

Scott, S. (1997). Social identification effects in product and process development teams. Journal Engineering Technology Management, 14(1), 97-127.

Scott, S. a. B., R. (1994). Determinants of innovative behaviour: a path model of individual innovation in the workplace. Academy of Management Journal, 37(1), 580-607.

Sheehan, C., De Cieri, H., Cooper, B. & Brooks, R. (2014). Exploring the power dimensions of the human resource function. Human Resource Management Journal,24(1), 193-210.

Shenhar, A. J., Dvir, D., Levy, O. & Maltz, A. C. (2001). Project success: a multidimensional strategic concept. Long range planning, 34(6), 699-725.

Sila, I. (2007). Examining the effects of contextual factors on TQM and performance through the lens of organizational theories: An empirical study. Journal of Operations management, 25(1), 83-109.

Singh, P. J. (2008). Empirical assessment of ISO 9000 related management practices and performance relationships. International Journal of Production Economics, 113(1), 40-59.

Sitkin, S. B., and K. M. Sutcliffe. (1994). Distinguishing control from learning in total quality management: A contingency perspective. Academy of Management Review 19(537-564).

Sousa, R., and C. Voss. (2002). Quality management re-visited: A reflective review and agenda for future research. Journal Operations Management 20(1), 91-109.

Sousa, R. & Voss, C. A. (2008). Contingency research in operations management practices. Journal of Operations management, 26(6), 697-713.

Stukhart, G. (1989). Construction materials quality management. Journal of performance of Constructed Facilities, 3(2), 100-112.

Sullivan, K. T. (2011). Quality management programs in the construction industry: Best value compared with other methodologies. Journal of Management in Engineering, 27(4), 210-219.

Sun, H. & Zhao, Y. (2010). The empirical relationship between quality management and the speed of new product development. Total Quality Management, 21(4), 351-361.

Sureshchandar, G., Rajendran, C. & Anantharaman, R. (2001). A holistic model for total quality service. International journal of service industry management,2(1), 15-19.

Takeuchi, H. (1981). Productivity: learning from the Japanese. California Management Review, 23(4), 5-19.

Talib, F. & Rahman, Z. (2010). Critical success factors of TQM in service organizations: a proposed model. Services Marketing Quarterly, 31(3), 363-380.

Tang, W., Qiang, M., Duffield, C. F., Young, D. M. & Lu, Y. (2009). Enhancing total quality management by partnering in construction. Journal of Professional Issues in Engineering Education and Practice, 135(4), 129-141.

Tansel, A. & Gazioglu, S. (2013). Management-Employee Relations, Firm Size and Job Satisfaction. SSRN Electronic Journal. 35 (8),1260-1275.

Tatikonda, M., Rosenthal, S. (2000). Successful execution of product development projects: balancing firmness and flexibility in the innovation process. Journl of operation management, 18(1), 401-425.

Terziovski, D. S. a. M. (1999). Relationship between total quality management practices and operational performance. Journal Of Operations Management., 17(2), 393-409.

Thiagarajan, T. & Zairi, M. (1998). An empirical analysis of critical factors of TQM. Benchmarking for Quality Management & Technology. 5(4),291-303.

Thomas, S., S. H. Lee, J. Spencer, R. Tucker, and R. Chapman. (2004). Impacts of design/information technology on project outcomes. Journal of Construction Engineering and Management 130(1), 586-597.

Titi, K. M. (2010). Knowledge Management: Challenges, Techniques,3.

Tsutsui, W. M. (1996). W. Edwards Deming and the origins of quality control in Japan. Journal of Japanese Studies, 22(2), 295-325.

Ul Hassan, M., Hassan, S., Shaukat, S. & Nawaz, M. S. (2013). Relationship between TQM elements and organizational performance: An empirical study of manufacturing sector of Pakistan. Pakistan Journal of Commerce and Social Sciences (PJCSS), 7(1), 1-18.

Ullah, F., Thaheem, M. J., Siddiqui, S. Q. & Khurshid, M. B. (2017). Influence of Six Sigma on project success in construction industry of Pakistan. The TQM Journal. 29(2),276-309

Van Vugt, M. (2009). Averting the tragedy of the commons: Using social psychological science to protect the environment. Current Directions in Psychological Science, 18(3), 169-173.

W. MacKelprang, J. J., and K. Xu. (2012). The influence of types of training on service system performance in mass service and service shop operations. International Journal ofProduction Economics, 138(1), 183-194.

Wang, J. Y. J. a. Y. H. (2006). Relationship between totals quality management (TQM) and continuous improvement of international project management (CIIPM). 26(1), 716-722.

Weber, K., Martin, M. M. & Cayanus, J. L. (2005). Student interest: A two-study re-examination of the concept. Communication Quarterly, 53(1), 71-86.

Wideman, R. M. (1990). Total project management of complex projects improving performance with modern techniques. Presentation to the Construction Industry in the cities of Bangalore, Bombay, Calcutta, Madras and New Delhi on behalf of the Consultancy Development Centre New Delhi, India, 23-40.

Wiersma, W. & Jurs, S. (2005). Research methods in education.(Eight Edition): Boston: Allyn and Bacon, 3.

Wilkinson, A. (1998). Empowerment: theory and practice. Personnel review 27(1),40-56.

Wong, K. K.-K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. Marketing Bulletin, 24(1), 1-32.

Xiao, H. & Proverbs, D. (2002). The performance of contractors in Japan, the UK and the USA. International Journal of Quality & Reliability Management.19(6), 672-687.

Yan, T. & Nair, A. (2015). Structuring Supplier Involvement in New Product Development: A China-U.S. Study. Decision Sciences, 47(1), 589-627.

Yeung, C. & Chan, L. (1999). Towards TQM for foreign manufacturing firms operating in mainland China. International Journal of Quality & Reliability Management. 16(8),756-771.

Young, R. & Poon, S. (2013). Top management supportalmost always necessary and sometimes sufficient for success: Findings from a fuzzy set analysis. International journal of project management, 31(7), 943-957.

Yu, G., Park, M. & Hong, K. (2017). A strategy perspective on total quality management. Total Quality Management & Business Excellence, 31(1), 68-81.

Yu, M.-C. (2017). Customer participation and project performance: A moderated-mediation examination. Project Management Journal, 48(4), 8-21.

Yusof, H. S. M., Said, N. S. M. & Ali, S. R. O. (2016). A study of organizational culture and employee motivation in private sector company. J Appl Environ, 6(2), 50-54.

Zairi, M. (1994). Leadership in TQM implementation. The TQM Magazine 6(6), 9-16.

Zaman, U., Jabbar, Z., Nawaz, S. & Abbas, M. (2019). Understanding the soft side of software projects: An empirical study on the interactive effects of social skills and political skills on complexity-performance relationship. International Journal of Project Management, 37(3), 444-460.

Zehir, E. S. a. C. (2010). Investigating the effects of innovation and employee performance on the relationship between total quality management practices and firm performance:an empirical study of Turkish firms. International journal of production economics., 127(1), 13-26.

Zeng, J., Anh, P. C. & Matsui, Y. (2013). Shopfloor communication and process management for quality performance. Management Research Review. 36(5),454-477.

Zhang, D., Linderman, K. & Schroeder, R. G. (2012). The moderating role of contextual factors on quality management practices. Journal of Operations management, 30(1-2), 12-23.

Zhou, J. a. G., J.M. (2001). When job dissatisfaction leads to creativity: encouraging the expression of voice. Academy of Management Journal, 44(2), 683-696.

Zikmund, W. G., McLeod, R. & Gilbert, F. W. (2003). Customer relationship management: Integrating marketing strategy and information technology: Wiley,2.

Zu, X. (2009). Infrastructure and core quality management practices: how do they affect quality? International Journal of Quality & Reliability Management. 26(2),129-149

Zu, X., Fredendall, L. D. & Douglas, T. J. (2008). The evolving theory of quality management: the role of Six Sigma. Journal of Operations management, 26(5), 630-650.

Zu, X., Robbins, T. L. & Fredendall, L. D. (2010). Mapping the critical links between organizational culture and TQM/Six Sigma practices. International Journal of Production Economics, 123(1), 86-106.

Zwikael, O., and S. Globerson. (2004). Evaluating the quality of project planning: A model and field results. International Journal of Production Research, 42(1), 1545-1556.

Appendix A

CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

Department of Management Sciences

Questionnaire

Dear Participant,

I am students of MS Project Management at Capital University Science and Technology Islamabad. I am conducting a research on "**Impact of People-related Quality Management Practices on Project Performance, with Moderating Role of Communication**". You can help me by completing the attached questionnaire; you will find it quite interesting. I appreciate your participation in my study and I assure that your responses will be held confidential and will only be used for education purposes.

Thanks a lot for your help and support!

Sincerely,

Atia tul Wahab

MS (PM) Research Student

Capital University of Science and Technology,

Islamabad

***Note: How much do you disagree or agree with each of the following statements about your most recently completed project? The following likert scales will be used to answer these questions i.e.**

1	2	3	4	5
Strongly Disagree	**Disagree**	**Natural**	**Agree**	**Strongly Agree**

1	2	3	4	5	6	7
Strongly Dis-agree	**Disagree**	**Disagree somewhat**	**Natural**	**Agree somewhat**	**Agree**	**Strongly Agree**

Section 1: Personal Information

This part is related to you. So you just tick the relevant box.

Gender	**1**	Male	**2**	Female							
Age Group	**1**	18-25	**2**	26-33	**3**	33-41	**4**	42-49	**5**	50 & above	
Qualification	**1**	Matric/ Inter-mediate	**2**	Bachelor	**3**	Master	**4**	MS/MPhil	**5**	PHD	**6** Post Ph.D
Experience.	**1**	0-5	**2**	10-Jun	**3**	16-Nov	**4**	17-22	**5**	22-28	**6** 28 & above
Designation											

Section-2 People-related QM Practices

Please encircle the appropriate column to indicate whether you agree or disagree with each of the following statements:

	People-related QM Practices	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Top management support	Top management actively participates in quality improvement activities	1	2	3	4	5
	Top management encourages participants to take part in quality improvement activities	1	2	3	4	5
	Top management takes active responsibility for quality.	1	2	3	4	5
	Top management makes strategies and goals for quality.	1	2	3	4	5
	Top management discusses quality issues during meetings.	1	2	3	4	5
Participant Involvement	Participants actively participate in quality improvement activities.	1	2	3	4	5
	Participants have problem-solving skills.	1	2	3	4	5
	Participants have teamwork abilities	1	2	3	4	5
	Participants understand the norms and standards of quality.	1	2	3	4	5
Customer focus	This project can realize the demand of the customer.	1	2	3	4	5
	This project always considers improving customer satisfaction	1	2	3	4	5
	This project always keeps close contact with the customers.	1	2	3	4	5
Quality training	This project provides quality training for participants.	1	2	3	4	5
	This project provides quality training for management.	1	2	3	4	5
	This project provides quality training for suppliers.	1	2	3	4	5

Section-3: Project Performance

Please encircle the appropriate column to indicate whether you agree or disagree with each of the following statements:

Project performance	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
In firm where I work Projects are completed on time.	1	2	3	4	5
In firm where I work Projects meet budget requirements.	1	2	3	4	5
In firm where I work Projects meet expectations	1	2	3	4	5
In firm where I work Project team members are satisfied to work together.	1	2	3	4	5
In firm where I work Benefits of projects to the organization are high.	1	2	3	4	5
In firm where I work Projects result in sales growth	1	2	3	4	5
In firm where I work Projects help the organization to increase market share.	1	2	3	4	5
In firm where I work Projects help the organization improve its competitive position.	1	2	3	4	5

Section-4: Communication

Please encircle the appropriate column to indicate whether you agree or disagree with each of the following statements:

Communication	Strongly Disagree	Disagree	disagree somewhat	Neutral	agree somewhat	Agree	Strongly Agree
There is open communication in this team.	1	2	3	4	5	6	7
Everyone has a chance to express their opinion.	1	2	3	4	5	6	7
Team members maintain a high level of idea exchange.	1	2	3	4	5	6	7