

**CAPITAL UNIVERSITY OF SCIENCE AND
TECHNOLOGY, ISLAMABAD**



**Impact of Emotional Intelligence on
Project Performance by Considering
Mediating Role of Task Interdependence
and Moderating Role of Risk
Management**

by

Muhammad Usman Aslam

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

in the

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I dedicated this research work to my dearest and lovely parents who always stand with me in all difficult and struggling time, they always encourages me to achieve my goals. To my wife, who always encourages and motivates me to in all the bad and devastating times of my life. And to my two beautiful and intelligent kids M. Ibrahim and Fatima-Tu-Zahra who always supports me morally while conducting this research study. Encouragement and supportive behavior of lovely family made me able to conduct and complete this dissertation. Im extremely grateful for my family members anticipation towards research work accomplishment.



CERTIFICATE OF APPROVAL

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Abstract

Aim of the study is to examine the impact of a manager emotional intelligence on achieving the project performance. In addition to this it explores the mediating effect of task interdependence between the emotional intelligence and project performance and also examines the moderating effect of risk management in between the task interdependence and project performance. Current study is descriptive and deductive in nature which describes the relationship of the research variables. Population of the current study was the team managers of software companies. Usable data of 205 respondents was collected by online survey approach from IT based firms in Islamabad and Rawalpindi region. Results of current research study shows that Emotional Intelligence and Task Interdependence has positive significant impact on project performance, while task interdependence has positive significant effect of mediation in between emotional intelligence and project performance which shows that task interdependence mediates the relationship in between the emotional intelligence and project performance, whereas the moderating effect of risk management is negative which implies that there is no risk management moderation effect exist in between the task interdependence and project performance. Finding of this study has importance to theory and practice.

Keywords: Emotional Intelligence, Task Interdependence, Risk Management, Project Performance.

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Abbreviations

AET	Affective Event Theory
EI	Emotional Intelligence
PP	Project Performance
RM	Risk Management
SPSS	Statistical Package for Social Science
TI	Task Interdependence

Chapter 1

Introduction

1.1 Background

Emotional intelligence is an ability to oversee and monitor one another feelings, thoughts, emotions, and distinguish them and by using this information guide the actions and thinking of someone (Salovey, & Mayer, 1990). Effective project management is not only based on technical and hard skills but the capabilities of emotions and feelings of a person as well (Fisher, 2011). Project manager's emotional intelligence produces high quality and effective relationship among the stakeholders of both types the internal and external stakeholders (Mazur, Pisarski, Chang, & Ashkanasy, 2014). Emotional intelligence is considered as the core component that determines and predicts the success in workplace (Brackett, Rivers, & Salovey, 2011). Emotional intelligence is based on four aspects: the ability to perceive emotions accurately, use emotions to facilitate thoughts, understand emotions and manage emotions (Mayer, Salovey, & Sluyter, 1997). Emotional intelligence increases the collaboration and cohesion among the team members that ultimately enhance the project performance (Troth, Jordan, Lawrence, & Tse, 2012). Project teams experience two types of emotions the positive and negative emotions, the positive emotions enables the team member to perform well in workplace where the ambiguity and uncertainty is high, On the other side the negative

emotions e.g. anger, frustration and aggressiveness leads towards poor project performance (Rezvani, Chang, Wiewiora, Ashkanasy, Jordan, & Zolin, 2016).

Task interdependence is a phenomenon in which the team members believe they need support, material, and information from other team members in order to complete the task (Zhang, Tjosvold, & Hempel, 2007). In task interdependence the performance of an individual is dependent upon the input and support providing by other team members, also the team members support is required with high demand to externalize or internalize the success and failure (Ramamoorthy, Flood, Kulkarni, & Gupta, 2014). Task interdependence is considered as multidimensional concept with three dimensions: scope, resources and criticality whereas the scope is interconnectedness with one task to another task, resource is interdependence between two or more job with giving or receiving the required resources to finish the job, and criticality is interdependence between the primary job and one or more other jobs are required for the success of primary job (Kiggundu, 1983). In task interdependence the employees depends upon other team members to perform their respective jobs in efficient manners to complete the task (Van der Vegt, & Janssen, 2003). In task interdependence an individual's performance is not within his/her control because of the work dependency on other team members (Bamberger, & Levi, 2009). When task interdependence becomes higher, then effectiveness of team members also increases which ultimately helps in achieving the targeted objectives (Taggar, & Haines, 2006). Higher task interdependence among team members gives massive opportunity to individual of team either to increase or decrease the work performance of other team members (Stanne, Johnson, & Johnson, 1999). Task interdependence has positive impact on the performance of team members including the team member satisfaction, job satisfaction, and work performance which ultimately increases project performance (Van der Vegt, Emans, & Van De Vliert, 2001).

Project risks are the uncertainties and undesirable events that can be faced and countered during the project life span and ultimately leads to turbulence condition of any project. Risk is known as an uncertain situation which contains either positive or negative effects towards project outcomes (PMI, 2008). Risk associated

with a project is termed as project risk, and it is used to find out the uncertainty in project that ultimately affects the project timelines (Zhang, 2007). Financial crisis of year 2008 upsets the entire world, as a result Risk is being considered as the major concern for professionals dealing with projects (Rabechini, & Carvalho, 2013). Project Risk is an event if arises, it will affects the project timelines and objectives (Zwikael, & Smyrk, 2012). Most carefully planned project can also run into uncertainties even the simplest activity can results into unexpected problems, no matter how efficiently a plan is made, a project can always encounter unexpected problems (Parker, & Mobey, 2004). Risk management is done to identify and prevent the uncertainties that ultimately results in disasters situation, whereas continuous iteration is employed that ensures the availability of required facilities and resources, but still projects end up with budget overruns, and compromised specifications (Loch, Meyer, & Pich, 2011). Failure to managing and mitigating the risk leads towards poor performance and results in failure of project in terms of crossing the defined project cost and budget, schedule slippage, and achieving the targeted objectives (Carbone, & Tippet, 2004). Risks that are not identified and assessed timely could leads to conflicts at later stage which are known as critical conflicting factors (Acharya, & Dai Lee, 2006). Conflicts and disputes affect the performance of everyone which results in delays in work and as a results schedule slippage, cost and budget overrun problem arises that leads towards project failure.

A project have finite lifespan and is unique in nature which is made to accomplish the certain and defined objectives (Turner, 2006). Project performance is a degree which determines the targeted goals and objectives of a project are achieved under the specified budget, defined schedule and meeting the defined quality standards which as a whole leads towards making a project successful (Liu, & Wang, 2016). A project is considered as successful only if it is completed under the defined budget, within allocated time and cost, completed under the defined scope, and meets the defined quality standards (PMI, 2008). Enhancing the project performance and achieving success is among the top priorities of project managers and project stakeholders (Muller, & Jugdev, 2012). Key project management tasks for project

managers is to find the best plan for a project, coordinating actions in an effective and efficient way, and using limited resources to increase work performance and make a project successful (Brokman, Parez, & Galbaerd, 2018). The success of any project consists of two parts. First is project management success which deals with project inputs and outputs whereas second is product success which deals with project goals and objectives (Baccarini, 1999). Customer satisfaction, skills and expertise of employees, and stakeholder's satisfaction are considered as critical factors and measures to determine and enhance project performance (Wallace, Keil, & Rai, 2004). Efficiency in operations, amount of work accomplishment, quality of produced work, and effectiveness in completing goals are the measures which determines the project performance (Henderson, & Lee, 1992). Employee's competencies and skills influence the work progress which increases the project performance (Ley, & Albert, 2003). Project performance and success is highly dependent upon the skills and competencies of project managers (Mazur, Pisarski, Chang, & Ashkanasy, 2014).

1.2 Gap Analysis

Emotional intelligence among team members enhances the ability to achieve the challenging and complex task, and increase the project performance and outcomes (Khosravi, Rezvani, & Ashkanasy, 2020). Emotional intelligence is considered as critical factor for the purpose of increasing the work progress in large and complex projects, and for increasing the project performance (Rezvani, Khosravi & Ashkanasy, 2018). Emotional intelligence enables individuals to communicate and collaborate with other team members for the purpose of resolving the challenging tasks, interdependency on each other and increase the project performance (Zhang & Fan, 2013). Khosravi, Rezvani & Ashkanasy, (2020) research paper gives directions for future research studies to determine impact of emotional intelligence on project performance can use "Task Interdependence" as mediator and "Risk Management" as moderator in respective studies. There's no such research was available for this study, limited and contradicting research has been conducted on

related study topic (Rezvani, Chang, Wiewiora, Ashkanasy, Jordan & Zolin, 2016; Rezvani, Khosravi & Ashkanasy, 2018), Also limited literature was available for studying the impact of emotional intelligence on project performance with other potential variables but no such study is found that determines the impact of emotional intelligence on project performance by considering the mediating role of task interdependence and moderating role of risk management.

Emotional intelligence is considered as crucial factor for developing the positive supporting work environment, productive communication and effective work performance among team members (Troth, Jordan, Lawrence, & Tse, 2012). Positive emotions enhance the abilities and capabilities of an individual to have positive effect and increase the work progress of employees to enhance the project performance (Mayer, Salovey, & Caruso, 2008). Team task interdependence reflects the team dependence on their respective managers, whereas the highly interdependent task requires leader's interaction, cooperation, and information sharing to get the desired output effectively (Vidyarthi, Anand, & Liden, 2014). Higher task interdependence brings complex and challenging task that requires higher attention towards coordination among team members (Saavedra, Earley, & Van Dyne, 1993). Task interdependency makes employees' dependent on each other and this dependency brings several risks that are associated with defined task in project environment and these risks ultimately affect the project performance. Because of poor risk management the risks become difficult to identify and manage (Zhang, 2007). It has been demonstrated that failure to deal with risk is one main cause for exceeding budget, falling behind schedules and missing on targeted objectives (Carbone, & Tippet, 2004). Effective risk management is a crucial determinant for project success because of increased attention to the variations in quality, time, cost and performance. Therefore, there is a strong need for assessing and controlling risk throughout all the phases of a project (Datta, & Mukerjee, 2001). In contrary because of ineffective risk planning and management all risk have not been identified and assessed properly and at the time when risk arises then no one will take the risk ownership (Zwikael, & Smyrk, 2012), which results in conflict

among the team members and eventually because of these conflicts project performance, timelines and schedule will get disturbed and the project will become a complete disaster and failure (Zwikael, Pathak, Singh, Ahmed, 2014). Because of task interdependency potential risks might not get identified in planning phase, as these un-identified risks have no management and mitigation plan so these risks have severe and devastating impact on project timelines, outcomes and project performance. Because these risks causes in conflicts among the managers so the work performance, productivity, and efficiency of project managers could also get affected which leads the project to failure, so there's a strong need of effective task dependency and complexity identification, and effective risk planning and management to increase the performance and overcome the chances of failure.

To cope up with this problem effective utilization of emotional intelligence is needed where the timely and meaningful corrective actions and decisions need to be made for task dependency identification to plan the entire project and project risk management where the identification and mitigation process for risks gets performed, that ultimately results in increasing and enhancing project performance without facing the uncertainties, As a result the desired objective gets achieved in timely and effective manners.

1.3 Problem Statement

Projects are unique in nature and have some defined objectives with certain timelines on which defined tasks must be finished (Lynch, 2014). Consequently project teams are bound to finish their task within specified timelines which is quite challenging and also demanding in project management literature. Management of any project is purely based on the information required and the information granted by the client in terms of making an effective product as per the client needs. Providing the accurate information by clients about the project requirement is essential component for the planning of the project activities effectively, to plan, identify, analyze, and design the task and activities, their dependencies, complexities, association among each other and their respective relationships, and also make the

identification, and mitigation plan for the risks related to dependent task of that particular project for the purpose of achieving the project performance. Project performance is highly dependent on several other factors including the effective utilization of positive emotional intelligence towards helping the team members in high task interdependency which brings additional potential risk associated with these tasks, whereas by performing effective risk management to overcome the risk of task dependency also plays a significant role over meeting the targeted objective of projects which increases the performance and brings success. Ultimately the proper utilization of positive emotional intelligence by project managers in identification of task interdependencies and complexity between team members, providing them coordination and effective communication for the purpose of increasing their mutual interaction and motivation level towards goals accomplishment, and enhancing the productivity, It also helps in identification, assessment and mitigation plan of task dependent associated risks which as a whole helps to meet the targeted objectives and results in increasing the project performance.

In the context of Pakistan IT and software industry we have notified a lot of challenges in the execution of the projects. There are many internal and external factors including Cost, time, scope, risk management, task interdependences, project complexity, and several other processes implemented to support project activities to meet the certain objectives. The main reason behind these challenges is only because effective emotional intelligence is missing, and also not made and implemented as per the requirements of that particular project, which eventually causes into different other risks and uncertainties, in between the project team members that leads to delays in work and as a result the project timelines gets disturbed and the objective will not get achieved in timely manners, and due to these consequences project performance will not get achieved. In contrary, with positive emotional intelligence, identification of task dependencies and practicing effective risk management the chances of uncertainties and risk occurrence are limited and if any of arises then using the risk management processes certain risk and uncertainties can be resolved in timely manners which leads to enhance the project performance and achieve success as per the defined plan and timelines.

1.4 Research Questions

This research study is conducted to find out the answers of some important questions, briefly described below.

Research Question 1

What is the relationship between Emotional Intelligence and Project Performance?

Research Question 2

What is the relationship between Emotional Intelligence and Task Interdependence?

Research Question 3

What is the relationship between Task Interdependence and Project Performance?

Research Question 4

What is relationship of Task Interdependence as mediating role in between the Emotional Intelligence and Project Performance?

1.5 Research Objectives

The purpose of current research study is to explore and measure the relations between Emotional Intelligence and Project Performance. Furthermore, the impact of Emotional Intelligence on Project Performance will be observed through Task Interdependence as mediator and Project Risk Management acting as moderator.

Research objective 1

To examine the impact of Emotional Intelligence on Project Performance.

Research objective 2

To examine the impact of Emotional Intelligence on Task Interdependence.

Research objective 3

To examine the impact of Task Interdependence on Project Performance.

Research objective 4

To examine the impact of mediation effect of Task Interdependence between the relationship of Emotional Intelligence and Project Performance.

Research objective 5

To examine the impact of moderating effect of Risk Management between the relationship of Task Interdependence and Project Performance.

1.6 Significance of the Study

Prime focus of current study is to examine the impact of emotional intelligence by addressing the influence of variables on project performance. Project performance is not addressed as before with emotional intelligence, task interdependence and risk management support. Some papers have discussed emotional intelligence as a key variable in project performance and success but no one has discussed the impact of emotional intelligence with mediating role of task interdependence and moderating role of project risk management on project performance (Rezvani, Chang, Wiewiora, Ashkanasy, Jordan & Zolin, 2016; Rezvani, Khosravi & Ashkanasy, 2018). The findings of this research will help to develop emotional intelligence, inter-dependability of tasks among team members and risk management skills to enhance and increase the project performance.

This research will provide benefit at organizational levels in which private sectors are performing better than public sector organizations. If they follow and practice the emotional intelligence, task dependency processes, risk management planning and mitigation processes and meets the requirement by performing well, results would be positive for minimizing the risks and conflicts among the team members and increasing the project performance in efficient manners. By following the mentioned strategies and processes, organizations can complete their projects on time by staying under the defined budget and timelines. The prime purpose of this study is to urge the organizations to use the proper emotional intelligence tools and techniques and give importance to task dependency and risk management processes for increasing work performance and making a project successful.

1.7 Supporting Theories

Several theories worldwide have been presented by different researchers in the domain of emotional intelligence, task interdependence, risk management, and project performance. There are some theories which explain this study e.g. Competence performance theory, Social cognitive theory, Affective event theory. These theories explain effect of emotional intelligence on employees and project performance but out of all the Affective Event Theory presented by Weiss & Cropanzano (1996) is the most appropriate theory for this study. This theory explains all the variables and their associated factors of current study.

1.7.1 Affective Event Theory

Affective event theory presented by Weiss & Cropanzano (1996) illustrates that positive inducing (i.e. uplifts) and negative inducing (i.e. hassels) emotional incidents have significant and physiological impact on employees performance and job satisfaction. Employees react emotionally to things and incidents happen at workplace that ultimately influence the job performance and satisfaction (Weiss & Cropanzano, 1996). Emotional intelligence is combination of skills and competencies which influence on work performance and helps towards achieving the success

(Rezvani, Khosravi & Ashkanasy, 2018). Emotional intelligence is associated to higher job satisfaction of employees who work with or managed by highly emotional intelligent managers and also it is associated with effective goal accomplishment and project performance (Rezvani, Chang, Wiewiora, Ashkanasy, Jordan & Zolin, 2016).

Weiss & Cropanzano (1996) affective event theory consists of six basic elements “Work Environment features, Work Events, Personal Disposition, Emotional Reactions, Behavior and Attitude Job Performance & Satisfaction”, where work environment features is to know that what are the job characteristics, job demands and requirements for emotional employees. Work event is daily uplifts and hassles experienced by employees. Personal Disposition is determining the personality and mood of a person. Emotional Reactions are the positive or negative emotions come from work event which determines the attitude, behavior and willingness towards task accomplishment. Behavior and attitude determines the commitment and willingness towards work and task achievement. Job Performance and satisfaction describes the degree of goal accomplishment (Weiss & Cropanzano, 1996). Affective event theory states the work events causes and leads towards emotional reactions and these reactions determines the attitude and behaviors of employees which illustrates the willingness towards task accomplishment that ultimately affects the performance, also the emotional reactions significantly influences the job satisfaction and performance (Weiss & Cropanzano, 1996). In contrary, dissatisfied employees with negative attitude and behavior will not achieve task effectively, as a results that respective task and dependent task bring several potential risks in work progress and they will affect the project performance (Zwikael, Pathak, Singh & Ahmed, 2014).

Weiss & Cropanzano (1996) concluded that management must need to practice effective positive utilization of emotional intelligence for increasing the employees performance and enhancing the leadership qualities. All variables considered in the current study are being covered under the scope and scales of these theories. Emotional intelligence, project performance, task dependencies and risk management have been extensively explained using this theory. So, our model is strongly

supported by (Weiss & Cropanzano, 1996) affective event theory which provides the grounds to explain our results. Also it explains how emotional intelligence can positively affect the project performance, enhance coordination and cooperation among team members, valuing other thoughts and emotions, increase productivity and interpersonal relationships, in such a way that the objectives can be achieved effectively that increases the project performance and makes a project successful.

Chapter 2

Literature Review

2.1 Relationship between Emotional Intelligence and Project Performance

Emotional intelligence is an ability to oversee and monitor one another feelings, thoughts, emotions, and distinguish them and by using this information guide the actions and thinking of other team members (Salovey, & Mayer, 1990). In workplace environment employees experience the positive and negative emotions (Lindebaum, & Jordan, 2014). Positive emotions enhance the abilities and capabilities of a person to have positive effect and increase the work performance of employees to achieve success (Mayer, Salovey, & Caruso, 2008). Negative emotions such as anger, frustration, and irritation can reduce the work productivity and enthusiasm which ultimately leads towards poor performance and failure of project (Glinow, Shapiro, & Brett, 2004). Emotional intelligence is based on four components: evaluation of self-emotions, evaluation of others emotions, management of emotions, and utilization of emotions (Wong, & Law, 2002). Project managers with higher emotional intelligence capabilities have tendency to recover quickly from negative emotions and from stress, anger, frustration in difficult situations (Thomas, & Mengel, 2008).

Project managers that are emotionally intelligent experience and express their emotions positively for the purpose of enhancing the productivity and performance of their team members (Peslak, 2005). Project managers emotional intelligence produces high quality and effective relationship among the stakeholders of both types the internal and external stakeholders (Mazur, Pisarski, Chang, & Ashkanasy, 2014). Emotional intelligence is noted as important factor for developing the positive supporting work environment, productive communication among team members and effective work performance teams (Troth, Jordan, Lawrence, & Tse, 2012). Achieving performance and success is prime concern for a project leader, performance in a project means that particular needs of stakeholders are met under the defined timelines, budget, cost and resources (PMI, 2008). At the initial planning stage, it becomes difficult or even impossible to know exactly which measures are need to be taken to complete the project and what is its cost and length parameters (Dvir, Razb, & Shenhar, 2003). Project performance is referred as producing outcomes that are higher than expected in terms of scope, quality, cost, reliability, security, and fulfillment of stakeholders need (Ashley, Lurie, & Jaselskis, 1987). The performance of the project is measured as the ability to complete a project with the defined requirements within the defined budget and in the allocated time period while keeping the stakeholders satisfied (Globerson, & Zwikael, 2002). Project performance increase and enhance the productivity among team members and also the values of an organization (Shenhar, & Dvir, 2007).

Project team members with high emotional intelligence promote emotional environment at workplace which brings coordination and collaboration among members, brings work productivity which increase the project performance (Maqbool, Sudong, Manzoor, & Rashid, 2017). Higher emotional intelligence of team member brings empathy and support among team members which results in increased team functioning and enhance the performance (Jordan, Ashkanasy, Härtel, & Hooper, 2002). Individual with higher emotional intelligence brings positive emotions and reduce the negative emotions at work place which collectively increase the project performance (Ashkanasy, & Dorris, 2017). Emotional intelligence is considered as prerequisites and important influencing factor for enhancing project performance

and achieving success (Müller, & Turner, 2010). Employees react emotionally to things and incidents happen at workplace that ultimately influence the job performance and satisfaction (Weiss & Cropanzano, 1996). Emotional reactions determines the attitude and behaviors of employees which illustrates the willingness towards task accomplishment that ultimately affects the performance, also the emotional reactions significantly influences the job satisfaction and performance (Weiss & Cropanzano, 1996). Emotional intelligence is considered as critical factor for the purpose of increasing the work progress in large and complex projects, and for increasing the project performance (Rezvani, Khosravi, & Ashkanasy, 2018). Emotional intelligence contributes in better communication among team member, and enhances problem solving capabilities that enhance the project performance and helps in making a project successful (Rezvani, Chang, Wiewiora, Ashkanasy, Jordan, & Zolin, 2016). Thus, on the basis of above mentioned literature, first hypothesis is derived.

Hypothesis1. Emotional Intelligence is positively associated with Project Performance.

2.2 Relationship between Emotional Intelligence and Task Interdependence

Emotionally intelligent individuals express positive emotions and maintain effective and favorable interpersonal relationship among the team member which enhance the task dependency, work performance and productivity (Stephens, & Carmeli, 2016). Emotional intelligence enables individuals to communicate and collaborate with other team members for the purpose of resolving the challenging tasks, interdependency on each other and increase the project performance (Zhang, & Fan, 2013). Individuals with high level of emotional intelligence are more concerned about completing the challenging task and influence the positive impact on other team members that ultimately leads towards effective management of challenging task in complex projects (Rezvani, Khosravi, & Ashkanasy, 2018).

Emotional intelligence has strong impact on the work related outcomes like productivity, creativity, work performance, innovation, and profitability (Vratskikh, Al-Lozi, & Maqableh, 2016).

Emotional intelligence is considered as core component for measuring and evaluation of work performance outcomes (Wong, & Law, 2002). Emotional intelligence is regarded as core competence and capability of project managers that helps in getting the desired objective in large size and complex projects (Müller, & Turner, 2010). In complex projects emotionally intelligent project managers use their capabilities which results in high performance and productivity, whereas the low emotional intelligence in complex and large size projects leads towards poor work performance, stress, and project failure (Clarke, 2010). Team task interdependence reflects the team dependence on their respective managers, whereas the highly interdependent task requires leaders interaction, cooperation, and information sharing to get the desired output effectively (Vidyarthi, Anand, & Liden, 2014). Task interdependence has positive impact on project performance and progress which ultimately leads towards making project successful (Stewart, & Barrick, 2000). Under low task interdependence employees has less dependency on leader, as a result less emotional intelligence of leader have less influence on team members towards achieving project performance (Vidyarthi et al., 2014). Higher task interdependence among team members insure the greater effect of manager emotional competence on team members because of greater need of balancing work load, effective communication and coordination is required to get the work done from employees (Barrick, Stewart, Neubert, & Mount, 1998). Higher task interdependence brings complex and challenging task that requires higher attention towards coordination among team members (Saavedra, Earley, & Van Dyne, 1993). Because of manager emotional intelligence their maximum time is spent on coordination and cooperation, and helping employees to enhance their ability to interact with other member so that employees performance can be increased and targeted objectives can be achieved (Rezvani, Khosravi, & Ashkanasy, 2018). Employees react emotionally to things and incidents happen at workplace

which determines the attitude and behaviors of employees towards task accomplishment and ultimately leads towards job satisfaction and performance (Weiss & Cropanzano, 1996). Emotional intelligence contributes in better communication among team member, enhances problem solving capabilities, and increasing the work performance of team members (Rezvani, et al., 2016). Emotional intelligence among team members enhances the ability to achieve the challenging and complex task, and increase the project performance and outcomes (Khosravi, Rezvani, & Ashkanasy, 2020). Hence on the basis of above mentioned literature second hypothesis is derived.

Hypothesis 2. Emotional Intelligence is positively associated with Task Interdependence.

2.3 Relationship between Task Interdependence and Project Performance

Task interdependence is an important attribute with significant motivating potential to increase the project performance and achieve the desired goals (Kiggundu, 1983). When task interdependence becomes higher then effectiveness of team members also increases which increase the work performance and ultimately helps in achieving the targeted objectives (Taggar, & Haines, 2006). Task interdependence is concept in which individuals are dependent and receive the instructions and directions from others e.g. the team leader and peers in order to complete the task effectively. As project managers has more power and access on resources so task dependence of team members and subordinate becomes dependent on project leader (Erdogan, & Liden, 2002). Team members task interdependence is positively associated with defined task and team satisfaction because of high goal interdependence of work team (Van der Vegt et al., 2001). Task interdependence determines the extent to which one team member feels that other team members rely upon him/her to accomplish their respective tasks, it increases the sense of responsibility and motivation that increase the productivity and performance (Doerr, Freed, Mitchell, Schriesheim, & Zhou, 2004).

Task interdependence is considered as most critical and influencing factor for increasing project performance and achieving project success (Saavedra, Earley, & Van Dyne, 1993). Task interdependence has positive impact on team work productivity, and employees progress which results in increasing the project performance and helps in achieving targeted objectives effectively (Stewart, & Barrick, 2000). Team members with high task interdependence work closely with managers to get the required resources, and obtain material support in order to achieve targeted objectives (Wageman, 1995). In high task interdependence leaders need to assist, coordinate, and cooperate with employees for the purpose of increasing productivity among team members, and enhancing the project performance which results in success of project (Vidyarthi, Anand, & Liden, 2014).

In organizations tasks are complex and interdependent where team members need to understand each other capabilities, skills and expertise to become able to accomplish tasks which results in increasing the project performance (Zhang, Zhi-Xue, Tjosvold, & Hempel, 2007). Employees attitude and behaviors determine the willingness and commitment for task and job accomplishment which leads towards increasing the job satisfaction and performance of team members (Weiss & Cropanzano, 1996). Teams with higher task interdependence require strong interaction between the manager and employees, whereas managers assign tasks to team members so that greater need of manager assistance is required in coordination and interaction among team members to increase the work performance (Liden, Erdogan, Wayne, & Sparrowe, 2006). Studies suggested that task interdependence has positive impact on team productivity and progress which ultimately leads towards enhancing the project performance and helps in achieving project success (Stewart, & Barrick, 2000; Liden, Wayne, & Bradway, 1997). Hence on the basis of above mentioned literature third hypothesis is derived.

Hypothesis 3. Task Interdependence is positively associated with Project Performance.

2.4 Mediating Role of Task Interdependence

Emotional intelligence helps team members in achieving the individuals and collective task effectively. In task interdependence the performance and, success and failure of an individual is dependent upon the input and support providing by other team members, also the team members support is required with high demand for increasing performance and achieving success (Ramamoorthy, Flood, Kulkarni, & Gupta, 2014). High level of task interdependences require considerable cooperation among team members to achieve the defined task and activities while low level task interdependence requires less cooperative effort to achieve the task (Bachrach, Powell, Collins, & Richey, 2006). When task interdependence becomes higher, then effectiveness of team members also increases which enhance project performance and ultimately leads towards achieving the targeted objectives (Taggar, & Haines, 2006).

Task interdependence increases the cooperation and interaction among team members which eliminate the members feeling of isolation and increase the motivation and productivity for the purpose of enhancing the project performance (Rico, Alcover, Snchez-Manzanares, & Gil, 2009). Higher task interdependence brings complex and challenging task that requires higher emotional intelligence towards coordination among team members and increasing the project performance (Saavedra, Earley, & Van Dyne, 1993). High level of task interdependence among team members brings higher level of motivation and performance results (Langfred, 2007). Emotional intelligence is plays significant role for developing the positive supporting work environment, productive communication and effective work performance between teams which enhance the task interdependence capabilities among team member (Troth, Jordan, Lawrence, & Tse, 2012). When task interdependence is higher among team members then effect of emotional intelligence is significantly higher on achieving project performance and outcomes (Law, Wong, Huang, & Li, 2008). When task interdependence is higher than coordination, cooperation and communication among team member becomes essential component for task accomplishment (Wageman, & Baker, 1997).

Task interdependence is considered as critical component to enhance the project performance and increase the probability of making a project successful (Kiggundu, 1983). Task interdependence has positive impact on cooperation and communication among team members for the purpose of task coordination which increase work performance and productivity and helps in achieving success (Gundlach, Zivnuska, & Stoner, 2006). Team member react emotionally to events and incidents happen at workplace that ultimately influence their job performance and productivity towards task accomplishment (Weiss & Cropanzano, 1996). Emotional reactions determines the attitude and behaviors of employees which illustrates the willingness towards task accomplishment that ultimately affects the performance, also the emotional reactions significantly influences team members job satisfaction and performance (Weiss & Cropanzano, 1996). Task interdependence has positive impact on team work performance and progress which ultimately leads towards increasing the overall project performance (Stewart, & Barrick, 2000). Studies suggest positive relationship of task interdependence among management and employees which ultimately increases the employees work performance, and helps in achieving the project success (Liden, et al., 2006; Wageman, 1995).

Hypothesis4. Task Interdependence mediates the positive relationship between Emotional Intelligence and Project Performance.

2.5 Moderating Role of Risk Management

A project risk is defined as a questionable threat or an opportunity for a project to have either negative or positive impact on the goals of a project accordingly (Duncan, 2005). Project risk management consists on the processes of identification, measure, analysis, mitigation plan and monitoring the risks. Risk management is a process of identifying and minimizing the risk effect including planning, monitoring and controlling risk management processes (PMI, 2008). Risk planning process is based on risk identification, performing both qualitative and quantitative analysis, making risk response and mitigation plans whereas the monitoring and control processes have been performed during the project execution phase

(Zwikael, & Sadeh, 2007). Project risk management is a process that runs along with project life cycle from its initiation until the project closing phase (Raz, & Michael, 2001). Once the significant risks and their respective needs get identified then we need to build up an arrangement of risk management capabilities to manage these identified risks. The initial phase of this procedure is to create a risk management plan that sets out the tasks that are necessary in getting the risk under control, in order to successfully complete the project (Boehm, 1991). Risks with higher score values are considered as the significant obstacles that affects the project performance and treated as higher threat towards project success (Zwikael, & Sadeh, 2007).

High level risk results in project delay, cost and budget overrun, unsatisfactory outcome and even leads towards project failure (Raz, Shenhar, & Dvir, 2002). Tech companies need to cope up with uncertainties and risks to survive in fast pace, challenging, and dynamic environment to achieve the targeted objective efficiently (Laslo, & Goldberg, 2007). As projects increase in multidimensional nature and scale, it is necessary to give appropriate consideration to risk management, to run the projects smoothly and achieve the targeted objective in efficient manners. Project risk management is a continuous process of identifying, analyzing, organizing and eliminating risks that increase the project performance and helps in achieving success. Risk management can be useful for tracking project opportunities and maximizing the performance of the project. In Projects, risk management can assist the project managers in identifying and mitigating both the “known and unknown”, and “unknown and unknown” risks of all kinds (Carbone, & Tippett, 2004). Early identification and mitigation of risks could lead towards effective project performance, whereas the earlier identified risk are lesser in impact and cost as compared to the risk that are identified at later stages. The more lately identified risk has higher impact and damage on project performance as compare to the risk that is identified earlier (PMI, 2008).

In Projects, identified and planned task need to be performed, and if there is an unusual state arises in execution concerning the outcomes then that uncertain state affects the project performance which leads to project failure (De Wit, 1988).

It is important to have a clear plan to prepare for performing risk management by identifying, analyzing, monitoring and mitigating the identified risks by risk management team to increase the project performance and achieve the project success (Carbone, & Tippett, 2004). Project managers are need to reduce the risks occurrence probability, follow and implement the planning and control risk strategies to enhance the project performance (Zwikael, & Sadeh, 2007). Risk monitoring is need to perform throughout the execution phase of project for the purpose of having a clear and concise sight on identified risk, identify new risks, execution of already identified risks plan, and monitoring of residual risks (PMI Standard Committee, 2004).

Successful project completion depends to a great extent on the effective risk management by performing early identification of risks, their assessment and mitigation plans (Datta, & Mukerjee, 2001). Task interdependence increases the complexity, uncertainty and ambiguity in project task and activities which causes risks occurrence, as a result manager's plays a significant role in liaison between task dependence teams to overcome the risk effect (Boyacigiller, 1990). Lack of coordination, cooperation, effective communication and interaction brings uncertainties among highly interdependent teams which results in risks and their devastating effects brings poor work performance and leads towards failure (Lorsch, & Allen, 1973). Task complexity and uncertainty plays significant role in risks of project which affect the project timelines and performance, as task complexity increases the dependency among team members also increase which results in risk that can affect the project performance (Galbraith, 1973).

Task interdependence considered as important element that determines project complexity, as project complexity increases more issues could arises in prioritization of risk and making strategies for their management thus, if task interdependence and project complexity is correctly identified then manger will effectively identify, analyze and mitigate these risk which ultimately helps in increasing the performance and achieving the project success (Kwan, & Leung, 2011). Insufficient attention paid to determine task interdependency and risk associated with task results in low productivity, poor performance, and increase in implementation

cost of risk management which leads towards failure (Zhang, 2016). It is important to value the task interdependence and determine the task dependency and complexity in projects and also to identify the potential risk and their mitigation plan associated with these tasks to enhance the project performance (Teller & Kock, 2013). Neglecting to perform task interdependency and complexity check, and effective risk management seems likely to increase in poor performance and also leads towards project failure. So, early identification of task interdependency, identification and mitigation of risk by performing effective risk management could lead to increase the project performance. Thus, in the literature, it is assumed that risk management moderates between the task interdependence and project performance. So on the basis of above mentioned literature fifth hypothesis is derived.

Hypothesis5. Risk Management moderates the positive relationship and strengthen the relationship between Task Interdependence and Project Performance.

2.6 Theoretical Framework

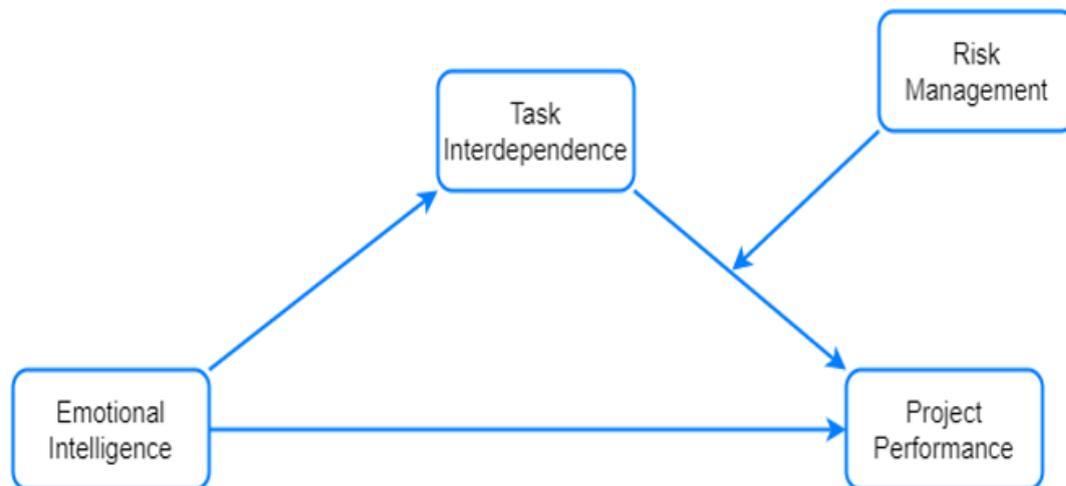


FIGURE 2.1: Theoretical Framework

2.7 Research Hypothesis

Hypothesis1. Emotional Intelligence is positively associated with Project Performance.

Hypothesis2. Emotional Intelligence is positively associated with Task Interdependence.

Hypothesis3. Task Interdependence is positively associated with Project Performance.

Hypothesis4. Task Interdependence mediates the positive relationship between Emotional Intelligence and Project Performance.

Hypothesis5. Risk Management moderates the positive relationship and strengthen the relationship between Task Interdependence and Project Performance.

Chapter 3

Research Methodology

3.1 Research Approach

Research method includes procedure or strategies that will be used for coordination of research. The current study follows the positivism philosophy where the focus is view and analyzes the factual knowledge that is gained through observations. This research study is descriptive and deductive in nature, and this method is selected because such method is used for describing the relationship, effect and influence among the variables. Furthermore, survey procedure will be used to collect data that involves the utilization of questionnaire comprising of demographics such as age, gender, qualification and experience to get the valuable information of the respondents in terms of their abilities, knowledge and expertise.

3.1.1 Time Horizon

This is a cross sectional study which examine the impact of Emotional Intelligence on Project Performance, by examining the mediating role of Task Interdependence between Emotional Intelligence and Project Performance, moderating role of Risk Management between Task Interdependence and Project Performance.

The data was collected approximately in one month for this study. Questionnaire were distributed from Mid of July 2020 till End of August 2020, by using the

Online “Google Form” where the response of respondents get stored automatically in Excel sheet.

3.2 Population and Sampling Technique

3.2.1 Unit of Analysis

In research studies, the unit of analysis considered as the most important factor for a research. The unit of analysis can vary from a single person to a wider unit e.g. individuals, groups, and organizations. Our study is observing the impact of emotional intelligence on project performance with the mediating effect of task interdependence and the moderating relationship of risk management, as our research suggests that these are all human related factors and the managers are responsible for the performance and success of a project also their emotional intelligence have a strong influence on employees work progress and commitment towards task accomplishment so the unit of analysis for our study was the “Team Managers” in software industry and all the variables gets answered and responded by them and response of all of study variables emotional intelligence, task interdependence, risk management and project performance gets received from team managers on individual level.

3.2.2 Population

Population is a mixture of individuals and groups to be investigated by the scientist (Dewan, 2011). The current study population is project teams managers of Information Technology Companies and Software Houses in Islamabad, and Rawalpindi region working on different projects as per their domains expertise and registered with Pakistan Software Export Board.

3.2.3 Sample Size

The sample for this study consists of team managers of software information technology projects and the sample size for this study is “205” respondents. Data were collected by virtually distributing the questionnaire to software houses because of current situation of “COVID 19”. Online questionnaires were shared and distributed with the concerned person using the social media platforms for the purpose of data collection.

3.2.4 Sampling Approach

The data was collected by using convenient sampling approach. The respondents of this research study were assured regarding that whatever the information they will provide will not get disclosed with anyone and will be kept highly confidential. Also they would be pledged to get their full participation to provide authentic and accurate data related to the topic of study that all the gathered information is solely for academic purpose and for the purpose of getting insight about how emotional intelligence, task interdependence and risk management effects project performance.

3.3 Data Collection Technique

3.3.1 Data Collection

In current study data collection is performed by using 5 point likert scale questionnaires, close ended questionnaires have been used to collect the responses of respondents in order to answer the research questions and achieve the research objectives. In this study data for all four variables Emotional Intelligence, Task Interdependence, Risk Management, and Project Performance was collected from Individual Team Managers of software houses and companies who manage their respective subordinates and are responsible for the job accomplishment and project completion in effective manners. A total of “223” responses have been collected

and from these collected responses 18 have been discarded, 11 of them are invalid responses because of filled by the employees and remaining 7 responses are discarded because of non-serious attitude of respondents as all the answers of the questions are given as one same option, so total of “205” responses have been considered as legit and were finally used for performing analysis.

3.4 Data Analysis Technique

3.4.1 Data Analysis

To run the tests and perform analysis on data collected through questionnaires “IBM SPSS Statistics 26” software is used. Gathered data is analyzed for examining the correlation and regression, whereas the correlation is performed to examine and analyze how independent variable is associated with dependent variable and regression analysis is used to determine how much change in independent variable causes the change in dependent variable. Below mentioned are the following test which have been performed,

- Descriptive Analysis
- Reliability Analysis
- Correlation Analysis
- Regression Analysis
- Mediation Analysis
- Moderation Analysis

3.5 Research Instrument

In current study “5 point Likert” scale is used for all four variables i.e. Emotional Intelligence, Task Interdependence, Risk Management, Project Performance. Close

ended questionnaires are used to perform the analysis on four variables referred as 5 Point Likert scale from "Strongly Disagree to Strongly Agree". i.e. (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree).

3.5.1 Emotional Intelligence

In current study Emotional Intelligence is considered as Independent variable, Emotional Intelligence variable scale is "16" items scale used and developed by (Wong, & Law, 2002) to analyzed emotional intelligence using a 5 point likert scale "1" Strongly Disagree to "5" Strongly Agree.

3.5.2 Task Interdependence

In current study Task Interdependence is considered as Mediator variable, "5" items scale is used for the variable Task Interdependence used and developed by (Zhang, Zhi-Xue, Tjosvold, & Hempel, 2007) to measure task interdependence using a 5 point likert scale "1" Strongly Disagree to "5" Strongly Agree.

3.5.3 Risk Management

In current study Risk Management is considered as Moderator variable in between the Task Interdependence and Project Performance variables. "9" items scale is used for the variable Risk Management used and developed by (Oehmen, Olechowski, Kenley & Ben-Daya, 2014) to measure risk management using a 5 point likert scale "1" Strongly Disagree to "5" Strongly Agree.

3.5.4 Project Performance

In current study Project Performance is considered as Dependent variable, "5" items scale is used for the variable Project Performance used and developed by (Wallace, Keil, & Rai, 2004; Jiang, Klein, & Discenza, 2001) to measure project performance using a 5 point likert scale "1" Strongly Disagree to "5" Strongly Agree.

TABLE 3.1: Instrumentation

Variable	Nature	Measure	Sources	Items
Emotional Intelligence	Independent	5 Point Likert Scale	(Wong, & Law, 2002)	"16"
Task Interdependence	Mediator	5 Point Likert Scale	(Zhang, Zhi-Xue, Tjosvold, & Hempel, 2007)	"5"
Risk Management	Moderator	5 Point Likert Scale	(Oehmen, Olechowski, Kenley & Ben-Daya, 2014)	"9"
Project Performance	Dependent	5 Point Likert Scale	(Wallace, Keil, & Rai, 2004; Jiang, Klein, & Discenza, 2001)	"5"

Chapter 4

Analysis and Results

4.1 Frequency Distribution

4.1.1 Gender

TABLE 4.1: Gender Distribution

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Female	36	17.6	17.6	17.6
Male	169	82.4	82.4	100
Total	205	100	100	

Table 4.1 represents the gender composition of current study. In this study total “205” respondents participated, there were 169 (82.4%) are male respondents and 36(17.6%) are female respondents out of total sample size of “205” respondents.

4.1.2 Age

Table 4.2 represents the age distribution of current study sample. In this study total valid respondents were (n=205), where 16 (7.8%) were from age group of “18-25” years, 138 (67.3%) respondents are from age group of “26-33” years, and remaining 51 (24.9%) respondents were from age group of “34-41” years age, whereas (0%) respondents are from age group of 42+ years, out of total sample size of “205”

TABLE 4.2: Age Distribution

Age	Frequency	Percent	Valid Percent	Cumulative Percent
18-25	16	7.8	7.8	7.8
26-33	138	67.3	67.3	75.1
34-41	51	24.9	24.9	100.0
42-49	00	0.00	0.00	100.0
50+	00	0.00	0.00	100.0
Total	205	100.0	100.0	

respondents. The higher percentage (67.3%) of current study sample has age of “26-33” years.

4.1.3 Qualification

TABLE 4.3: Qualification Distribution

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
Intermediate	00	0.00	0.00	0.00
Bachelors	136	66.3	66.3	66.3
MS/M.Phil.	69	33.7	33.7	100.0
PhD	00	0.00	0.00	100.0
Total	205	100.0	100.0	

Table 4.3 represents the qualification distribution of current study sample. In this study total valid respondents were (n=205), where 0 (00.0%) respondents are Intermediate qualified, 136 (66.3%) respondents are having Bachelor’s degree, 69 (37.7%) respondents were Masters qualified, whereas (0%) respondents were Intermediate and PhD qualified, out of total sample size of “205” respondents. The higher percentage (66.3%) of current study sample was Bachelors qualified.

4.1.4 Experience

TABLE 4.4: Experience Distribution

Years	Frequency	Percent	Valid Percent	Cumulative Percent
0-5	53	25.9	25.9	25.9
11-15	45	22.0	22.0	47.8
6-10	107	52.2	52.2	100.0
16+	00	0.00	0.00	100.0
Total	205	100.0	100.0	

Table 4.4 represents the experience distribution of current study sample. In this study total valid respondents were (n=205), where 53 (25.9%) respondents are having “0-5” years of industry experience, 107 (52.2%) respondents have “6-10” years of industry experience, 45 (22.0%) respondents have “11-15” years of industry experience, whereas (0%) respondents have “16+” years of industry experience, out of total sample size of “205” respondents. The higher percentage (52.2%) respondents of current study sample have “6-10” years of industry experience.

4.1.5 Department

Table 4.5 represents the department profile of respondents of current study sample. In this study total valid respondents were (n=205), where 58 (28.3%) respondents belongs to “Back-End Design and Development Team”, 36 (17.6%) respondents belongs to “Business Analyst Team”, 50 (24.4%) respondents belongs to “Front-End Design and Development Team”, 61 (29.8%) respondents belongs to “Quality Assurance Analysis and Testing Team”, out of total sample size of “205” respondents. The higher percentage (29.8%) respondents of current study sample to “Quality Assurance Analysis and Testing Team”.

TABLE 4.5: Department Profile

	Frequency	Percent	Valid Percent	Cumulative Percent
Back-End Team	58	28.3	28.3	28.3
Business Analyst	36	17.6	17.6	45.9
Front-End Team	50	24.4	24.4	70.2
QA Team	61	29.8	29.8	100.0
Total	205	100.0	100.0	

4.1.6 Descriptive Statistics

TABLE 4.6: Descriptive Statistics

	Items	N	Minimum	Maximum	Mean	Standard Deviation
Emotional Intelligence	16	205	3.19	4.75	4.046	.272
Task Interdependence	5	205	2.40	5.00	4.125	.445
Risk Management	9	205	2.56	4.44	3.849	.379
Project Performance	5	205	2.40	5.00	4.146	.505

Table 4.6 represents the mean and standard deviation values of all four variables Emotional Intelligence, Task Interdependence, Risk Management, and Project Performance, where mean value of Emotional Intelligence is “4.046” and standard deviation is “.272”, mean value of Task Interdependence is “4.125” and standard deviation value is “.445”, for Risk Management variable the mean value is “3.849” and standard deviation is “3.79”, and the mean value for Project Performance variable is “4.146” and standard deviation is “.505”, whereas “N” represents the total sample size that is “205”, and “Items” represents the number of items for a variable.

4.1.7 Reliability Analysis

TABLE 4.7: Reliability Analysis

Variables	Cronbach's Alpha (α)
Emotional Intelligence	.727
Task Interdependence	.712
Risk Management	.825
Project Performance	.836

To measure the Emotional Intelligence i.e. Independent Variable in current study scale developed and used by (Wong, & Law, 2002) consists on total “16” items which has cronbach’s alpha reliability score of “.727”. To measure the dependent variable Project Performance scale developed and used by (Wallace, Keil, & Rai, 2004; Jiang, Klein, & Discenza, 2001) is used which is based on total “5” items and have cronbach’s alpha reliability of “.836”. To measure the mediating variable Task Interdependence, scale developed and used by (Zhang, Zhi-Xue, Tjosvold, & Hempel, 2007) is used which is based on total “5” items and have cronbach’s alpha reliability of “.712”. Whereas to measure the moderating variable Risk Management, scale developed and used by (Oehmen, Olechowski, Kenley & Ben-Daya, 2014) is used which is based on total “9” items and have cronbach’s alpha reliability score of “.825”.

4.2 Correlation Analysis

To identify the correlation among all four variables (Emotional Intelligence, Task Interdependence, Risk Management, and Project Performance), Pearson Correlation Analysis was performed by using IBM SPSS Statistics 26 tool. Pearson Correlation determines the relationship among variables that either it is strong or weak relationship. Correlation value near to “1” states there’s a strong correlation

among variables and if the value is near to “0” it indicates there’s a weak correlation among variables. Table 4.8 states that correlation between Task Interdependence and Emotional Intelligence is (.393**) that is significant at level “0.01”. Correlation between Risk Management and Emotional Intelligence is (.320**) that is significant at level “0.01” whereas correlation between Risk Management and Task Interdependence is (.553**) that is significant at level “0.01”. Correlation between Project Performance and Emotional Intelligence is (.270**) which is significant at level “0.01”. Correlation between Project Performance and Task Interdependence is (.561**) that is significant at level “0.01”. Whereas the correlation between Project Performance and Risk Management is (.671**) that is significant at level “0.01”.

TABLE 4.8: Correlation Analysis

	EI	TI	RM	PP
EI (16 Items) Pearson Correlation	1			
TI (5 Items) Pearson Correlation	.393**	1		
RM (9 Items) Pearson Correlation	.320**	.553**	1	
PP (5 Items) Pearson Correlation	.270**	.561**	.671**	1

$N = 205$, * $p < .05$; ** $p < .01$; *** $p < .001$

4.3 Regression Analysis

Regression Analysis is performed to determine the association and relationship in between the Independent Variable and Dependent Variable i.e. Emotional Intelligence and Project Performance. Regression Analysis states that how much percentage change in independent variable brings and explains the variation in dependent variable. Simple Linear Regression Analysis is performed for current study sample to determine the association of Emotional Intelligence with Project Performance. For Regression Analysis mean values of items of variables Emotional

Intelligence, and Project Performance were determined first and then by performing linear regression values of Beta coefficient, R-Square and change in R-Squared were identified. Regression analysis results determines the Emotional Intelligence and Project Performance variable is significant at level (.001***).

TABLE 4.9: Regression Analysis

	β	T	R ²	ΔR^2
EI → PP	.270***	8.154	.073	.068
EI & TI → PP	.564***	12.068	.318	.311

$N = 205$, * $p < .05$; ** $p < .01$; *** $p < .001$

Table 4.9 states that Emotional Intelligence variable is used to predict the Project Performance variable, that means 7.3% of the variance in Emotional Intelligence can be explain by Project Performance which illustrates that one unit change in emotional intelligence brings 7.3% variation in project performance. Whereas beta value illustrates that there is a positive significant correlation of (.270***) with P value (<.001) in between the Emotional Intelligence and Project Performance, Whereas Emotional Intelligence and Task Interdependence variables are used to predict the Project Performance variable, that means Emotional Intelligence and Task Interdependence explains 31.8% of the variance of Project Performance which illustrates that one unit change in emotional intelligence and task interdependence brings 31.8% variation in project performance which is considered as strong relationship. Whereas beta value illustrates that there is a positive significant correlation of (.564***) with P value (<.001) in between the Emotional Intelligence and Task Interdependence for Project Performance. Also the unstandardized coefficient Beta values are (a = 2.116 and b = .502) which ultimately used in regression equation formation and the regression equation is ($Y = a + bx$) where “Y” is considered as dependent variable (Project Performance), X is considered as Independent Variable (Emotional Intelligence), value of a is “2.116” and b is “.502”. Regression equation is

$$PP = 2.116 + .502(EI)$$

that means if Emotional Intelligence score is “0” then still we have some minimum score of Project Performance and that score will be “2.116”, and if we improve Emotional Intelligence by “1” point then there must arise an increase of “.502” in Emotional Intelligence. Conclusion of above regression analysis is that we have a positive significant correlation among Emotional Intelligence and Project Performance of (.270***) with P value (<.001) as well as positive significant correlation of (.564***) with P value (<.001) among Emotional Intelligence and Task Interdependence for dependent variable Project Performance, and both unstandardized coefficient Beta values are also significant at “***P <.001” so it provides strong justification that our first hypothesis which states that Emotional Intelligence is positively associated with Project Performance is “Accepted”.

Hypothesis1. Emotional Intelligence is positively associated with Project Performance.

4.4 Mediation Analysis

In current study Mediation Analysis is performed by using (A. F. Hayes, 2012) process macros with the help of using “Model-4” which is used to determine the mediating relationship among the independent variable Emotional Intelligence and dependent variable Project Performance. Mediation analysis is performed to determine the association and linkage of mediator variable with the independent and dependent variable, it’s possible significance and impact, to know that either the mediating variable is mediating in between the predictor and outcome variable or not and if the mediating variable is mediating then what and how much is effect on the dependent variable. In this study Emotional Intelligence is variable X, and Project Performance is variable Y, variable X (EI) is known as a predictor or causal variable and the variable Y (PP) is considered as the outcome variable, whereas the variable M (TI) is considered as the mediating variable. There are two models that can be formed and tested by research model and need to be tested in

mediation analysis and these paths are unmediated model, and mediated model. Figure 4.1 shows the model with no mediation in which there are only two variables the independent variable emotional intelligence and the dependent variable project performance and there is a path “c” in between these two variables that is considered as the direct path in between the independent and dependent variables and this path “c” is considered as total effect.

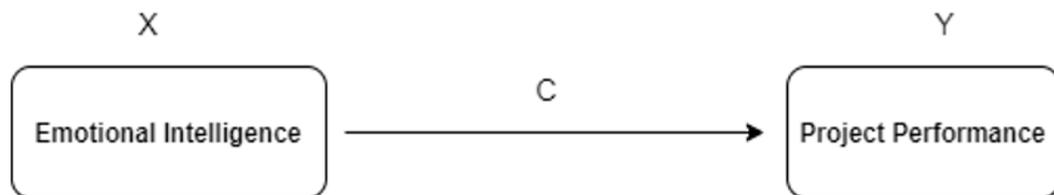


FIGURE 4.1: No-mediation Model

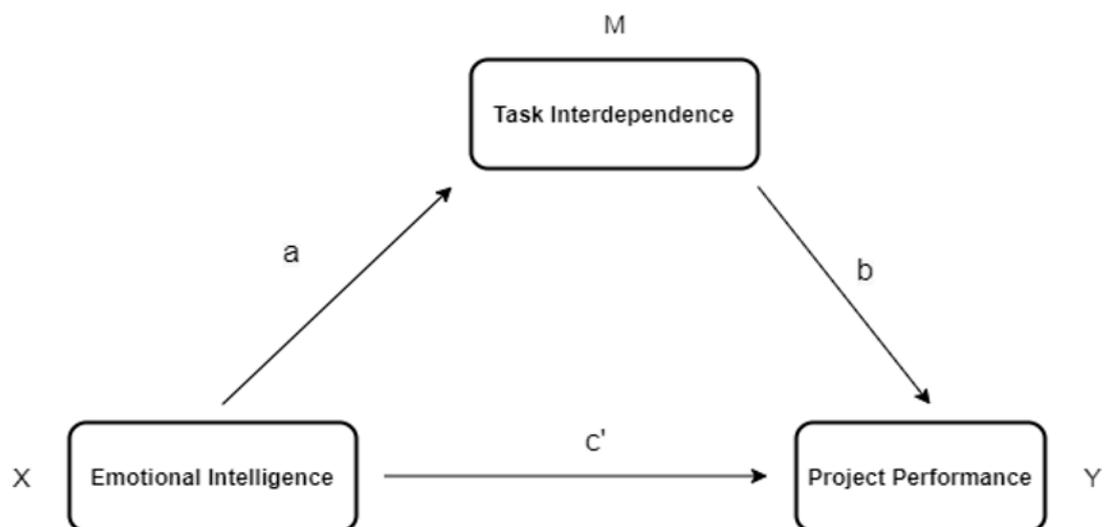


FIGURE 4.2: Mediated Model

Figure 4.2 represents the mediating variable Task Interdependence mediates in between the independent variable Emotional Intelligence and dependent variable Project Performance. There are three different paths exists in this mediated model. Path “a” from Independent variable (EI) to dependent variable (TI), Path “b” from Mediator variable (TI) to dependent variable (PP) and Path “c’” is direct path from Independent variable (EI) to dependent variable (PP) in the presence of mediating variable. As a result there are three path exists in Mediated Model that is Path a, b and c’.

TABLE 4.10: Mediation Analysis

	β	
IV Med (Path a)	.642***	
Med DV (Path b)	.610***	
Direct Effect (Path c')	.109	
Indirect Effect	.392***	
Total Effect (Path c)	.501***	
	LLCI	ULCI
Bootstrap results for indirect effect	.197	.614

Un-standardized regression coefficient reported. Bootstrap sample size was 5000. Confidence Interval = 95%.

N = 205,

* p < .05; ** p < .01; ***p < .001

LLCI = Lower Limit Confidence Interval; ULCI = Upper Limit Confidence Interval

Table 4.10 illustrates the effect and significance of the variables, and defines the mediation path analysis in which the effect between the Emotional Intelligence and Task Interdependence, effect between the Task Interdependence and Project Performance, direct effect, indirect effect, and total effect values and their respective significance have been stated. These effect values have been plotted on their respective paths with their significance values. Figure 4.3 and 4.4 represents that the Path "a" results suggest that there is a positive significant relationship in between the Emotional Intelligence and Task Interdependence and the Emotional Intelligence is positively associated with Task Interdependence ($\beta=.642$, $P<0.001$).

Hypothesis2. Emotional Intelligence is positively associated with Task Interdependence.

Results of Path "a" shows that Emotional Intelligence is positively associated with Task Interdependence ($\beta=.642$, $P<0.001$) so that second hypothesis is "Accepted".

Path “b” results suggest that there is a positive significant relationship in between the Task Interdependence and Project Performance and the Task Interdependence is positively associated with Project Performance ($\beta=.610$, $P<0.001$).

Hypothesis3. Task Interdependence is positively associated with Project Performance.

Results of Path “b” shows that Task Interdependence is positively associated with Project Performance ($\beta=.610$, $P<0.001$) so that third hypothesis is “Accepted”.

Path “c’ ” direct path results suggests that there is positive association between the emotional intelligence & project performance however the relationship is not significant, But the Indirect Path results of mediation suggested that there is “Full Mediation” in between Emotional Intelligence and Project Performance ($\beta=.392$, $P<0.001$), because the direct effect is not significant and the indirect effect is positively associated and significant so that there is “full meditation” in between Emotional Intelligence and Project Performance as the indirect effect results suggest there is positive significant association of Task Interdependence in between the Emotional Intelligence and Project Performance, and Task Interdependence mediates the relationship between the Emotional Intelligence and Project Performance. The indirect effect is ($\beta=.392$, $P<0.001$) and the bootstrap results for indirect effect is also significant which shows the positive significant values for (LLCI = .197 & ULCI = .614) which confirms the existence of mediating variable “Task Interdependence” in between the Emotional Intelligence and Project Performance.

Hypothesis4. Task Interdependence mediates the positive relationship between Emotional Intelligence and Project Performance.

Results of indirect effect of Emotional Intelligence on Project Performance in the presence of mediator Task Interdependence shows that the Task Interdependence mediates the relationship in between the Emotional Intelligence and Project Performance ($\beta=.392$, $P<0.001$) so that fourth hypothesis is “Accepted”.

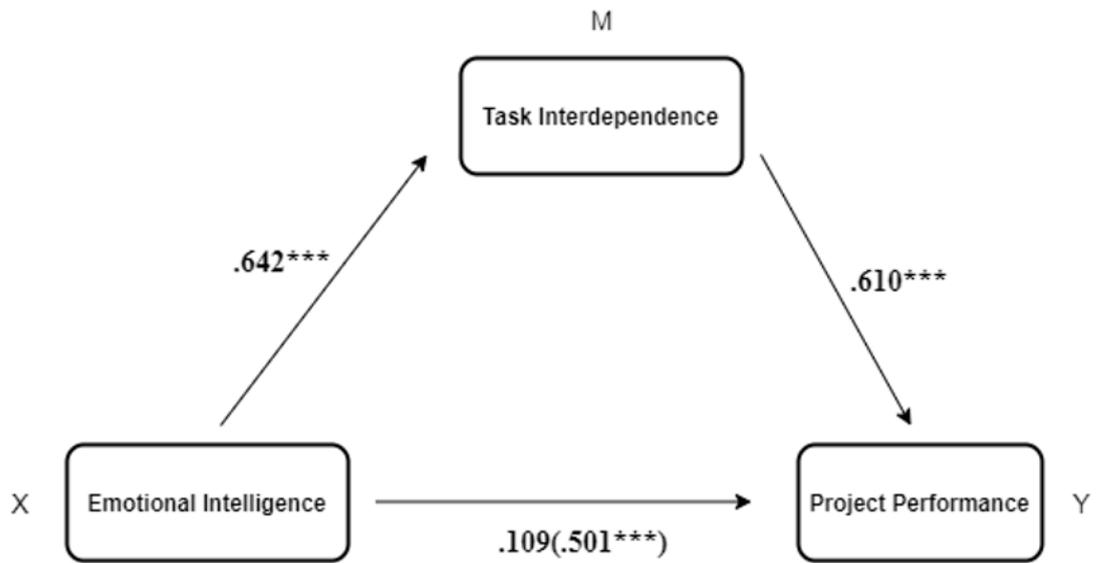


FIGURE 4.3: Coefficient of Mediated Model

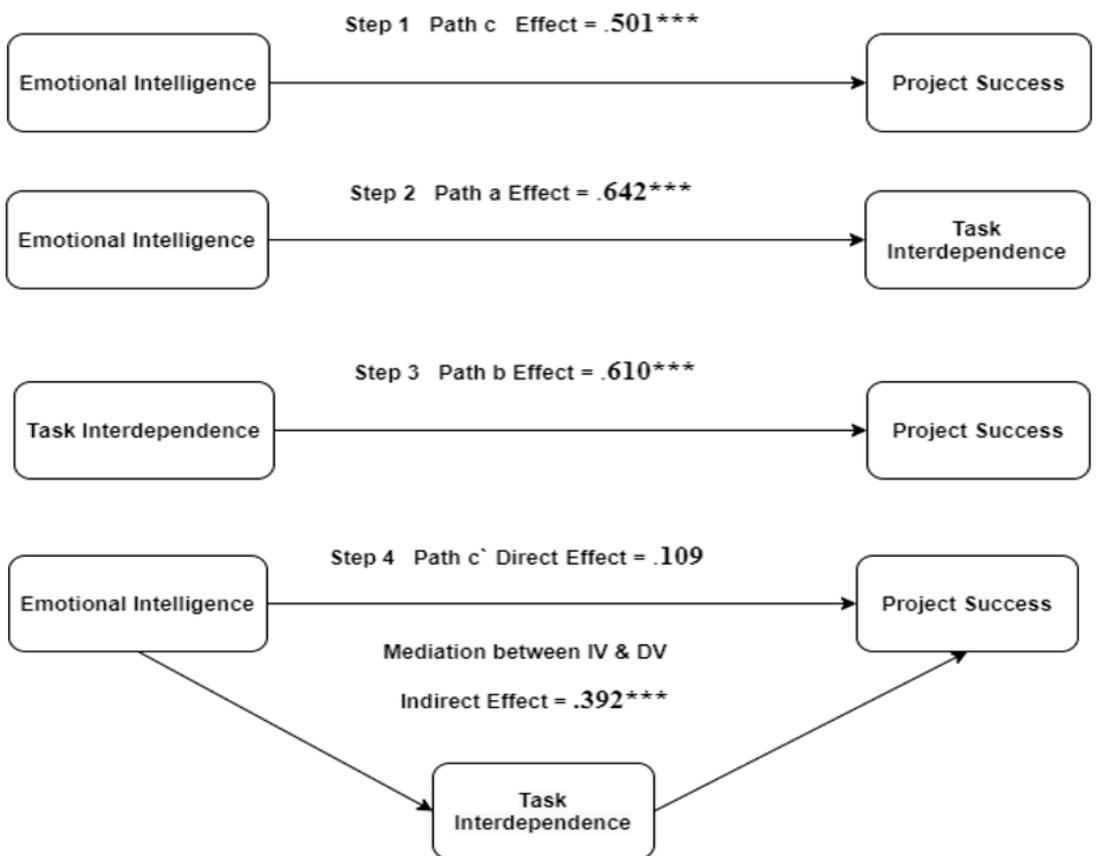


FIGURE 4.4: Mediation Path and Effect Model

4.5 Moderation Analysis

In current study Moderation Analysis is performed by using (A. F. Hayes, 2012) process macros with the help of using “Model-14” which is used to determine the moderating relationship among the mediating variable Task Interdependence and dependent variable Project Performance. Moderation analysis is performed to determine the association and effect of moderating variable on mediating and dependent variable, it’s possible significance and impact, to know that either the moderating variable is have moderating effect in between the mediating and outcome variable or not and if the moderating variable is acting as moderator then what and how much is its effect on the relationship of mediating and dependent variable. Table 4.11 illustrates that the risk management moderator acting as a moderator in between the mediator Task Interdependence and dependent variable Project Performance, as the Interaction Term (TI x RM) is significant with ($\beta=-.428$ & $P<0.001$), with confidence interval of 95% and both the lower and upper limit shows the significance. So it is verified that risk management moderate the relationship in between the task interdependence and project performance variables. Table 4.12 represents the index of moderated mediation that verifies the path “a” and moderated path “b” in the form of “Index effect” collectively which shows that the moderation effect is significant as both of lower and upper limit confidence intervals are with same sign and “0” is not the part of upper and lower limit intervals which verifies that the moderation effect is significant and there is “moderated mediation” in between the Task Interdependence and Project Performance. This significant moderated mediation verifies that the Risk Management moderates the relationship in between the Task Interdependence and Project Performance, But because the interaction term correlation is negative and it weakens the relationship of Task Interdependence and Project Performance, which means that when risk management is moderating in between the task interdependence and project performance it will negatively affects the relationship of interdependence and project performance. So it is concluded that risk management have negative effect on the relationship of task interdependence and project performance, as a result the hypothesis 5 is not supported.

TABLE 4.11: Moderation Analysis

	β	P	LLCI	ULCI
Int_term	-.428	.000	-.664	-.192

Un-standardized regression coefficient reported. Bootstrap sample size was 5000. Confidence Interval = 95%.

N = 205,

* p < .05; ** p < .01; ***p < .001

LLCI = Lower Limit Confidence Interval; ULCI = Upper Limit Confidence Interval

Table 4.12 represents the moderated mediation effect is significant as both of lower and upper limit confidence intervals are with same sign and “0” is not the part of upper and lower limit intervals which verifies that the moderation effect is significant and there is “moderated mediation” in between the Task Interdependence and Project Performance however the negative sign of index shows that more the positive effect of Risk Management then the effect of Task Interdependence on Project Performance will become more negative, and the more negative effect of Risk Management is, then more positive effect of Task Interdependence on Project Performance. Although the moderated mediation result is significant but its results shows that moderated mediation weakens the relationship which states that risk management negatively affects the relationship of task interdependence and project performance. However in the literature it is suggested that the risk management is positively affecting the relationship of task interdependence and project performance so on the basis of results and prior literature it is concluded that, the Risk Management is not positively moderating the relationship in between the Task Interdependence and Project Performance, on the basis of above mentioned conclusion and justifications it is verified that the risk management is not positively moderating the relationship in between the task interdependence and project performance. So that it is verified the hypothesis 5 is “Rejected”.

Hypothesis5. Risk Management moderates the positive relationship and strengthen the relationship between Task Interdependence and Project Performance.

TABLE 4.12: Index of Moderated Mediation

<i>Mediator</i>	<i>Index</i>	<i>SE</i>	<i>BoofLLCI</i>	<i>BoofULCI</i>
TI (Med)	-0.275	.084	-0.469	-0.132

Table 4.13 represents the conditional indirect effect of independent variable Emotional Intelligence on dependent variable Project Performance at the values of moderator which illustrates that for -1 SD the effect of Task Interdependence is statistically significant with ($\beta=.259$, $P<0.001$) which implies that for negative effect of Risk Management the effect of Task Interdependence on Project Performance will be increased. Whereas for +1 SD effect of Task Interdependence is statistically Insignificant with ($\beta=.049$, P value is not Significant) because of opposite signs of lower and upper limit confidence intervals which illustrates that for positive effect of Risk Management the effect of Task Interdependence on Project Performance will be statistically insignificant and with the increase in effect of Risk Management the Task Interdependence and Project Performance effect will get decreased. These results concluded that for negative effect of risk management the effect of task interdependence and project performance will becomes positive significant and for positive effect of risk management the effect of task interdependence and project performance becomes statistically insignificant and negative which provides the strong justification for the rejection of “hypothesis 5”. Because hypothesis 5 states that risk management moderates the positive relationship in between the task interdependence and project performance and literature says its effect will be positive on task interdependence and project performance however the results shows that there is negative effect of risk management on the relationship of task interdependence and project performance, In the context of Pakistan software industry Risk Management is not enhancing the relationship of Task Interdependence and Project Performance as in our country there are no such proper application and practices to perform Risk Management processes and most of the organization didn’t performs the Risk Management practices as compare to developed countries. These results provide strong and valid justification for the rejection of hypothesis 5 and on the basis of these grounds hypothesis 5 is

“rejected”.

TABLE 4.13: Conditional Indirect Effect

<i>Mediator</i>	<i>RiskMgmt</i>	<i>Effect</i>	<i>SE</i>	<i>BootLLCI</i>	<i>BootULCI</i>
TI	-1 SD	.259	.070	.141	.419
TI	M	.154	.060	.060	.304
TI	+1 SD	.049	.066	-.064	.200

4.6 Hypothesis Results

TABLE 4.14: Hypothesis Results

Hypothesis	Statement	Result
Hypothesis1	Emotional Intelligence is positively associated with Project Performance.	“Accepted”
Hypothesis2	Emotional Intelligence is positively associated with Task Interdependence.	“Accepted”
Hypothesis3	Task Interdependence is positively associated with Project Performance.	“Accepted”
Hypothesis4	Task Interdependence mediates the positive relationship between Emotional Intelligence and Project Performance.	“Accepted”
Hypothesis5	Risk Management moderates the positive relationship and strengthen the relationship between Task Interdependence and Project Performance.	“Rejected”

Chapter 5

Discussion and Conclusion

5.1 Discussion

The purpose of conducting current study is to examine the impact of project managers emotional intelligence on achieving the project performance, to examine the mediating effect of task interdependence relationship in between the emotional intelligence and project performance, and also to examine the moderating effect of risk management relationship in between the task interdependence and project performance. The prime focus of this chapter will be on the discussion of analysis that is performed in previous chapter, analysis results will be compared with previous studies for the purpose of explaining the importance of current study, and also the focus will be on explaining the outcomes of current study. The objective of current study was to propose and test the model of team managers emotional intelligence impact on achieving and enhancing the project performance. Data was collected form team managers of software houses and companies in Islamabad and Rawalpindi region. Finding of current study shows that emotional intelligence and task interdependence have positive significant effect towards project performance. Moreover the task interdependence strengthens the relationship in between the emotional intelligence and project performance. Detail discussion for hypothesis is following,

Reliability test showed that the Emotional Intelligence reliability score is “.727” that is above the limit of “.70” and this value shows that the reliability is high. The reliability of Task Interdependence is “.712” which shows that the reliability is high. The cronbachs alpha reliability for Risk Management is “.825” that shows that the reliability is high. Whereas the reliability of Project Performance is “.836” which explains that the cronbachs alpha reliability score is higher from all other variables.

5.1.1 Question 1: What is the relationship between Emotional Intelligence and Project Performance?

To examine and found the answer of question one that “what is the impact of emotional intelligence on project performance” the hypothesis 1 was proposed. Hypothesis 1 states that the emotional intelligence is positively associated with project performance. In order to test the hypothesis we performed simple linear regression test and verified the Pearson correlation value which determines the relationship among variables that either it is strong or weak relationship. Correlation value near to “1” states theres a strong correlation among variables and if the value is near to “0” it indicates theres a weak correlation among variables. Correlation between Emotional Intelligence and Project Performance is (.270**) which is significant at level “.01”. Correlation value determines that we have a positive significant correlation among Emotional Intelligence and Project Performance of (.270***) with P value ($<.001$) and both unstandardized coefficient Beta values are also significant at “***P $<.001$ ”. Emotional Intelligence variable is used to predict the Project Performance variable, whereas the value of R-square is .073 which means 7.3% of the variance in Emotional Intelligence can be explain by Project Performance which illustrates that one unit change in emotional intelligence brings 7.3% variation in project performance. Whereas beta value illustrates that there is a positive significant correlation of (.270***) in between the Emotional Intelligence and Project Performance, and Emotional Intelligence

has positive significant effect on Project Performance. Whereas Emotional Intelligence and Task Interdependence variables are used to predict the Project Performance variable, that means Emotional Intelligence and Task Interdependence explains 31.8% of the variance of Project Performance which illustrates that one unit change in emotional intelligence and task interdependence brings 31.8% variation in project performance which is considered as strong relationship. Whereas beta value illustrates that there is a positive significant correlation of (.564^{***}) with P value (<.001) in between the Emotional Intelligence and Task Interdependence for Project Performance. Results for the hypothesis1 were found out significant and on the basis of this significant result hypothesis 1 was accepted because the results suggest that the emotional intelligence have positive significant effect on project performance which verifies that emotional intelligence is positively associated with project performance.

Emotional intelligence is considered as critical influencing factor for increasing the work progress in large and complex projects, and for increasing the project performance (Rezvani et al., 2018). Emotional intelligence contributes in better communication among team member, and enhances problem solving capabilities that enhance the project performance and helps in making a project successful (Rezvani et al., 2016). In addition the emotional intelligence is a phenomenon of identifying the need and wants of other so if managers get aware of the subordinate needs and if they timely fulfill their needs then the work progress and commitment of subordinates towards job accomplishment gets increased which ultimately helps to achieve the task efficiently and timely and as a result the project performance gets increased. Emotional intelligence is considered as prerequisites and important influencing factor for enhancing project performance and achieving success (Muller, & Turner, 2010). Project team members with high emotional intelligence promote emotional environment at workplace which brings coordination and collaboration among members, brings work productivity which increase the project performance (Maqbool et al., 2017). Consequently when the managers and subordinates becomes emotionally intelligent then they will care about the needs of other peers so they will help out each other's towards job accomplishment and as a

results the task and jobs will get completed timely and effectively because of these timely job completion the project scheduled will not get disturbed and project budget and timelines will not get affected which ultimately leads towards increasing the project performance. Therefore, on the basis of above mentioned arguments which provide strong justifications for the acceptance of hypothesis 1 which states that emotional intelligence is positively associated with project performance and when the effect of emotional intelligence gets increased then the effect of project performance gets also increased. So that hypothesis 1 which states that Emotional Intelligence is positively associated with Project Performance is “Accepted”.

5.1.2 Question 2: What is relationship between Emotional Intelligence and Task Interdependence?

To examine and found the answer of question two which state that, “what is the impact of emotional intelligence on task interdependence”, the hypothesis 2 was proposed. Hypothesis 2 states that the emotional intelligence is positively associated with task interdependence. In order to test the hypothesis 2 we use mediated regression test with the help of “Model-4” of (Andrew F. Hayes) process macros which determines the relationship among independent and mediating variable that is considered as path “a” and its value was get analyzed and identified that either relationship is significant and it is strong or weak relationship. Path “a” is notified as path between Emotional Intelligence and Task Interdependence which have significant ($\beta=.642$, $P<0.001$) these results suggest that there is a positive significant relationship in between the Emotional Intelligence and Task Interdependence and the Emotional Intelligence is positively associated with Task Interdependence because of ($\beta=.642$, $P<0.001$) whereas the correlation between Emotional Intelligence and Task Interdependence is (.393**) that is significant at level “0.01”, these correlation values determines that we have a positive significant correlation among Emotional Intelligence and Task Interdependence which illustrates that increase of emotional intelligence will bring a positive significant increase in task interdependence. Results for the hypothesis2 were found out significant and on the basis of this significant result hypothesis 2 was accepted because the results

suggest that the emotional intelligence have positive significant effect on task interdependence which verifies that emotional intelligence is positively associated with task interdependence.

Emotional intelligence has strong impact on the work related outcomes like productivity, creativity, work performance, innovation, and profitability (Vratskikh, Al-Lozi, & Maqableh, 2016). Higher task interdependence among team members insure the greater effect of manager emotional competence on team members because of greater need of balancing work load, effective communication and coordination is required to fulfill the peers needs and get the work done from subordinates (Barrick et al., 1998). Because of manager emotional intelligence their maximum time is spent on coordination and cooperation, and helping subordinates to enhance their ability to interact with other member so that their performance can be increased and targeted objectives can be achieved (Rezvani et al., 2018). Higher task interdependence brings complex and challenging task that requires higher attention towards coordination among team members (Saavedra, Earley, & Van Dyne, 1993). Emotional intelligence contributes in better communication among team member, enhances problem solving capabilities, and increasing the work performance of team members (Rezvani, et al., 2016). Resultantly when the managers are emotionally intelligent then they will care about the needs of their peers so they will help out subordinates in order to fulfill their needs which helps them towards job accomplishment and as a results the task and jobs will get completed timely and effectively because of emotionally intelligent behavior of managers towards their subordinates a sense of commitment and achievement will rise up in employees which helps them in task accomplishment, because the employees are highly dependent on manager in terms of resources need so it is essential for task accomplishment that managers help out their subordinates and fulfill their needs to help them out in job accomplishment. As these timely job completions helps out that the project scheduled will not get disturbed and project budget and time-lines will not get affected which ultimately leads towards increasing the project performance. Therefore, on the basis of above mentioned arguments which provide strong justifications for the acceptance of hypothesis 2 which states that emotional

intelligence is positively associated with task interdependence and when the effect of emotional intelligence gets increased then the effect of task interdependence gets also increased. So that hypothesis 2 which states that Emotional Intelligence is positively associated with Task Interdependence is “Accepted”.

5.1.3 Question 3: What is the relationship between Task Interdependence and Project Performance?

To examine and found the answer of question three which illustrated that, “what is the impact of task interdependence on project performance”, the hypothesis 3 was proposed. Hypothesis 3 states that the task interdependence is positively associated with project performance. In order to test the hypothesis 3 we use mediated regression test with the help of “Model-4” of (Andrew F. Hayes) process macros which determines the relationship among mediating and dependent variable that is considered as path “b” and its value was get identified and analyzed that either relationship is significant and it is strong or weak relationship. Path “b” is notified as path between Task Interdependence and Project Performance which have significant values ($\beta=.610$, $P<0.001$) Path “b” results suggest that there is a positive significant relationship in between the Task Interdependence and Project Performance and the Task Interdependence is positively associated with Project Performance because of ($\beta=.610$, $P<0.001$), whereas the correlation between Task Interdependence and Project Performance is (.561**) that is significant at level “0.01”, these correlation values determines that we have a positive significant correlation among Task Interdependence and Project Performance which illustrates that increase of task interdependence effect will bring a positive significant increase in project performance. Results for the hypothesis 3 were found out significant and on the basis of this significant result hypothesis 3 was accepted because the results suggest that the task interdependence have positive significant effect on project performance which verifies that task interdependence is positively associated with project performance.

Task interdependence determines the extent to which one team member feels that other team members rely upon him/her to accomplish their respective tasks, it increases the sense of responsibility and motivation that increase the productivity and performance (Doerr et al., 2004). Task interdependence is considered as most critical and influencing factor for increasing project performance and achieving success (Saavedra et al., 1993). Task interdependence has positive impact on team work productivity, and employee's progress which results in increasing the project performance and helps in achieving targeted objectives effectively (Stewart, & Barrick, 2000). Team members with high task interdependence work closely with managers to get the required resources, and obtain material support in order to achieve targeted objectives (Wageman, 1995). In high task interdependence leaders need to assist, coordinate, and cooperate with employees for the purpose of increasing productivity, and enhancing the project performance (Vidyarthi, Anand, & Liden, 2014). Task interdependence has positive impact on team productivity and progress which ultimately leads towards enhancing the project performance and helps in achieving project success (Stewart, & Barrick, 2000; Liden, Wayne, & Bradway, 1997). As a result when the team members have a strong coordination and communication with other members the resultantly their work productivity get increased because the coordination and commitment increases the sense of responsibility and morale values to help the other peers which increase the productivity as a result performance get increased. when team members have strong coordination and cooperation among them then they will care about the needs of other peers so they will help out other members in order to fulfill their needs which helps them towards job accomplishment and as a results the task will get completed in timely manners because of this act sense of commitment and achievement will rise up in employees which helps them in task accomplishment, As these timely job completions helps out that the project scheduled, budget and timelines will not get affected which ultimately leads towards increasing the project performance. Therefore, on the basis of above mentioned arguments which provide strong justifications for the acceptance of hypothesis 3 which states that task interdependence is positively associated with project performance and when the

effect of task interdependence gets increased then the effect of project performance gets also increased. So that hypothesis 3 which states that Task Interdependence is positively associated with Project Performance is “Accepted”.

5.1.4 Question 4: What is the relationship of Task Interdependence as mediating role in between the Emotional Intelligence and Project Performance?

To examine and found the answer of question four which illustrated that, “what is the impact of task interdependence as mediating role in relationship of emotional intelligence and project performance”, the hypothesis 4 was proposed. Hypothesis 4 states that the task interdependence mediates the positive relationship in between the emotional intelligence and project performance. In order to test the hypothesis 4 we use mediated regression test with the help of “Model-4” of (A. F. Hayes, 2012) process macros which determines the relationship among independent, mediating and dependent variable that consist on path “a, b, and c” and their value was get identified and analyzed that either relationship is significant and it is strong or weak relationship. Path “a” is notified as path between Emotional Intelligence and Task Interdependence which have significant ($\beta=.642$, $P<0.001$) these results suggest that there is a positive significant relationship in between the Emotional Intelligence and Task Interdependence and the Emotional Intelligence is positively associated with Task Interdependence. Path “b” is notified as path between Task Interdependence and Project Performance which have significant values ($\beta=.610$, $P<0.001$) Path “b” results suggest that there is a positive significant relationship in between the Task Interdependence and Project Performance and the Task Interdependence is positively associated with Project Performance because of ($\beta=.610$, $P<0.001$), whereas correlation between Emotional Intelligence and Project Performance is (.270**) which is significant at level “0.01”. Correlation value determines that we have a positive significant correlation among Emotional Intelligence and Project Performance of (.270***) whereas the correlation between Task Interdependence and Project Performance is (.561**)

that is significant at level “0.01”, these correlation values determines that we have a positive significant correlation among Emotional Intelligence, Task Interdependence and Project Performance which illustrates that increase of emotional intelligence effect will bring a positive significant increase in project performance, and increase of task interdependence effect will bring a positive significant increase in project performance. Path “c’ ” direct path results suggests that there is positive association between the emotional intelligence & project performance however the relationship is not significant ($\beta=.109$, $P > 0.05$), But the Indirect Path results of mediation suggested that there is “Full Mediation” in between Emotional Intelligence and Project Performance ($\beta=.392$, $P<0.001$), because the direct effect is not significant and the indirect effect is positively associated and significant, As the indirect effect results suggest there is positive significant association of Task Interdependence in between the Emotional Intelligence and Project Performance. So that Task Interdependence mediates the positive relationship in between Emotional Intelligence and Project Performance. Results for the hypothesis 4 were found out significant and on the basis of this significant result hypothesis 4 were accepted because the results suggest that the task interdependence have positive significant effect and illustrates that task interdependence mediates the relationship in between the emotional intelligence and project performance.

Emotional intelligence helps team members in achieving the individuals and collective task effectively. In task interdependence the performance and, success and failure of an individual is dependent upon the input and support providing by manger and other team members, also the team members support is required with high demand for increasing performance and achieving success (Ramamoorthy et al., 2014). Emotional intelligence plays significant role for developing the positive supporting work environment, productive communication and effective work performance between teams which enhance the task interdependence capabilities among team member and leads toward increasing the project performance (Troth et al., 2012). Task interdependence increases the cooperation and interaction among team members which eliminate the members feeling of isolation and increase the motivation and productivity for the purpose of enhancing the project

performance (Rico et al., 2009). When task interdependence becomes higher, then effectiveness of team members also increases which enhance project performance and ultimately leads towards achieving the targeted objectives (Taggar, & Haines, 2006). Higher task interdependence brings complex and challenging task that requires higher emotional intelligence towards coordination among team members and increasing the project performance (Saavedra et al., 1993). As a result when the managers becomes emotionally intelligent then they will care about the needs of subordinates so they will help out their peers towards job accomplishment and as a results the task and jobs will get completed timely and effectively, when team members are emotionally intelligent then they have a strong coordination and communication with other members that resultantly increases their work productivity, commitment, and sense of achievement get increased because the coordination and commitment increases the sense of responsibility and ethics to help the other peers, which increase the productivity and as a result performance get increased. Task interdependence increases team members relies upon the managers and if they are emotionally intelligent then they will care about the needs of their subordinate and eventually they will have strong coordination and cooperation in between them so they will help out their subordinates and fulfill their needs, that ultimately helps them towards task accomplishment and as a results the task will get completed in timely manners. As these timely job completions helps out that the project scheduled, budget and timelines will not get affected and ultimately leads towards increasing the project performance. Therefore, on the basis of above mentioned arguments which provide strong justifications for the acceptance of hypothesis 4 which states that task interdependence mediates the positive relationship in between the emotional intelligence and project performance, and when the effect of emotional intelligence increased it increases the effect of task interdependence which collectively increases the effect of project performance. So that hypothesis 4 which states that Task Interdependence mediates the positive relationship in between the Emotional Intelligence and Project Performance is “Accepted”.

5.2 Theoretical Implications

Findings of current study advance the literature of Emotional Intelligence and Project Performance in many ways. Majority of previous studies related to emotional intelligence and project performance considered several other constructs for research studies like conflict management, trust, and stress in their studies but nobody studied constructs like Task Interdependence and Risk Management in their respective studies. There is no such prior study which is based on this research framework. In this study task interdependence is considered as mediator variable that is mediating the relationship in between the emotional intelligence and project performance, whereas the risk management variable is considered as moderator variable that is moderating in between the relationship of task interdependence and project performance. Task interdependence have been analyzed as mediating variable in between the emotional intelligence and project performance where its results shows that the mediating effect of task interdependence in between the emotional intelligence and project performance are statistically significant which implies that the positive increase of effect in emotional intelligence increase the effect of task interdependence on project performance and task interdependence is also statistically significant for project performance. There is positive association of task interdependence in between the emotional intelligence and project performance. Another theoretical implication is, this model is supported with affect event theory presented by (Weiss and Cropanzano, 1996). Another implication of current study is that the risk management is studied as moderating variable in between the relationship of task interdependence and project performance, literature supports the positive effect of risk management on task interdependence and project performance but study results shows that there is negative association of risk management in between the task interdependence and project performance but it is only applicable for the context of Pakistan software development industry because of least attention have been given in our country towards risk factors that affect the project timelines so that the results for moderating variable would be different for those countries in which organization follows and practices the risk management processes.

5.3 Practical Implications

This study provides several practical implications emotional intelligence over project performance. At initial stage as per the literature Risk Management was considered and defined as a moderator variable which enhance the relationship of task interdependence and project performance but after performing the analysis on data collected through survey it is identified that in the context of Pakistan software industry risk management doesn't have positive significant effect on project performance. These contradicting and conflicting outcomes of literature and analysis result are because in our country it has been notified that risk management is not considered as valuable process to practice and didn't enough value is given to this project management process in our country. In the context of Pakistan software industry Risk Management is not enhancing the relationship of Task Interdependence and Project Performance as in our country there are no such proper application and practices to obey and perform Risk Management processes in software industry and most of the organization didn't practice and performs the Risk Management processes as compare to developed countries. However in other developed countries risk management is considered as critical and influencing factor to increase the performance and achieve success. Another implication that current study provides is the positive emotional intelligent attitude of managers towards their subordinates for the purpose of increasing the commitment, coordination and work productivity, Because of manager emotional intelligence their maximum time is spent on coordination and cooperation, and helping subordinates to enhance their ability to interact with other member so that their performance can be increased and targeted objectives can be achieved (Rezvani et al., 2018). Emotional intelligence plays significant role for developing the positive supporting work environment, productive communication and effective work performance between teams which enhance the task interdependence capabilities among team member and leads toward increasing the project performance (Troth et al., 2012). Task interdependence is considered as most critical and influencing factor for increasing project performance and achieving success. Task interdependence has positive impact on team work productivity, and employee's progress which results

in increasing the project performance and helps in achieving targeted objectives effectively (Stewart, & Barrick, 2000).

5.4 Limitations of the Research

In current study, there are some limitations that have been highlighted and mentioned below.

1. Data to perform analysis was limited to software houses and IT companies in Rawalpindi and Islamabad region only, only one industry is used for data collection process to analyze the study where the data was only collected from the employees of IT sector, because of limitation to one industry and region only, proper analysis of current study is still remaining to perform.
2. Data sample size was limited in number only 205 responses have been collected, limited sample was collected because of shortage of time.
3. Only managers working on different projects were interviewed for this particular research study whereas the employees which are the part of same projects are not included in this research study.
4. In this study only four variables have been studied and used to get the results and analyze the research model.
5. Finally, the research study was limited to Pakistan only, because the data sample was only collected from Rawalpindi and Islamabad region. Further studies must be conducted in other areas of Pakistan and in other countries of the world as well.

5.5 Future Research Direction

For current research study, there are some future research directions that have been highlighted and mentioned below.

1. Future studies should be conducted in different other industries like construction, banking, and textile.
2. Future studies should increase the sample size to cover the large population and get the maximum response to have a clear and concise study results.
3. Emotional Intelligence, Task Interdependence, Risk Management, and Project Performance variables have been studied with their positive relations but still there are some processes that need to be studied because moderating impact have been rejected in current study.
4. For future study Impact of Emotional Intelligence on Project Performance with mediating role of "Risk Management" and moderating role of "Conflict Management" should be studied because both of these variables are considered as influencing factors to achieve success.
5. For future study Impact of Emotional Intelligence on Project Performance with mediating role of "Employee Job Satisfaction" should be studied because job satisfaction brings loyalty and willingness for task accomplishment which enhances performance. .
6. For future study Impact of Emotional Intelligence on Project Performance with mediating role of "Job Commitment" should be studied because ideally when job commitment gets increased then performance will also get increased.
7. For future study Impact of Emotional Intelligence on "Employees Performance" should be studied with different variation of other variables.
8. For future study Impact of Emotional Intelligence on Project Performance with mediating role of "Task Complexity" should be studied because task complexity brings potential risks and conflicts that leads towards poor performance.

9. Future studies should need to follow the longitudinal approach instead of cross sectional for the purpose of broadly analyze the research study framework and get the affective and concise results.
10. Future study should use more variables with multiple mediating and moderating variable approach.

5.6 Recommendations

In current research study focus was towards Information technology and software development sector. After conducting this study it has been notified that risk management is not considered as valuable process to practice and didn't enough value is given to this project management process in our country. In the context of Pakistan software industry Risk Management is not enhancing the relationship of Task Interdependence and Project Performance as in our country there are no such proper application and practices to obey and perform Risk Management processes in software industry and most of the organization didn't practice and performs the Risk Management processes as compare to developed countries. A prime concern is that in Pakistan software industry a large number of organization didn't values the risk management processes therefore projects encounter several known and unknown risk which lately affects the project schedule, timeline and quality that ultimately leads towards failure.

A project is considered as successful only if the cost, timelines, schedule, scope and quality is not compromised and the delivery of the project is made according to the defined timelines. If these mentioned factors are aligned with project work progress then the project performance get increased and project will get considered as successful. As per the conducted research study we have notified that enough attention is not given to the risk management process in our country, and neglecting to perform effective risk management seems likely to increase in poor performance and also leads towards project failure. So, early identification and mitigation of risk by performing effective risk management could lead to increase the project performance. In this research study it is also notified that managers

behavior towards its subordinates is considered as significant and influencing factor to achieve the success, like if the manager is emotionally intelligent then he/she will take care of his/her subordinates and fulfill their needs for the purpose of increasing the work productivity and increasing the project performance for timely project completion.

So it is concluded that to get the maximum work done by employees a manager must need to be emotionally intelligent and he/she need to take care of their subordinate. Also it is necessary for organization to follow and practice the risk management processes in their projects so that a proper attention has been given to possible known and unknown risks of the project and early identification and mitigation plan need to be made up to cope up with those risk. As a result project will be less affected by potential risks and their effect will be less towards the project timelines, scope, schedule and quality. When effective risk management will be practiced in organizations then potential project risk will less harm the projects and by performing the mitigation plan a project can be saved from failure. So it is recommended that top management must need to focus on team manager emotional intelligence capabilities and must need to practice the effective risk management processes in their organization to enhance the employees work productivity, increasing the project performance and making their projects successful.

5.7 Conclusion

Finding of our research study are appropriate for project based organizations of information technology and software development industry. In project based organization the project are complex and require close attention of the management to make it successful and deliver it in timely manners by fulfilling the stakeholder need effectively. The crucial factor for increasing the project performance is emotional intelligence of the managers, if they are emotionally intelligent and they take care of their subordinates and fulfill their subordinate needs, it will enhance

the employee's level of commitment towards their work, increase work productivity, increase the motivation towards task accomplishment, and enhance the sense of achievement in employees. Because the employees are highly dependent upon their managers in terms of required resources allocation and task assignment, also the moral and ethical support. When the employees needs get fulfilled their loyalty and commitment towards their job gets increased and this increase their work performance and productivity and a sense of ownership will built up in them where they take the ownership of their work and will become more committed to their work. In contrary if the managers are not emotionally intelligent and they don't care about the need of their subordinates, task interdependence will get affected where the employees will be less committed to their work and task accomplishment will get affected. As a result this less commitment of work cause towards ineffective work performance and because the task are dependent and linked to other tasks in a project so this ineffective work brings several potential risk in project that causes in poor performance and leads towards failure. The focus of current study was to examine the impact of emotional intelligence on project performance with mediating effect of task interdependence and moderating effect of risk management. The results of current study shows the positive significant effect of emotional intelligence on task interdependence and project performance and results illustrates that positive emotional intelligence attitude of managers increases employees task interdependence capabilities, coordination, commitment, and productivity, which ultimately enhance their sense of responsibility, and ownership towards their task accomplishment, and this as a whole increases the project performance which leads towards making a project successful.

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Appendix A

Research-Questionnaire

Dear Participant,

As a (MS Research Scholar) at CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD. I am conducting a research and collecting data for the topic of “**Impact of Emotional Intelligence on Project Performance by considering Mediating role of Task Interdependence and Moderating Role of Risk Management**”. Your precious time and help is needed by completing the attached questionnaire, you will find it quite interesting. It will take your 5-10 minutes to answer the questions and to providing the valuable information. I appreciate your participation in my study and I assure that your responses will be kept confidential and will only be used for education purposes only.

Your precious and loyal answers mean a lot to me, And for determining the correct results of this study as well.

Thanks for your consideration and contribution.

Sincerely,

Muhammad Usman Aslam

MS Research Scholar

**Capital University of Science and Technology,
Islamabad**

Section: 1**Gender**

1	2
Male	Female

Age

1	2	3	4	5
18-25	26-33	34-41	42-49	50+

Qualification

1	2	3	4
Intermediate	Bachelor	MS/M.Phil	PhD

Experience

1	2	3	4
0-5	06-10	11-15	16+

Department

1	2	3	4
Business Analyst	Front End Design & Development	Back End Design & Development	Quality Assurance and Testing

Designation

1	2
Team Manager/Lead	Employee

Section 2: Emotional Intelligence (Independent Variable)

Please insert a check mark (✓) in the appropriate column to indicate whether you agree or disagree with each of the following statements:

Strongly Disagree =1, Disagree = 2, Neutral= 3, Agree= 4, Strongly Agree= 5

1	I have a good sense of why I have certain feelings most of the time.	1	2	3	4	5
2	I have good understanding of my own emotions.	1	2	3	4	5
3	I really understand what I feel.	1	2	3	4	5
4	I always know whether or not I am happy.	1	2	3	4	5
5	I always know my team members' emotions from their behavior.	1	2	3	4	5
6	I am a good observer of my team members' emotions.	1	2	3	4	5
7	I am sensitive to the feelings and emotions of my team members.	1	2	3	4	5
8	I have good understanding of the emotions of my team members around me.	1	2	3	4	5
9	I always set goals for myself and then try my best to achieve them.	1	2	3	4	5
10	I always tell myself I am a competent person.	1	2	3	4	5
11	I am a self-motivated person.	1	2	3	4	5
12	I would always encourage myself to try my best.	1	2	3	4	5
13	I am able to control my temper and handle difficulties rationally.	1	2	3	4	5
14	I am quite capable of controlling my own emotions.	1	2	3	4	5
15	I can always calm down quickly when I am very angry.	1	2	3	4	5
16	I have good control of my own emotions.	1	2	3	4	5

Section 3: Task Interdependence (Mediating Variable)

Please insert a check mark (\checkmark) in the appropriate column to indicate whether you agree or disagree with each of the following statements:

Strongly Disagree =1. Disagree = 2, Neutral= 3, Agree= 4, Strongly Agree= 5

1	I work closely with others in doing my work.	1	2	3	4	5
2	I frequently coordinate my efforts with others.	1	2	3	4	5
3	My own performance is dependent on receiving accurate information from others.	1	2	3	4	5
4	The way I perform my job has a significant impact on others.	1	2	3	4	5
5	My work requires me to consult with others fairly frequently.	1	2	3	4	5

Section 4: Risk Management (Moderating Variable)

Please insert a check mark (\checkmark) in the appropriate column to indicate whether you agree or disagree with each of the following statements:

Strongly Disagree =1. Disagree = 2, Neutral= 3, Agree= 4, Strongly Agree= 5

1	Risks were escalated to senior management according to guidelines.	1	2	3	4	5
2	Risks were regularly re-assessed according to guidelines, e.g. after specific events or after a certain time interval.	1	2	3	4	5
3	The risk management process was regularly reviewed and improved.	1	2	3	4	5
4	A formal feedback system was used to monitor the execution of risk mitigation actions.	1	2	3	4	5
5	An early warning system was used to track critical risks and decide on activating mitigation measures.	1	2	3	4	5
6	Risk mitigation plans are used for monitoring.	1	2	3	4	5
7	Tracking of error/issue/failure rates is used as a key performance indicator to track risks.	1	2	3	4	5
8	Our RM is dynamic, iterative and responsive to change.	1	2	3	4	5
9	Our RM is systematic, structured and timely.	1	2	3	4	5

Section 5: Project Performance (Dependent Variable)

Please insert a check mark (\checkmark) in the appropriate column to indicate whether you agree or disagree with each of the following statements:

Strongly Disagree =1. Disagree = 2, Neutral= 3, Agree= 4, Strongly Agree= 5

1	The stakeholders were satisfied with this project.	1	2	3	4	5
2	The project goals were met.	1	2	3	4	5
3	The overall quality of the developed application was high.	1	2	3	4	5
4	The project was completed within schedule.	1	2	3	4	5
5	The project was completed within budget.	1	2	3	4	5