

CAPITAL UNIVERSITY OF SCIENCE AND
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**The Role of Emotional Intelligence in
Agile Team Composition as Mediator in
Software Project Success with
Transformational Leadership as
Moderator**

by

Nabiha Batool

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

in the

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I would like to dedicate this work to my parents, teachers and siblings.



CERTIFICATE OF APPROVAL

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Abstract

This research is conducted to analyze the impact of emotional intelligence on software project success with the help of team composition as mediator and transformational leadership as moderator. To find the role of emotional intelligence, a quantitative research was conducted, simple random sampling technique was endorsed, self-administered questionnaires were distributed among 215 employees, working in both private and government projectized software houses established in Pakistan. Likert scale was used to study and analyze the variables related to the questions. The results supported the hypothesis and backed that, emotion intelligence have positive and significant effect on project success with the help of mediating role played by team composition however, the study does not favor transformational leadership as moderator between emotional intelligence and team composition. Transformational Leadership has no significant impact on the relationship between emotional intelligence and team composition. Some practical and theoretical contribution has been made to emotional intelligence, literature review, research limitations and future directions are presented.

Keywords: Emotional Intelligence, Software Project Success, Team Composition And Transformational Leadership.

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List of Abbreviations

DV	Dependent Variable
EI	Emotional Intelligence
IV	Independent Variable
LLCI	Lower Level Confidence Interval
PS	Project Success
TC	Team Composition
TL	Transformational Leadership
ULCI	Upper Level Confidence Interval

Chapter 1

Introduction

1.1 Background

Human factor is of at most important in any projects life cycle. Now days theres been more of a work is done on Leadership traits and one of them is emotional intelligence (Sunindijo, Hadikusumo, & Ogunlana, 2007; Urch Druskat, Wolff, Messer, Stubbs Koman, & Batista-Foguet, 2017). Emotional intelligence can be defined as develop an understanding of ones emotion and act accordingly (Peter, 2010). (Y. H. Lee & Chelladurai, 2018; Mayer, Salovey, Caruso, & Sitarenios, 2001) divided emotional intelligence into four sub categories to understand and define it in better way a). facilitate thoughts by using emotions. b). observing emotions. c). understanding towards emotions. d). managing ones emotions so that social and personal relations or growth can be enhanced.

A study was conducted to find relationship between emotional intelligence and project success it was conducted on three levels of management. Results shows that below average leaders didnt do well on emotional intelligence however above average leaders do well in all categories of emotional intelligence (Cherniss, Extein, Goleman, & Weissberg, 2006).

Hence proving (Goleman, 1998) correct that emotional intelligence is needed twice of intelligence at work places. (C. Lee & Wong, 2019; Salovey, Mayer, & Caruso, 2004) in there research points out that individual with high emotional intelligence

is less likely to get involve in behavioral problems and it generates positive energy for people surrounding it. Person with high emotional intelligence is more suitable candidate for explaining goals and aims to team and help them achieve. Due to continuous need of change there is high need to work in teams and recognizing and acting accordingly will not only makes work environment better but also motivates employees (Zeidner, Matthews, & Roberts, 2004). It is just not only on managers ability to lead project to success. Project also needs a competent team to lead it to success (Center, 2018; Lynn Crawford, 2000).

According to research done by (Bantel & Jackson, 1989; Bell, Brown, Colaneri, & Outland, 2018; Cameran, Ditillo, & Pettinicchio, 2018) team must be composed on following three characteristics. A). they can identify problem. B) Formulate plan to resolve the problem. C) Implement that plan to get results.

Team composition was defined as combining team members attributes to team to get the best outcome (Bell, Brown, & Weiss, 2018; Levine & Moreland, 1990). Furthermore they explained that one person can belong to various groups experiences it gained can influence its behavior in other groups. There are four types of teams. A) Work teams: these teams are the one responsible for production of products.

B) Parallel Teams: teams formed to do the task that not a regular organization can perform for example quality assurance teams etc. C) Project teams: teams that have people from different area of expertise to work on limited time duration project and dissolve again once project is completed. D) Management teams: the purpose of these teams are to provide help and guidance to their sub ordinates (Cohen & Bailey, 1997; Srinivasan & Mukherjee, 2018).

Team composition brings diversity into team which leads to different ways of problem solving and also brings information related to tasks hence making it easy for others to begin with and increases in project performance (Van Knippenberg & Mell, 2016).

With diversity come conflicts (Fenn & Gameson, 2003) suggested five Styles to deal with conflict 1) Compromising. 2) Withdrawing. 3) Forcing. 4) Problem solving and 5) Avoiding.

(De Dreu & Weingart, 2003) also backed it, conflict also has great impact on not only on project success but also on team as well. Conflict is one of the reasons of budget overrun in projects failure (Hwang, Zhao, & Ng, 2013). As stated before managers spent most of their time with their teams (Strohmeier, 1992) the style of management chosen by a project manager greatly effects project success (Odusami, Iyagba, & Omirin, 2003).

Since there existed so many leader style, manager adapts leadership style according to culture of organization (Ogbonna & Harris, 2000). However due to continuous change in organizational cultures transformational leadership is suggested as best practice, due to its transactional or give and take relationship between leader and member (Hoch, Bommer, Dulebohn, & Wu, 2018). A good manager or leader is who adapts according to needs of its people and a good decision maker within its powers (Blanchard, Hersey, & Johnson, 1969; Srinivasan & Mukherjee, 2018). Transformational leadership is considered best option for two major reason, which are 1) Transformational leader possesses charismatic personality therefore their followers follow without question. 2) They are visionary and entrust their subordinates with information they required at present moment (Nguyen, Mia, Winata, & Chong, 2017).

Back in (1990) Bass suggest the concept of transformational leadership which later on become known as four Is as follows 1) Inspirational motivation 2) Intellect 3) Individualized consideration 4) Idealized influence.

Emotional intelligence plays vital role is enhancing power of any leadership style (George, 2000). (B. Palmer, Walls, Burgess, & Stough, 2001) found out that Individualized consideration and Inspirational motivation are deeply connected with managers talent to manage and monitor emotions in it and subordinates. So manger or leader with high emotional intelligence along with transformational leadership style is most power combination so far for project success (Kumar, 2014).

Project success can be defined from various perspectives. Seeing from organizational view project success is defined as delivering project on time and within budget (Procaccino & Verner, 2006). Whereas software project success factors

which literature states are realistic requirements, management and user involvement (Berntsson-Svensson & Aurum, 2006). Further elaborated by Project management institute project success is multi-level framework where project success is leveled into five levels including project management success, Process success, business success, strategy success and deliverable success (Bannerman, 2008). Since chaos report published by (Clancy, 1995) software development has made huge progress and still in progress chaos report shows 31.1 % projects were abandoned before start and they were dropped to only 9% stated by (Sauer, Gemino, & Reich, 2007). Project success criterion is not just limited to “Iron triangle” which is time, cost and quality, project management plays a role in success (Atkinson, 1999). (Mir & Pinnington, 2014) studied in depth the relationship between project management and project success and found that project cant achieve success without good management.

1.2 Gap Analysis

Emotional intelligence is one of the most essential part in making project successful. By meaning, emotional intelligence is the capacity to have awareness about ones impulsive emotions and able to express emotions in such a way that it doesnt have adverse effect on interpersonal relationships (Serrat, 2017). Although, its importance in project success is very definite but several researches state the lack of its practice. There is a significant amount of studies which shows healthy relationship between employee and manager due to high emotional intelligence of both (Smith, Killgore, Alkozei, & Lane, 2018). As a result of high emotional intelligence, there is a comfort level in the workplace, hence much easier to deliver ideas by employees and the manager effortlessly trust and work on the ideas (Y. H. Lee & Chelladurai, 2018). The concept of traditional software development was very rigid there was no continuous customer involvement present and lots of involvement of documentation was present (McCauley, 2001).

With growing demands of customer there was a need for change of system. Therefore organizations switched from their traditional and channeled process to agile

methods (Biju, 2008). Agile manifesto can be translated as people above documentation, that means every traditional process has to be agile (Beck et al., 2001). With things moving fast agile teams need to discard information as soon as the new ones arrive, giving team less time to make decisions or trade off or even process the information (Highsmith & Cockburn, 2001). Because of the evolution and rapid adaptation of agile environment project managers are becoming more productive in resolving their teams problems which in result gets project to succeed (Jiang, Naud, & Comstock, 2007). (C. Melo, Cruzes, Kon, & Conradi, 2011) emphasized like any other project software project is also consist of four important variable

- 1) Limitation of resources
- 2) Team composition
- 3) Constraint over time
- and 4) Communication.

After researching it becomes clear to (F. Tripp & Armstrong, 2018; Meso & Jain, 2006) that extreme programming and scrum agile development methodologies are most commonly used.

In agile there arise an issue of team management, having short teams with agile working methods having an impact on project success (C. D. O. Melo, Cruzes, Kon, & Conradi, 2013). Responsibility falls on shoulder of management to be careful while selecting people for team (Truong & Jitbaipoon, 2016).

More research is done in this direction only to find lack of research in interrelationship among team with management (Truong & Jitbaipoon, 2016). In same year (Lindsjrn, Sjberg, Dingsyr, Bergersen, & Dyba, 2016) suggested to explore more on role of emotional intelligence in project success.

It was concluded that emotion intelligence has evidently positive and significant effect on project success. However, along with several other factors, the studies showed that majority of software projects lacked emotional intelligence (Hendon, Powell, & Wimmer, 2017). Therefore, employees had no sense of collaboration. One of the reasons for low emotional intelligence is, when people emerge into adulthood, they usually have unstable emotions because since childhood they are taught to appreciate and enjoy happy emotions and demonize, fear and avoid the bad ones rather than how to deal with them . Although, this might seem like

a small reason, but due to this it is inevitable that a person lacks courage and patience (Butt, Nisar, Nadeem, & Baig, 2017). In long term, negatively affect interpersonal relationship. Whereas, some studies highlighted that pressure of constraints to be met as a major factor for low EQ.

Digging into the relationship between EQ and team composition, studies have shown a positive and proportional relation between the two. It is evident that, high EQ result in successful and intelligent team (C. Lee & Wong, 2019). Effective interpersonal relationships are vital for successful team, existence of emotional bonding between team members have resulted in profound work produced by the teams. Teams that provide attention to each other at personal and professional level have more chances of succeeding at a project (Wei, Liu, & Allen, 2016). A positive emotional climate should be maintained in teams so that everyone works comfortably, focused and are determined to achieve the same goal . To attain high EQ, team members need to understand their emotion and how certain emotion can affect their thoughts or work progress, control impulsive feelings especially making decisions, giving importance to other team members emotion, ideas and thoughts, and last but not the least, communicate effectively to inspire others rather than imposing your ideas (Urch Druskat et al., 2017). Keeping high EQ, the team needs to be diverse so that different ideas can be presented, but in order to work on these ideas, each member needs to have high EQ (C. Lee & Wong, 2019).

The major factor which influences emotional intelligence and team composition is transformational leadership. A person in charge regulate all the activities of team members, identify faults and bring necessary changes (Zaccaro, Dubrow, & Kolze, 2018). The leader needs to have a high emotional intelligence to guide the team with patience and vision. An impatient leader will not have the confidence of his team members and hence the team wont perform 100% (Glover, 2017). Relating it to team composition, studies show that, a leader with low EQ will not be able to emphasize with others and will be highly opinionated thus rejecting others opinion and unable to understand and take advantage of their diversity, as a result will not be able to compose a diverse team (Purwadita, Sudiro, Mugiono, & Idris, 2018).

The relationship between emotional intelligence and software project success is not studied which is our gap second the mediating role of team performance between emotional intelligence and project success is not tested which is also our gap thirdly the moderating role of transformational leadership between emotional intelligence and software project success is not tested which is also our gap.

1.3 Problem Statement

Relationship between emotional intelligence and team composition is in its initial stages in research area. Emotional intelligence is used as independent variable in situation of team composition for a software project. According to researchers transformational leadership plays vital part in team composition, whereas team needs a leader who they are comfortable to communicate their problems (Sun, Xu, & Shang, 2014). To add more manager using emotional intelligence can lead team to success of a project. This study revolves around these variables, however in literature they have not been modeled together. So present study is conducted to investigate relationship between emotional intelligence and project success with mediating role of team composition and moderation role of transformational leadership and model these variable together.

1.4 Research Questions

Based on above stated problem few questions came into mind. Study will be resolving around these questions summary.

Research Question 1:

How does emotional intelligence impact project success?

Research Question 2:

How does team composition mediates the relationship between emotional intelligence and project success?

Research Question 3:

How does transformational leadership moderates the relationship between emotional intelligence and team composition?

1.5 Research Objectives

The need to conduct this study is to explore new area of project management in informational technology domain. As this domain represents future hence human factor requires some light shed on it. The aim of this research is to develop understanding towards following points.

Research Objective 1:

To establish relationship between EI and PS.

Research Objective 2:

To find out relationship between EI manager and successful project with the help of team composition.

Research Objective 3:

To explore moderating effect of transformational leadership between manager with emotional intelligence and team composed.

1.6 Significance of Study

The aim is to shed some light towards the humane factor in software development styles. This will help us to understand relation between leader and its team. Since information technology is a growing industry in Pakistan and there's not that amount of research done in this context to help people develop successful team. Software development industry nature is consistently changing and due to dynamic environment rapid strategic decisions are made to survive. This puts loads of pressure on managers, decision makers and their teams to ease off the pressure emotional intelligence is needed.

As an effective leader EI is important for making effective decisions. as (Goleman, 1995) simplified it by saying effective leaders are all alike they have high emotional intelligence. EI is known as a function of social intelligence. In which one's own and others emotions, feelings were monitored and use that information for guidance to it (Salovey & Mayer, 1990). From late 80s emotional intelligence has made quite an impact in attitudes towards emotions at work places (Putnam & Mumby, 1993).

According to a report 67% people stated their colleagues help them in their work, guide them and encourage them to do their best at work making teamwork and relationship an important aspect of office life. Creating positive friendly environment improves team moral and help them in learning and lessen stress at work.

In this study discussion will be focused on how emotional intelligence leads to project success. As growing need in software development and changing in customer needs. Single project can have various teams working on it. Bigger the project more teams need to interact and are formed. To handle such diversity manager or leader of project needs to be effective and most of all emotional intelligent to lead its team effectively towards project success.

This study will also provide direction to software industry in how to train managers to achieve success. Moreover, current study emphasizes on mediating role of team

composition and moderating effect of transformational leadership between emotional intelligence and team composition. Project success is always depend on its manger and team thats working on it.

Till now traditional management techniques are used to cater the growing needs. Which is becoming a barrier and holding the progress. It is about time to incorporate new techniques to achieve project success.

1.7 Supporting Theory

This study research model is supported by many underlying theories but the best fit for this model is person environment theory and trait activation theory.

1.7.1 Trait Activation Theory

Trait activation theory is presented by (Tett, Simonet, Walser, & Brown, 2013) to explain that a person traits gets to interact with some task to generate organization benefit. Trait activation theory is based on a specific model of job performance. Trait activation Theory particularly recognizes that most human traits are triggered by nature of job or situation. A person develops its traits according to behavior people it interact with or in situation he is in. This coded material helps as a guidance for one of the properties of a leader to react, i.e emotional intelligence make decisions according to how other feel and help them to keep motivated.

Trait in an organization can developed by two types. One is interaction on daily bases and other training. Emotionally intelligent leaders keep their employees motivated leading them to project success. Our model of research is also supported by this theory where emotional intelligence acting as personality trait of a leader having the task of composing a team which leads to organizational benefit that is represented by project success in our model.

Chapter 2

Literature Review

2.1 Emotional Intelligence and Project Success

Leadership styles and managers competencies are often identified as main criteria of any project success (Rezvani & Khosravi, 2018; J. R. Turner & Miller, 2005). (Fiedler, 1967) suggest the use of different leadership styles according to situation which he identifies as

Relationship between leader and its members. Level of clearness of task to manager and members. Power provided to manager by organization for task completion.

There comes many difficulties in managing a project though managing a team with dynamic skills sets are tough in which they are expert (Kezsbom & Edward, 2001).

It is studied that emotional intelligence is a key skill in managerial skill set especially in highly complex projects (Caruso & Salovey, 2004). We find (Fisher, 2011) study agreeing to it. Earlier concept of effective management was to show concern to their employees and to take care of their needs (McGregor, 1967). But as the study grows (Mazur, Pisarski, Chang, & Ashkanasy, 2014) work suggested that high emotional intelligence project managers tends to solve more complex projects and communicate accordingly to their members. Based on the results deduced from studies it is safe to say effectiveness of managers are related to emotional intelligence (O'Boyle Jr, Humphrey, Pollack, Hawver, & Story, 2011), so

management is not all about technicalities and hard work but to handle emotions wisely (Fisher, 2011). At work place due to work matters an employee has to deal with different types of emotions daily which effects their work(Weiss & Cropanzano, 1996). If employee is happy and satisfied with management it will be feeling positive emotions, it will effect its work in positive way and work will be of best quality(Mayer, Salovey, & Caruso, 2008). Whereas (Glinow, Shapiro, & Brett, 2004) says negative emotions such as irritation, frustration etc effects badly on work performance. Hence forth management of emotions are required in dynamic business environment where every day comes with new challenge (Obradovic, Jovanovic, Petrovic, Mihic, & Mitrovic, 2013). Few years Back (Goleman & Boyatzis, 2008) laid the foundation by saying emotional intelligence leadership is the only variable that can tell whether manger is going to fail or succeed in a project.

If the manager is able to connect to its workers and able to communicate its vision positively among group, this will bring out the positive attitude towards their abilities then this type of managers are emotionally intelligent and are known as resonant mangers (Obradovic et al., 2013). To understand more clearly emotional intelligent managers (Dulewicz & Higgs, 2004) pointed out few traits of them. Which are i). Self-awareness ii). Sensitivity iii). Motivation. iv). Intuitiveness v). Emotional resilience.

(Mount, 2006) study suggested traits of EI manager by (David, 1995) found 69% skill set of project managers are based on (empathy, influence, achievement motivation, self-confidence, adaptability, organizational awareness, and teamwork) for their project success.

(Cote & Miners, 2006) emphasize on importance of emotional intelligence in their research by saying that emotional intelligence is directly proportional to complexity of task or job. Need of emotional intelligence is greater now a days due to outsourcing of different services (Bono, Foldes, Vinson, & Muros, 2007). (Grandey, Fisk, & Steiner, 2005) says knowing about how other feels and act accordingly will make employee less stressful in stressed situations.

According to project requirements, project manager has to use different management techniques to make its project successful (Lynn Crawford, Hobbs, & Turner,

2005). So (Wateridge, 1995) found that it would be better for project success if we let project managers decide the success criteria for it. (Miller & Turner, 2007) after doing thorough research regarding project success and what factors affect them, found out Project manager traits are the most important element in any project success regardless of industry. While this being said (LW Crawford & Turner, 2007) notices there exist a very close link between manager traits and project success. (Atkinson, 1999; Soto, 2019) beautifully standardized the success criteria on three basic pillars that is used till today 1) Benefits achieved from project. 2) Iron triangle. 3) Satisfaction of client or customer.

In software projects satisfaction of a customer is most required element to claim project as successful (De Bakker, Boonstra, & Wortmann, 2010). Whereas client satisfaction depends on it if project is within its budget or not (Kelly et al., 2018; J. R. Turner & Cochrane, 1993). Due to constantly changing needs of business being on budget is not as much of a matter to client but being on time to capture the market in need (Haq, Raja, Nosheen, & Sajjad, 2018; Prabhakar, 2008; Zafar et al., 2018). As well as to manager to generate maximum benefit for client and for its own organization (Prabhakar, 2008). (R. Turner & Zolin, 2012) says project success is time defined. If project gets to the market in time then project will be successful in current era else project is a fail unless its modified in a way that itll capture future needs of market. (Clarke, 2010) conducted an experiment by introducing emotional intelligence training program to project managers, and collected data few months before and after that training program to find the impact caused by that training in project. After analysis of studies its been found that if the emotional intelligence is used in the planning phase of the project then it will definitely lead project towards success.

H₁: emotional intelligence and project success are positively associated to each other.

2.2 Team Composition and Project Success

The success of any project is interlinked with the project team associated with delivering the objectives. Sometimes, the best planned projects fail to execute due to minimum amount of performance put forward by the team members (Zafar et al., 2018). Composing team members is the most essential step to attain the objective. It basically refers to merging of individuals with different characteristics and using their abilities to achieve a common goal. In order to make the team performance fruitful, certain considerations are looked upon (Guler et al., 2018). Each member of the team has a diverse knowledge in solving the problems hence through communication, they tend to share the possible solutions and collaborate to achieve the promised goal.

When composing a team, one should lookout for certain factors to make the team work successful, one of them is, effective communication. People possessing different perspective can lead to a conflict when looking for solutions, hence productive communication is vital to understand and deliver thoughts and ideas to one another. If there is communication barrier between the team members then the team performance is adversely effective and is likely to end up being a failure (Ni, Cui, Sang, Wang, & Xia, 2018). According to numerous researches, Effective communication is pivotal for team work. Looking deep into this point, successful communication spares time that maybe lost due to misinterpretation. Communication gap can lead to deterioration of the work and results in taking incorrect actions (A. K. Jain, Fennell, Chagpar, Connolly, & Nembhard, 2016).

Due to effective communication, every team member feels valuable and bold about their opinions that they are heard and count. These baby steps are motivating for each team member to put their input for achieving the objective. Due to strong communication skills there are higher chances that great ideas will be shared among team members (Driskell, Salas, & Driskell, 2018). Another factor which effects the team performance is, leadership. A good leader knows well how to integrate everyones skill and produce a successful project. Team leaders plays an essential role in executing the project (Aga, 2016).

Another advantage of having good leaders is that they provide guidance and instructions to the members, this can result in every member being focused about their goal. Team leaders make sure that the information is well delivered and completely understood by each member, to put it simply, a good leader resolves any obstruction that can hinder the group performance. Team leaders make sure that their team is motivated by infusing confidence and trust into their members so that they have a positive approach towards the project (Novo, Landis, & Haley, 2017).

Diversity among the team members is also an important element when composing a successful team. By diversity, it specifically doesn't mean diversity in race, gender or age but expertise and experience. Having diverse members can lead to managing of different tasks that are required to achieve the promised goal. Defined goals and responsibilities among group members help to succeed as individuals recognize their skills which helps them to understand their responsibilities and values in making the project successful (Prinz & Wicker, 2016).

Balanced participation is also one of the attributes of a successful group composition. This refers to every member joining the discussion and being fully involved in the work. To achieve better participation, the members are advised to ask and answer questions about their own task (Haake et al., 2018).

When there are different point of views, it is nearly impossible not to engage in conflicts, hence in producing an effective team, management of conflicts are very important. Managed conflict means that the problems are not thrown under the rug and are sorted out smartly. Some researches shows the importance of healthy conflicts. They are listed as, the healthy conflicts result in creative communication and seek common ground. It also encourages the team to look at all the different ideas and pick the best from them (Rolle, Weidner, Weber, & Schlothfeldt, 2018).

H₂: Association existed between team composition and success of a project is positive

2.3 Emotional Intelligence and Team Composition

It has been discussed how team composition have impact on project success, and now the importance of emotional intelligence in team composition will be discussed under the light of literature, its effects and how higher emotional intelligence results in project success. Usually technical parts of team building is been in focus for quite a while but misinterpretation arises from inside of working team from different background. Causing Barriers such as struggle for power, misunderstanding, miscommunication, and different views of priorities to rise and divert team attention from project to different thing (Thamhain & Nurick, 1994). Emotional intelligence is the competence of controlling and expressing ones despair and to administer and manage interpersonal relations skilfully and compassionately (Bashir, 2017).

Team development process consist of 5 stages which as supported and agreed by (Moxon, 1993)

Stages are Forming, Storming, Norming, Performing and Mourning.

Forming is first stage where team members are selected. Their motivation comes from their leader and they look up to him for guidance. Their team effectiveness is low due to unsure of each other. During this phase leader must be open and willing to see things from different perception (Wilson, 2010).

When team moves to storming phase they face new challenge such as they try hard to impress their seniors for that they start to give opinions and argue on other members decisions all to prove their worth to their leader and how concern they are for their project. In this situation manager or leader need to calm their team members because they were battling with the feelings of inadequacy.

Team moving on to next stage norming where norms of team work is being set by team members according to elders previous experiences and culture of organization. Since bond between members developed they trust each other and provide

support to each other. Ideas become reality and new lessons are learned. To summarize motivation and effectiveness began to increase and team moves towards success.

Performing stage brings less work towards leaders of the teams. As team develops strong relation of trust between them. Leader are required to assign tasks to them and let team work on its own. Motivation and effectiveness of team members are high they know each other strengths and weakness and develop strategies accordingly.

Leading to final stage where project work is about to be completed here two things can happen one team motivation increases and they accomplish and achieve their objective as unit or they gets demotivated due to uncertainty of future and breaking of a good relationship between team. For whatever the situation may occur Leader must maintain their support to keep them motivated and help them pull through this emotional situation (J. R. Turner, 1993).

(Tippett & Peters, 1995) suggested following six brief point for development of a team for any project or when a team interactions are studied which are.

In every action and at every stage of project respect each team member as valued asset of team. Depending on individual skill set assign them job responsibility and performance standard and let individual know about it. Develop individual and team goals with concern members of team. Establish good communication with team and with individuals. Always encourage team members loyalty and practice it. Make sure to reward team building efforts and team work.

Project success is not only dependent on effective team but also on effective team leader. (Tutorial, 1994) describe few skills and characteristics of a leader to create an effective team which are.

Have clear and set idea of priorities and objectives. High level of tolerance for errors and new ideas. Vision oriented. Willing to work and like what he does. Good at managing conflict. Motivate people. Team development. Good communicating skills. Quick at gaining organizational support.

To put it simply, it is the discrimination between various emotions and label them appropriately. There are four major capabilities found in an individual with high emotional intelligence; Self-awareness, self-management, social awareness and social skill.

Self-awareness is the ability to comprehend one's emotion and its impact on performance and work. This skill allows you to identify the emotions as they arise not after they have adversely affected the current situation (Serrat, 2017). Other than this, it also tells about the trigger points of certain emotions. Through self-assessment one can improve their self-awareness. Identifying your triggers, avoid judging your emotions and revisiting your acts are some of the ways through which one can boost their self-awareness (Gregersen & MacIntyre, 2017).

Self-management comes after one has done his self-evaluation. It is controlling and supervising impetuous feelings and behaviours so that they don't steer you. Self-management is understanding your emotions and express them in such a way that they provoke positive interactions and doesn't force one to make rash decisions (Cartwright & Solloway, 2017).

Certain exercises can aid in improving self-management. One of them is, take deep breaths. Doing this will allow oxygen to flow in abundance into brain and helps to clear the brain, hence, a more sensible and constructed decision can be generated.

Discrimination between emotion and response is also one of the essential steps to improve self-management. Sometimes we find ourselves in a plight situation where our emotional and rational part of the brains are conflicting. In this type of situation, (Bradberry & Greaves, 2004) advises to take a paper and pen, and note down both sides, that is emotional and reasons (Shahid, Stirling, & Adams, 2018).

The third element to boost emotional intelligence is, Social awareness. It refers to the ability of understanding other people's emotions and cater their needs (Morrison & Morrison, 2016). By practicing this skill, one can gain respect. Empathy, service orientation and organizational awareness are the three components which an individual needs to thoroughly understand when developing this skill. Empathy- sensing other people's emotions and reacting to their interests wholeheartedly. Organizational awareness- the capability to grasp the dynamics and working of an

organization. Service orientation- to be able to cater the needs of customers. One can improve their social awareness skill by simple steps, such as, observing people and their body language, exercise the art of effective listening and being present with mind in the moment (Lakshmi & Rao, 2018).

The last pillar of emotional intelligence is, Relationship management. It basically consists of managing different peoples emotion and ideas to generate a successful interaction. Relationship management emphasizes on avoiding misinterpretation and resolving conflicts within a system. The elements which combine to make relationship management are, leadership, communication, developing others, conflict management and successful collaboration. According to certain researches, there are three tactics to achieve an effective relationship management. They are; Take feedback well, sympathizes with others opinions and feelings and fixing a broken conversation which can turn into a conflict (A. Jain, 2018).

Emotional intelligence plays a vital role in team composition and its performance. Some researchers suggest that individuals having high emotional intelligence maintain a positive attitude towards work and rarely get caught in conflicts which wastes time (Hwa & Amin, 2016). When working in a team, people usually dont value others opinion which can degrade their fellow members and results in conflicts. Individuals with high emotional intelligence strive to listen to others and value other people rather than praising their opinions. Practising emotional intelligence can lead to a much peaceful and stress-free environment in the workplace (Bashir, 2017).

H₃: emotional intelligence is positively associated with team composition.

2.4 Mediating Role of Team Composition between Emotional Intelligence and Project Success

To achieve a common goal two or people participated in, is defined as team (Baker & Salas, 1997). So Team is a community filled with variety of emotions, traits and personalities to deal with, though team norms can easily get effected by factors which are team goals and team design (Douglas, Ammeter, & Buckley, 2003). Team composition is always multileveled, composing on individuals with different personality traits, seniors or experienced members and high level influencers (Kozlowski & Klein, 2000).

Team design elements further illustrated by (Lembke & Wilson, 1998) team mutually created norms such as way of communication, how to act etc, goals and tasks to be performed and characteristics of team members. (Rafaeli & Sutton, 1987) old team members help new members to understand team norms by sharing their past experiences and new members adds value to team by adding new experience and knowledge to team. This creates social structure and provide framework to new members how to behave in situation rather than telling them when particular situation occurs (Shott, 1979).

According to (Zurcher, 1985) it is team members emotional intelligence through which they act in team according to team defined norms. To achieve success (Kozlowski & Ilgen, 2006) studied team dynamic at three levels which are leadership, team composition and training. While composing a team, members need to have shared understanding of roles and responsibilities, requirement of work and procedures (Converse, Cannon-Bowers, & Salas, 1993). Analysis performed on teams suggests that having same level of mental understanding leads to project success. (Misra, 2011) supported this concept by saying understanding of emotions among team members is directly proportional to project success.

(Stokols et al., 2010) conducted a study on different science project groups only to find that groups having mutual understanding of each other and their goals

are more successful as compared to groups who don't have shared understanding. Emotional intelligence of a leader and adaptability can be enhanced by training and changes in team compositions (Fouse et al., 2011). So responsibility of providing psychological safety falls on managers' shoulders while composing a team for successful project (Bell, Villado, Lukasik, Belau, & Briggs, 2011). Whereas psychological safety is having safety of speaking their mind and understanding of others' point of view (A. Edmondson, 1999). In general, the role of a team leader while composing a team is to train members while making them comfortable to discuss their problems and to learn from their errors to create innovative ideas (A. C. Edmondson, Bohmer, & Pisano, 2001).

(A. C. Edmondson, 2003) emphasizes that a team leader while composing their team create an environment which gives their members safety to speak their minds when needed. By providing such type of environment to team members will minimize the risk of failure of projects along with team conflicts (Hall et al., 2012). Teams during composition process yields sub groups or diversity in demographics are lead to failure if not handled with emotional intelligence (Thatcher & Patel, 2011). (Stevens & Campion, 1994) secret behind any team's success is that their individuals have two values in them i.e. knowledge of their skills and knowledge of how to manage in disturbing situations.

Research done by (Pritzker & Runco, 2011) on creative team members characteristics, results are that they are not much of team players though they are open to experiments and creativity and very flexible along with having a need to dominate. (Engel, Woolley, Jing, Chabris, & Malone, 2014) found while researching connection between team composition and emotional intelligence. Only to find that team having understanding of each other's skills and social sensitivity is directly related to project success.

To comprehend it can be said that team composition based on emotional intelligent members or leaders will be having less conflicts in team and less violation of team or organization defined norms.

H₄: team composition mediates the relationship between emotional intelligence and project success.

2.5 Moderating Role of Transformational Leadership between Emotional Intelligence and Team Composition

Recently effective leadership constraints has been shifted to leaders personal or peoples skills (S. R. Palmer & Felsing, 2001). To get an effective leader one must identify and recruit them successfully (Pratch & Jacobowitz, 1998). It is said that it is claimed by many researchers that emotional intelligence plays a vital role in any effective leadership (Murlis & Schubert, 2002). There exists so many leadership models that shows interaction between members and leaders but transformational leadership is so far only model that which is purely based on emotions of members and emotional interactions among them (Barling, Slater, & Kelloway, 2000).

Transformational leaders leads their followers by giving them recognition, make them participate in decision making, addressing their followers needs etc and encourage them to achieve excellence (Walumbwa & Lawler, 2003). According to (Bass, 1996) transformational leadership can be summarized in four characteristics which are thought provoking, influential, inspirational and considerate of people's feelings. In context of leadership past studies suggested that team leaders can manifest "can do" attitude and enhance work capabilities in their teams while making team (Parker, Bindl, & Strauss, 2010).

As leaders have dominating position among team and their followers so they can generate positive attitude among their teams (Bass & Bass Bernard, 1985). So while composing a team transformational leadership style is a prominent feature that can retain only people in team who have positive attitude and similar mindset (Ehrhart & Klein, 2001). With the help of transformational leadership team norms can be transformed or renewed to generate positive emotions at work which will help their fellows and team members to work in. This attitude helps new team members to adjust among team (Totterdell, Wall, Holman, Diamond, &

Epitropaki, 2004). Members in teams having positive environment work tone are likely to have ability to achieve project success (Isen & Reeve, 2005).

H₃: transformational leadership moderates the relation between emotional intelligence and team composition; relationship between emotional intelligence and success of a project gets strength with the rise in value of transformational leadership

2.6 Research Model

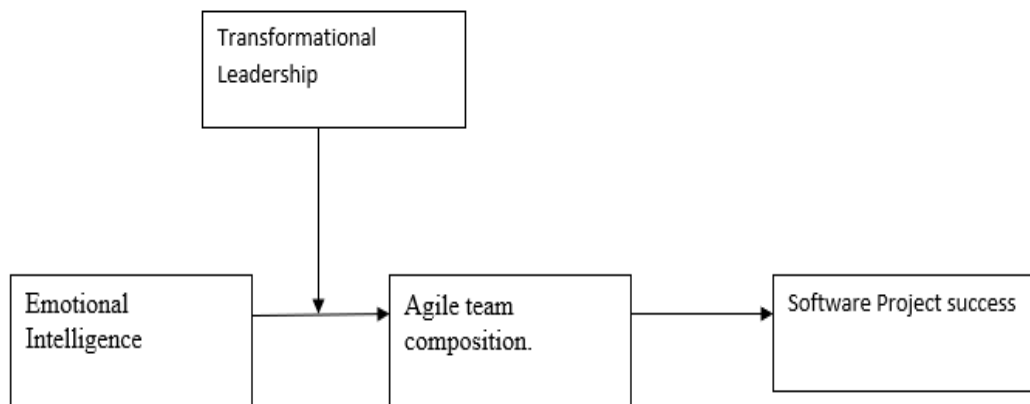


FIGURE 2.1: Research Model for Emotional intelligence on project success through team composition

2.7 Literature Review Summary

According to literature it can be concluded that since software development industry is developing and keeps on changing new techniques and methods are incorporated in it. But time is always a constraint for the team in which they have to learn those techniques and technologies and work on them. Teams have to cater these problems along with other personal problems. As every member of the team has mind of their own ,skills of their own and experience of their own which needs to be handled in a delicate way that every individual feels at home and confident while working with its peers. Instead of feeling suffocated and forced to work. Every individual brings something new to team which is why teams are able to

absorb new things easily and able to pull through tough times. So every person of the team should be treated with respect and their opinions must be respected regardless of their experience.

Team is said to be responsible for their project success and behind every successful team there is always a successful manager who motivated them, respected and protected them from external and internal pressures and forces. As literature suggested for any project teams need to be built from scratch, so there are experienced personal and some inexperienced personals working in a team.

Here with diversity in personal manger needs to be EI rather than skilled to handle and mange team conflicts, assignment of work according to their capabilities. Most of all keep them motivated throughout the life cycle of project because as project kicks off every member of team is motivated to achieve success but as project progresses their motivation starts to decline because of dead ends they face.

To achieve software project success manager needs to keep in touch with customer and its team. To help team understand what customer wants and to tell customer limitations of team. Putting manager in stressful situation. But manager can get through it with EI and TL. By using EI while building team, manager gets trust of team and TL is all about charisma.

To summarize manager must use EI and TL while building team, without a doubt team will lead project to success.

Chapter 3

Research Methodology

3.1 Introduction

Here methodology will be discussed which is used to analyze collected data to find relationship between emotional intelligence and project success, where mediating role is played by team composition and moderator for this research is transformational leadership. Correlation and regression analysis techniques will be used to validate proposed hypothesis. In this chapter further design of research along with data collection techniques will be discussed.

3.2 Research Design

As for names sake here main focus will be on structure of research and how its been done. So for that time horizons, type of study, contextual setting, and unit of analysis, scales and how the variables are going to be tested will be disclosed.

3.3 Types of Study

This research is conducted to contribute in the study regarding relationships between emotional intelligence and project success with mediating variable team

composition and transformational leadership as moderator. By the help of likert scale with self-reporting technique these variables will be studied. To analyze variable data, adopted questionnaire are used.

5 point likert scale is used to study all the variables related questions with additional demographic studies measuring the respondents Gender, Age, Qualification.

3.4 Study Setting

From private and public software houses data was collected in their own professional working environment from those whole use agile methodology. Questionnaires were filled by respondents at their work places.

3.5 Time Horizon

Data was collected in not in time lags for this study. And it took 2 months to gather data from participants of this research.

3.6 Unit of Analysis

Unit of analysis is considered most emphasized part of research. It consist of objects or individuals whose characteristics needs to be measured. Comprises of organizations, groups to individuals, cultures, organizations etc.

As this study is developed to find the impact of EI on PS, that makes employees unit of analysis of software development industry public and private in Rawalpindi and Islamabad. To assess the impact of EI in the project through Team Composition, the study needed to approach the specific sector Research Methodology of project-based organization which required and promoted EI in their projectized organization under the affective presence of the Team Composition. To analyze the success of the projects the stakeholders who eventually benefited from the projects were taken as the unit of analysis.

3.7 Population

As the purpose of study is to find role of emotional intelligence in software project success. So the population for study are the employees having managerial and non-managerial posts in software development. Population subjected to this study belongs to project based organizations situated in Karachi, Lahore, Islamabad and Rawalpindi.

3.8 Sample

The sample data was collected by virtually distribution and personally collected questionnaires in software houses from their employees. Around 300 questionnaires were distributed from which about 217 were received back and 215 were in condition to be used for analysis. Due to shortage of time data was gathered by using convenient sampling technique. Though respondents were assure that their data was confidential and will be used only for sole suppose of study the role of emotional intelligence in software project success so that they can provide authentic and valid data for research.

The sample size was calculated using the formula.

Necessary sample size $(n) = (Z\text{-score}) * \text{Standard Deviation} (1 \text{ SD}) / \text{Margin of error}$ Z-score was taken at 90% (1.645) and standard deviation was taken at 0.5, whereas, margin of error was taken at confidence interval +/- 5%.

3.9 Measurements

For this research questionnaires were adapted from past scholars. For the measurement of 4 variables 17 items were used. Questionnaire was divided into 4 sections. Section one carries demographic details of respondents, second section carries 2 questions regarding emotional intelligence. Third section has 5 questions regarding mediator, whereas 5 questions were to study transformational leadership in

fourth section. Fifth sections contains 7 questions for the measurement of project success. English language was chosen to be medium for data collection.

With the help of Google forums data was collected from software development organizations during their working hours. To ensure security of personal information additional note was included which also indicates the purpose of research and significance.

All four variables which are emotional intelligence, team composition, project success and transformational leadership are measured by used closed ended questionnaires. Measurement criteria is lickert scale on 5 point where 1 is strongly disagree to 5 representing strongly agree.

3.9.1 Emotional Intelligence

To measure Emotional intelligence Lickert scale will be used to measure the level of variable that contained 2 items. They will be measured against Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD). Questionnaire used by Shepherd, Dean, Patzelt, Wolfe (2011)

3.9.2 Agile Team Composition

Bateman, Wilson, Bingham (2002) used questionnaire of team composition in their study to measure 5 items of variable. Likert scale will be used to measure the level of variable. A sample item like Sense of Purpose is clear to individual. will be measured against Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD).

3.9.3 Project Success

The variable project success was measured by questionnaire taken by Aga, D.A., Noorderhaven, N., & Vallejo, B., (2016). Likert scale will be used to measure the level of variable that contained 12 items. A sample item like The project has made

a visible positive impact on the target beneficiaries was measured against Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD).

3.9.4 Transformational Leadership

Gong, Yaping, Huang, and Farh (2009) uses questionnaire of 5 items of variables. Likert scale will be used to measure the level of variable. A sample item like My supervisor acts in ways that build my respect. was measured against Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD).

3.10 Pilot Testing

To overcome the risk, time and inefficient composition of resources pilot testing approach is used. It is preferred approach while doing large scale research to check its scale consistency. For this research pilot test was run on 45 questionnaires to test data compliance in relation to proposed hypothesis whether data support them or not.

3.11 Reliability Analysis

After gathering of data reliability was tested. Reliability of instruments used was tested on spss 23. It is a standard procedure to measure consistency. Values are measured against standard value of cronbach alpha 0.7 by (Nunnally, 1994) which is considered a good value.

TABLE 3.1: Reliability Analysis of Variables

<i>Variables</i>	<i>Cronbach's alpha (α)</i>
Emotional intelligence	0.496
Team composition	0.562
Transformational leadership	0.654
Project success	0.578

Above table represents reliability analysis of which are emotional intelligence with alpha value equals to 0.496, team composition with 0.562, transformational leadership has 0.654 alpha value and project success holds 0.578 alpha value.

3.12 Sample Characteristics

For research purpose demographics are used to define respondents characteristics. Such as age, gender, experience, qualification. In this study demographics used are of an employee's age, qualification, gender and experience belonging to software industry. Characteristics of samples are further elaborated below.

3.12.1 Gender

TABLE 3.2: Gender Analysis

	Frequency	Valid percent	Cumulative percent
Male	118	54.9	54.9
Female	97	45.1	100
Total	215	100	

Above shown table is representing gender composition of collected data, in which 54.9% male were able to response back. 45.1% females participated. So male participation remain highest.

3.12.2 Age

TABLE 3.3: Age Analysis

	Frequency	Valid percent	Cumulative percent
18-25	57	26.5	26.5
26-33	86	40	66.5
34-41	48	22.3	88.8
42-49	22	10.2	99.1
50 and Above	2	0.9	100
Total	215	100	

From gathered data we have 40.0% people belonging to age group of 26-33, 22.3% male/female fall into age group of 34-41. We have 10.2% from age group of 42-49 and very minial people 0.9% belong to 50 and above group. Though belonging to 18-25 age group people are 26.5%. so highest group percentage is 40.0%.

3.12.3 Qualification

TABLE 3.4: Education Analysis

	Frequency	Valid percent	Cumulative percent
Inter	21	9.8	9.8
Bachelor	96	44.7	54.4
Masters	30	14	68.4
Ms/Mphil	56	26	94.4
PhD	12	5.6	100
Total	215	100	

Our respondent's minimum qualification starts from inter so they are 9.8% in strength so we have 44.7% bachelor qualified. Master qualified are 14.0%, ms/mphil are 26.0% and phd qualified are 5.6%. So we have bachelor qualified as highest percentage.

3.12.4 Experience

TABLE 3.5: Experience Analysis

	Frequency	Valid percent	Cumulative percent
05-10	125	58.1	58.1
11-16	35	16.3	74.4
17-22	36	16.7	91.2
23-28	15	7	98.1
29-35	4	1.9	100
Total	215	100	

We have 58.1% respondents having work experience of 5-10 years, 16.3% with 11-16 years, 16.7% having 17-22 years of experience. We have 7.0% having experience range of 23- 28 years and only 1.9% fall in range of 29-35 years of experience.

Chapter 4

Results

4.1 Hypnotized Results of Variables

With the help of SPSS descriptive and correlation analyses are done. From preacher and hase testing method correlation hypothesis are tested.

4.1.1 Descriptive Analysis

Under descriptive analysis collected data is realized. 215 is total number of respondents respond to total 17 number of items in questionnaire. Here maximum and minimum value of variables with mean and standard deviations against total number of people participated are represented. Average value of respondents are represented by mean whereas standard deviation here represents deviation in answers of respondents from their means or in other words abnormality. Items used in this study are measured with 5 points Likert scale where 1 represents strongly disagree 3 value is given to neutral and 5 is equal to strongly agree.

From table 4.1 first column represents features of variables. Second column holds the value of sample size, next two columns represent ranges i.e minimum and maximum followed by mean and standard deviation column.

Sample size is 215 as shown in above table for all four variables (Emotional intelligence, transformational leadership, team composition and project success) are

TABLE 4.1: Descriptive Analysis

	N	Min	Max	Mean	SD
Emotional intelligence	215	1	5	3.7093	0.87296
Team Composition	215	1.6	5	3.7153	0.61727
Transformational Leadership	215	1	5	3.7414	0.66705
Project Success	215	1.57	5	3.6857	0.52701

measure with the help of 5 point likert scale, ranging from point 1 as strongly disagree to 5 as strongly agree. Mean values gives us refined values of responses.

The mean value of independent variable emotional intelligence is 3.7093 that mean value of respondents think it is necessary for project. Mean value of team composition is 3.7153 representing that it is needed for success. Project success holds mean value of 3.6857 showing projects were successful. And finally transformational leadership 3.7414 leads to conclusion; it is necessary for team composition. The maximum value for independent, dependent variables and mediator and moderator are 5.

4.2 Correlation Analysis

To find the relationship between variables person correlation is used. It shows the magnitude of link between variables. Relationship strength is measure by the values lying between -1 to +1 whereas sign shows direction of relationship either positive or negative. When value is +1 or near to it that means relation is positive and it has an effect on other variable. In case of value near to -1 or -1 meaning relationship is negative correlation, decrease in one variable value leads to decrease in other variable value. If value is 0 that means shows no, existence of relationship

whereas 1 shows direct and strong relationship, -1 indicates strong but indirect relationship.

It shows the strength, link and direction of relationship between variables instead of existence of dependent and mediator variable. Regression analysis is used to find cause and effect between two or more variables which helps us in identifying accepted or failed hypothesis.

For this study correlation analysis is used to observe correlation between emotion intelligence and project success. team composition as mediator and transformational leadership as moderator to make proposed hypothesis valid.

TABLE 4.2: Correlation Analysis

Variables	1	2	3	4
1 Emotional intelligence	1			
2 Team composition	0 .468**	1		
3 Transformational leadership	0 .304**	0 .447**	1	
4 Project success	0 .334**	0 .430**	0 .433**	1

Notes: N = 215. Alpha reliabilities are given in parentheses. *Correlation is significant at the .05 level (two-tailed). **Correlation is significant at the .01 level (two-tailed).

The correlation table shows existence of correlation between variables. Which is moderate and positive. Emotional intelligence is significantly and positively related with team composition ($r=0.468^{**}$, $p=0.01$), project success ($r=0.334^{**}$, $p=0.01$) and transformational leadership ($r=0.304^{**}$, $p=0.01$). Team composition with transformational leadership ($r=0.447^{**}$, $p=0.01$) and project success ($r=0.430^{**}$, $p=0.01$) positively related. Whereas transformational leadership and project success are significantly related with values ($r=0.433^{**}$, $p=0.01$).

4.3 Regression Analysis

Correlation analysis has been carried out to study the reliability and significance of relation between variables. Correlation analysis is not enough because it does not provide authentic support to suggested hypothesis. It just shows the existence of relationships between variables which is not enough to support causal relationships.

Thus the need to perform regression analysis arises. It is conducted to find causal relationship, impact of one variable on other variable. Regression analysis examines how change in one variable impacts other variable when relationship is linear it will explain factors affecting the dependent variable.

TABLE 4.3: Mediation regression analysis

		B	SE	T	P
Emotional intelligence	Project success	0.1029	0.0418	2.4631	0.0146
Emotional intelligence	Team composition	0.3312	0.428	7.7366	0.0000
Team composition	Project success	0.299	0.0591	5.0611	0.0000
Int_1	Team composition	-0.0550	0.462	-1.1904	0.2352
		LL 95% CI		UL 95% CI	
Bootstrap results for indirect effect		.0410		.1604	

Note. Un-standardized regression coefficient reported. Bootstrap sample size 2000. LL =lower limit; CI = confidence interval; UL = upper limit. N=287, Control variables were, Gender, Age, Experience and Qualification, * P <.05; ** P <.01

TABLE 4.4: Moderation Regression Analysis

		B	SE	T	P
Int_1	Team composition	-0.0550	0.462	-1.1904	0.2352
		LL 95% CI		UL 95% CI	
Bootstrap results for indirect effect		.0416		0. 036	

Note. Un-standardized regression coefficient reported. Bootstrap sample size 2000. LL =lower limit; CI = confidence interval; UL = upper limit. N=287, Control variables were, Gender, Age, Experience and Qualification, * P < .05; ** P <.01

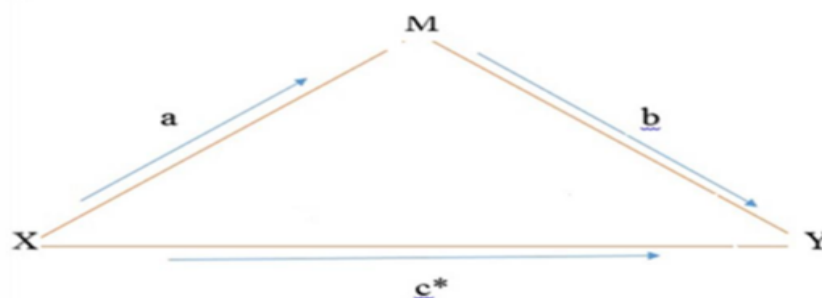


FIGURE 4.1: Mediated Model

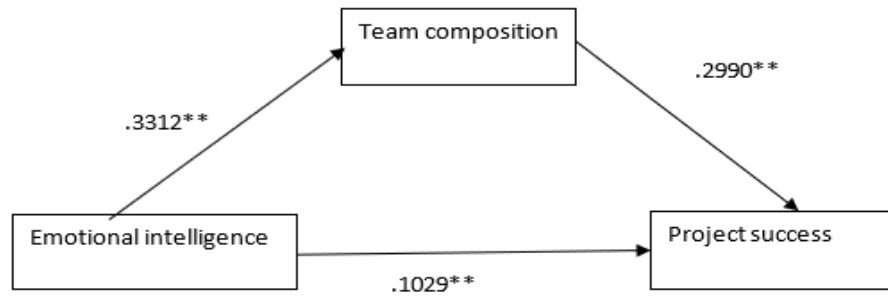


FIGURE 4.2: Coefficients of Mediated Model

With the help of table 4.3 there exists significant and direct positive relationship between Emotional intelligence and project success so un-standardized co-efficient of regression indicates that ($B=.1029$, $t= 2.4631$, $P= 0.0146$). Proving that hypothesis H1 i-e emotional intelligence is positively and significantly associated with project success is accepted. According to results in table 8 also shows that there is positive and significant relationship between emotional intelligence and team composition evidenced by un-standardized values of regression co-efficient ($B=.3312$, $t= 7.7366$, $P= 0.0000$). Proving that hypothesis H2 i-e between emotional intelligence and team composition there is positive and significant relation is accepted.

Values of regression co-efficient for the relationship of team composition and project success shown in table ($B=.2990$, $t= 5.0611$, $P= 0.0000$) indicates positive and significant existence of relationship between them. So hypothesis H3 i-e there is positive relationship between team composition and project success.

Results deduced shows that team composition mediates relationship between emotional intelligence and project success, as indirect effect of emotional intelligence through team composition with upper and lower limit of .0410 and .1604 does not contain zero in 95% bootstrapped confidence interval. Making hypothesis H4 accepted which is “team composition mediates relationship between emotional intelligence and project success”.

From table 4.4 values indicates that transformational leadership doesnot moderate relationship between emotional intelligence and team composition. Un-standardized regression analysis ($B=-.0550$, $t= -1.1904$, $P= 0.23$). Hence hypothesis H5 “transformational leadership acts as moderator between emotional

intelligence and team composition” is unaccepted because $P = 0.23$ showing insignificance and zero is present in confident interval 95% leading to unacceptance of hypothesis h5.

4.4 Hypothesis Summary

H₁: there exist positive relation between emotional intelligence and project success. (Accepted)

H₂: emotional intelligence and team composition have positive relation between them. (Accepted)

H₃: team composition is positively related with project success. (Accepted)

H₄: team composition mediates existed relation between emotional intelligence and project success. (Accepted)

H₅: transformational leadership moderates relationship between emotional intelligence and team composition. (Unaccepted).

Chapter 5

Discussion and Conclusion

5.1 Introduction

Here discussion will be on hypothesis and deduced results along with acceptance and rejection with the help literature. This chapter will also hold limitations, strength and weakness of research. Future research points will be the part of discussion.

5.2 Discussion for Hypothesis; Positive Relation between Emotional Intelligence and Project Success

Results from conducted study shows emotional intelligence and project success are significantly and positively related to each other. Though researcher already studied and still studying this relation in different contexts also agrees that there is valid relation between emotional intelligence and project success in industry of software development.

Software projects are prone to failure due to different standards and trends set by project managers and customer's constant changes in requirements. Which puts team into stressful situation as software is to be on time and within budget.

Though these things are beyond control of a manager (Verner, Sampson, & Cerpa, 2008).

But a manager with emotional intelligence can get through his team from stressful situations to success. So it is important for manager to get his team composed accordingly. Team is mainly composed of people with various skill sets, emotions, and work ethics. Responsibility again falls on manager to get them to work along as team (Zarzu, Scarlat, & Falcioğlu, 2013).

So the project success is purely the effort of manager. Higher the emotional intelligence in manager higher chances of getting project to success. Since Pakistani software industry is trying to meet and adapt international standards. So majorly traditional management is followed their but study suggested otherwise. Project success key element is emotional intelligence (Rezvani et al., 2016).

If emotional intelligence is used in our daily routine it would be easier to talk to people and to achieve success. Though for some projects it is hard to use emotional intelligence but with the time it'll be used in those projects such as handling construction labors in Pakistan.

5.3 Discussion for Hypothesis; Positive Relation between Emotional Intelligence and Team Composition

According to study emotional intelligence and team composition has significantly positive relation. Which is supported by many other authors. Emotional intelligence is to work with emotions of people in right way at right time to avoid conflicts in team and to regulate the team environment. Team is composed of different skill set people to work (Boyatzis, Koman, & Wolff, 2008).

Higher level of diversity in skills of team leads to creativity and new ways for project success (Darr & Kurtzberg, 2000). Emotional intelligence is found to be agreed upon characteristic of a manager which binds team together and lead them

to success. Through miscommunication to team personal conflicts (Rezvani et al., 2016).

(Prati, Douglas, Ferris, Ammeter, & Buckley, 2003) supported this study by saying emotional intelligence is mandatory element while composing team and in getting positive team outcomes. So as emotional intelligence ratio higher the higher will be effect on team and their outcomes(Jordan, Ashkanasy, Hrtel, & Hooper, 2002). Emotional intelligence helps us understand difference between team members and to use them for the benefit of project (Jordan & Troth, 2004).

Where as in Pakistan usually teams for projects are developed on bases of practical skill, soft skills usually get neglected so team has to compromise or work their way around it. Worst case team member usually quit project because of manager.as per study suggestion if emotional intelligence gets incorporated with practical skills team will be comfortable to work with such managers.

5.4 Discussion for Hypothesis; Positive Relation between Team Composition and Project Success

Another positive and significant relation pointed out by this study which is evidently been supported by other researchers as well. As team is a set of diverse skill needed for project. According to (Ferraro, 2007) team composition refers to the process where people are collected to work in collaboration and harmony to achieve a particular goal.

To achieve project success one must build an effect team as proved by this study. For effective team manager is required to held its ground role and lead them effectively. Team composition is an essential part of project because it promotes shared beliefs among team to achieve project success. Adding another point to its importance is that it helps members in understanding of each other roles in project (Robinson & Rose, 2004).

It builds the desire in members to work together and is important part of the process to share their concerns, ideas regarding project that may lead project to success. Further more team composition helps in creating a social and friendly environment which make work enjoyable in difficult situations. Members help and support in each other through life cycle of project. Whereas project success depends on each team members success (Robinson & Rose, 2004).

So in order to achieve success in project each member of team needs to work in sync with its team member and support them for the betterment of project.

5.5 Discussion for Hypothesis; Mediating Role of Team Composition in Relationship Between Emotional Intelligence and Project Success

This study statistically accepts team composition as mediator between emotional intelligence and project success. It is always managements responsibility if a project succeeds or fails. So top management needs to make some important decisions regarding process which leads to success. There is a saying its not a project that fails it is management that fails and vice versa. So to get to project to succeed management needs to be effective in order to build an effective team. Which is many researchers support the idea.

It is agreed upon that an effective leader can leads its team to success and it is also agreed by researchers that leader with emotional intelligence is an effective leader. So while creating team for project manager needs emotional intelligence to achieve success. With the help of emotional intelligence team morale is boosted and give them sense that they can achieve their desired goal (Nstase, puric, & Tache, 2010).

Emotional intelligent leader make sure their team members understand their goals and objectives guide them towards success(Muller & Turner, 2017). So this study

points out that as emotional intelligent leader is more influential than any other leader so it can leads its team in more effective way and help them through difficult situation. And protect them from different influences which can affect not only project success but team harmony and bonding.

5.6 Discussion for Hypothesis; Moderating Role of Transformational Leadership in Relationship between Emotional Intelligence and Team Composition

Hypothesis 5 i.e transformational leadership moderates the relationship between emotional intelligence and team composition in this study has been statistically failed hence proving it does not have any effect on this relationship.

Though past authors statistically proved that transformational leadership positively effects emotional intelligence and team composition. Their will and always be a need of leadership style to structure team and to guide them (Hur, Van Den Berg, & Wilderom, 2011). (Kpers & Weibler, 2006) stated that transformational leadership requires personal emotional intelligence components in order to lead an effective team.

There exists some evidences which supports this study results. According to (Stahl, Maznevski, Voigt, & Jonsen, 2010) say's team members behavior can easily get manipulated by cultural diversity. Due to cultural and contextual difference in team members data cannot be generalized impacting our research (Van Bavel, Mende-Siedlecki, Brady, & Reinero, 2016). According to (kerlavaj, erne, Dysvik, Nerstad, & Su, 2019) research its been clear that when a member gets to a leader post is more focused on its on benefits and for that purpose create connections in industry his interests will no longer to help others but themselves .

This study was to explore the moderating effect of transformational leadership on the relationship between emotional intelligence and team composition. This study

was supposed to show enhancement of influence in team composition method with the help of transformational leadership.

But study suggested otherwise. There was no significant effect on relation of emotional intelligence and team composition. The process was successful on its own.

5.7 Practical and Theoretical Implication

This study shows acceptance towards theoretical and managerial implication of emotional intelligence in software project success. Emotional intelligence though is necessary in every aspect of project but it keeps significance in developing of team of developer for the success of project. so managers need to have emotional intelligence while creating their team for successful projects. Which is theoretically emphasized in this study.

5.8 Strengths, Limitations, and Future Directions

There is always a limit for everything and no research is 100% accurate especially in social sciences, there is always a room for improvement and as human nature minor points can also get neglected. Data is gathered from participants belong to Pakistani software development industry in Islamabad and Rawalpindi. Limiting sample size to 215. Which does not represent entire Pakistani software industry. So for different cultural and context unfortunately this study might not be valid. Unfortunately research gets lemmatized to respondents busy at work and not having enough time to get data properly filled for research. Or do not have enough experience or knowledge about the area of study.

Though data collected and results was analyzed properly though there were many options so in future data should be gathered in different cultural and context with bigger sample size. The study domain was of software industry where as

emotional intelligence and team compositions are main elements of any project so it is suggested to be studied in different domains. Emotional intelligence should be studied at small level projects. One study cannot cater all points regarding a topic so there are things need to be further studied for example transformational leadership should be studied as moderator between team composition and project success.

5.9 Conclusion

The purpose of conducting this study is to observe the impact of emotional intelligence on software project success with mediating role of team composition and moderator role played by transformational leader. Study was conducted in software project houses in Pakistan. Results concluded from this research shows emotional intelligence plays an important role during team composition and in project success. Though agile team composition is also necessary for project success. But unfortunately transformational leadership has no effect while composition of team.

Bibliography

- Aga, D. A. (2016). Transactional leadership and project success: the moderating role of goal clarity. *Procedia Computer Science*, 100(1), 517-525.
- Atkinson, R. (1999). Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria. *International Journal of Project Management*, 17(6), 337-342.
- Baker, D. P., & Salas, E. (1997). Principles for measuring teamwork: A summary and look toward the future Team performance assessment and measurement (pp. 343-368): Psychology Press.
- Bannerman, P. L. (2008). Defining project success: a multilevel framework. Paper presented at the Proceedings of the Project Management Institute Research Conference.
- Bantel, K. A., & Jackson, S. E. (1989). Top management and innovations in banking: does the composition of the top team make a difference? *Strategic management journal*, 10(S1), 107-124.
- Barling, J., Slater, F., & Kelloway, E. K. (2000). Transformational leadership and emotional intelligence: An exploratory study. *Leadership & Organization Development Journal*.
- Bashir, N. A. (2017). Leadership Connection to Emotional Intelligence and Stress at Workplace. *Journal of Management Research*, 9(1), 46-47.
- Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. *Organizational dynamics*, 18(3), 19-31.

- Bass, B. M. (1996). *New paradigm of leadership: An inquiry into transformational leadership*: US Army Research Institute for the Behavioral and Social Sciences.
- Bass, B. M., & Bass Bernard, M. (1985). *Leadership and performance beyond expectations*.
- Beck, K., Beedle, M., Van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., . . . Jeffries, R. (2001). *Manifesto for agile software development*.
- Bell, S. T., Brown, S. G., Colaneri, A., & Outland, N. (2018). Team composition and the ABCs of teamwork. *American psychologist*, 73(4), 349.
- Bell, S. T., Brown, S. G., & Weiss, J. A. (2018). A conceptual framework for leveraging team composition decisions to build human capital. *Human resource management review*, 28(4), 450-463.
- Bell, S. T., Villado, A. J., Lukasik, M. A., Belau, L., & Briggs, A. L. (2011). Getting specific about demographic diversity variable and team performance relationships: A meta-analysis. *Journal of management*, 37(3), 709-743.
- Belout, A., & Gauvreau, C. (2004). Factors influencing project success: the impact of human resource management. *International journal of project management*, 22(1), 1-11.
- Berntsson-Svensson, R., & Aurum, A. (2006). Successful software project and products: An empirical investigation. Paper presented at the Proceedings of the 2006 ACM/IEEE international symposium on Empirical software engineering.
- Biju, S. M. (2008). Agile Software Development. *E-Learning and Digital Media*, 5(1), 97-102. doi:10.2304/elea.2008.5.1.97
- Blanchard, K. H., Hersey, P., & Johnson, D. (1969). *Management of Organizational Behavior, Utilizing Human Resources*: Prentice Hall.
- Bono, J. E., Foldes, H. J., Vinson, G., & Muros, J. P. (2007). Workplace emotions: The role of supervision and leadership. *Journal of Applied Psychology*, 92(5), 1357.

- Boyatzis, R., Koman, E. S., & Wolff, S. B. (2008). Emotional intelligence competencies in the team and team leader. *Journal of Management Development*.
- Bradberry, T., & Greaves, J. (2004). *Emotional intelligence appraisal: There is more than IQ, technical manual update*. San Diego, CA: Talent Smart Inc.
- Butt, S. S., Nisar, Q. A., Nadeem, S., & Baig, F. (2017). Longitudinal study to examine the influence of emotional intelligence on organizational citizenship behavior: Mediating role of political skills. *WALIA Journal*, 33(1), 54-63.
- Cameran, M., Ditillo, A., & Pettinicchio, A. (2018). Audit team attributes matter: How diversity affects audit quality. *European Accounting Review*, 27(4), 595-621.
- Cartwright, A., & Solloway, A. (2017). *Emotional Intelligence: Activities for developing you and your business*: Routledge.
- Caruso, D. R., & Salovey, P. (2004). *The emotionally intelligent manager: How to develop and use the four key emotional skills of leadership*: John Wiley & Sons.
- Center, D. (2018). Knowing oneself: the first step to be an effective member of an interprofessional team. *The Journal of Continuing Education in Nursing*, 49(9), 397-399.
- Cherniss, C., Extein, M., Goleman, D., & Weissberg, R. P. (2006). Emotional intelligence: what does the research really indicate? *Educational psychologist*, 41(4), 239-245.
- Clancy, T. (1995). *The standish group report*. Chaos report.
- Clarke, N. (2010). The impact of a training programme designed to target the emotional intelligence abilities of project managers. *International Journal of Project Management*, 28(5), 461-468.
- Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of management*, 23(3), 239-290.

- Converse, S., Cannon-Bowers, J., & Salas, E. (1993). Shared mental models in expert team decision making. *Individual and group decision making: Current issues*, 221, 221-246.
- Cote, S., & Miners, C. T. (2006). Emotional intelligence, cognitive intelligence, and job performance. *Administrative Science Quarterly*, 51(1), 1-28.
- Crawford, L. (2000). Profiling the competent project manager. Paper presented at the Proceedings of PMI Research Conference.
- Crawford, L., Hobbs, B., & Turner, J. R. (2005). Project categorization systems. Project Management Institute, Newton Square, PA, USA.
- Crawford, L., & Turner, J. (2007). Developing the project management competence of individuals. *Gower handbook of project management*, 4, 678-694.
- Darr, E. D., & Kurtzberg, T. R. (2000). An investigation of partner similarity dimensions on knowledge transfer. *Organizational behavior and human decision processes*, 82(1), 28-44.
- David, G. (1995). *Emotional intelligence*: New York, Bantam Books.
- De Bakker, K., Boonstra, A., & Wortmann, H. (2010). Does risk management contribute to IT project success? A meta-analysis of empirical evidence. *International Journal of Project Management*, 28(5), 493-503.
- De Dreu, C. K., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: a meta-analysis. *Journal of applied Psychology*, 88(4), 741.
- Douglas, C., Ammeter, A. P., & Buckley, M. R. (2003). Emotional intelligence, leadership effectiveness, and team outcomes. *The International Journal of Organizational Analysis*, 11(1), 21-40.
- Driskell, J. E., Salas, E., & Driskell, T. (2018). Foundations of teamwork and collaboration. *American psychologist*, 73(4), 334.
- Dulewicz, S., & Higgs, M. J. (2004). Design of a new instrument to assess leadership dimensions and styles. *Selection and development review*, 20(2), 7-12.

- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44(2), 350-383.
- Edmondson, A. C. (2003). Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *Journal of management studies*, 40(6), 1419-1452.
- Edmondson, A. C., Bohmer, R. M., & Pisano, G. P. (2001). Disrupted routines: Team learning and new technology implementation in hospitals. *Administrative Science Quarterly*, 46(4), 685-716.
- Edwards, J. R., Caplan, R. D., & Van Harrison, R. (1998). Person-environment fit theory. *Theories of organizational stress*, 28, 67.
- Ehrhart, M. G., & Klein, K. J. (2001). Predicting followers' preferences for charismatic leadership: The influence of follower values and personality. *The Leadership Quarterly*, 12(2), 153-179.
- Engel, D., Woolley, A. W., Jing, L. X., Chabris, C. F., & Malone, T. W. (2014). Reading the mind in the eyes or reading between the lines? Theory of mind predicts collective intelligence equally well online and face-to-face. *PloS one*, 9(12).
- F. Tripp, J., & Armstrong, D. J. (2018). Agile methodologies: organizational adoption motives, tailoring, and performance. *Journal of Computer Information Systems*, 58(2), 170-179.
- Fenn, P., & Gameson, R. (2003). *Construction conflict management and resolution*: Routledge.
- Ferraro, J. (2007). *The strategic project leader: Mastering service-based project leadership*: Auerbach Publications.
- Fiedler, F. E. (1967). *A THEORY OF LEADERSHIP EFFECTIVENESS*. MCGRAW-HILL SERIES IN MANAGEMENT.
- Fisher, E. (2011). What practitioners consider to be the skills and behaviours of an effective people project manager. *International journal of project management*, 29(8), 994-1002.

- Fouse, S., Cooke, N. J., Gorman, J. C., Murray, I., Uribe, M., & Bradbury, A. (2011). Effects of role and location switching on team performance in a collaborative planning environment. Paper presented at the Proceedings of the Human Factors and Ergonomics Society Annual Meeting.
- George, J. M. (2000). Emotions and leadership: The role of emotional intelligence. *Human relations*, 53(8), 1027-1055.
- Gergalo, Y. (2019). Guide to understand what makes you a good manager?
- Glinow, M. A. V., Shapiro, D. L., & Brett, J. M. (2004). Can we talk, and should we? Managing emotional conflict in multicultural teams. *Academy of Management review*, 29(4), 578-592.
- Glover, D. F. (2017). *Emotional Intelligence, Transformational Leadership, & Leader Efficacy of Nonprofit Leaders*: Trevecca Nazarene University.
- Goleman, D. (1995). *Emotional intelligence*. New York, NY, England: Bantam Books, Inc.
- Goleman, D. (1998). *Working with emotional intelligence*: Bantam.
- Goleman, D., & Boyatzis, R. (2008). Social intelligence and the biology of leadership. *Harvard business review*, 86(9), 74-81.
- Grandey, A. A., Fisk, G. M., & Steiner, D. D. (2005). Must" service with a smile" be stressful? The moderating role of personal control for American and French employees. *Journal of Applied Psychology*, 90(5), 893.
- Gregersen, T. S., & MacIntyre, P. D. (2017). *Idiodynamics: An innovative method to build emotional intelligence through systematic self-assessment/reflection/critique Innovative practices in language teacher education* (pp. 33-53): Springer.
- Guler, J., Roberts, M. C., Medina-Mora, M. E., Robles, R., Gureje, O., Keeley, J. W., . . . Pike, K. M. (2018). Global Collaborative Team Performance for the Revision of the International Classification of Diseases: A Case Study of the World Health Organization Field Studies Coordination Group. *International Journal of Clinical and Health Psychology*, 18(3), 189-200.

- Haake, P., Kaufmann, J., Baumer, M., Burgmaier, M., Eichhorn, K., Mueller, B., & Maedche, A. (2018). Configurations of User Involvement and Participation in Relation to Information System Project Success. Paper presented at the International Conference on Advanced Information Systems Engineering.
- Hall, K. L., Vogel, A. L., Stipelman, B. A., Stokols, D., Morgan, G., & Gehlert, S. (2012). A four-phase model of transdisciplinary team-based research: goals, team processes, and strategies. *Translational behavioral medicine*, 2(4), 415-430.
- Haq, N. U., Raja, A. A., Nosheen, S., & Sajjad, M. F. (2018). Determinants of client satisfaction in web development projects from freelance marketplaces. *International Journal of Managing Projects in Business*.
- Hendon, M., Powell, L., & Wimmer, H. (2017). Emotional intelligence and communication levels in information technology professionals. *Computers in Human Behavior*, 71, 165-171.
- Highsmith, J., & Cockburn, A. (2001). Agile software development: The business of innovation. *Computer*, 34(9), 120-127.
- Hoch, J. E., Bommer, W. H., Dulebohn, J. H., & Wu, D. (2018). Do ethical, authentic, and servant leadership explain variance above and beyond transformational leadership? A meta-analysis. *Journal of management*, 44(2), 501-529.
- Hur, Y., Van Den Berg, P. T., & Wilderom, C. P. (2011). Transformational leadership as a mediator between emotional intelligence and team outcomes. *The Leadership Quarterly*, 22(4), 591-603.
- Hwa, M. A. C., & Amin, H. (2016). Why emotion at work matters: examining the influence of emotional labour and emotional intelligence on workplace behaviours among service workers in east Malaysia. *Kajian Malaysia*, 34(1), 79-105.
- Hwang, B.-G., Zhao, X., & Ng, S. Y. (2013). Identifying the critical factors affecting schedule performance of public housing projects. *Habitat International*, 38, 214-221.

- Isen, A. M., & Reeve, J. (2005). The influence of positive affect on intrinsic and extrinsic motivation: Facilitating enjoyment of play, responsible work behavior, and self-control. *Motivation and emotion*, 29(4), 295-323.
- Jain, A. (2018). HOLISTIC VIEW OF EMOTIONAL INTELLIGENCE IN THE WORKPLACE: VIEW ON UTILIZATION & BENEFITS. *Journal of Services Research*, 18(2).
- Jain, A. K., Fennell, M. L., Chagpar, A. B., Connolly, H. K., & Nembhard, I. M. (2016). Moving toward improved teamwork in cancer care: the role of psychological safety in team communication. *Journal of oncology practice*, 12(11), 1000-1011.
- Jiang, Z., Naude, P., & Comstock, C. (2007). An investigation on the variation of software development productivity. *International Journal of Computer, Information, and Systems Sciences, and Engineering*, 1(2), 72-81.
- Jordan, P. J., Ashkanasy, N. M., Hrtel, C. E., & Hooper, G. S. (2002). Workgroup emotional intelligence: Scale development and relationship to team process effectiveness and goal focus. *Human resource management review*, 12(2), 195-214.
- Jordan, P. J., & Troth, A. C. (2004). Managing emotions during team problem solving: Emotional intelligence and conflict resolution. *Human performance*, 17(2), 195-218.
- Kelly, P. J., Kyngdon, F., Ingram, I., Deane, F. P., Baker, A. L., & Osborne, B. A. (2018). The Client Satisfaction Questionnaire8: Psychometric properties in a crosssectional survey of people attending residential substance abuse treatment. *Drug and alcohol review*, 37(1), 79-86.
- Kezsbom, D. S., & Edward, K. A. (2001). *The new dynamic project management: winning through the competitive advantage*: Wiley-Interscience.
- Kozlowski, S. W., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological science in the public interest*, 7(3), 77-124.
- Kozlowski, S. W., & Klein, K. J. (2000). *A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes*.

- Kumar, S. (2014). Establishing linkages between emotional intelligence and transformational leadership. *Industrial psychiatry journal*, 23(1), 1.
- Kpers, W., & Weibler, J. (2006). How emotional is transformational leadership really? *Leadership & Organization Development Journal*.
- Lakshmi, K., & Rao, K. S. (2018). A Study on Role of Emotional Intelligence on Employee Performance. *International Journal of Civil Engineering and Technology*, 9(3).
- Lee, C., & Wong, C.-S. (2019). The effect of team emotional intelligence on team process and effectiveness. *Journal of Management & Organization*, 25(6), 844-859.
- Lee, Y. H., & Chelladurai, P. (2018). Emotional intelligence, emotional labor, coach burnout, job satisfaction, and turnover intention in sport leadership. *European Sport Management Quarterly*, 18(4), 393-412.
- Lembke, S., & Wilson, M. G. (1998). Putting the "Team" into Teamwork: Alternative Theoretical Contributions for Contemporary Management Practice. *Human Relations*, 51(7), 927-944. doi: 10.1177/001872679805100704
- Levine, J. M., & Moreland, R. L. (1990). Progress in small group research. *Annual review of psychology*, 41(1), 585-634.
- Lindsjorn, Y., Sjberg, D. I., Dingsyr, T., Bergersen, G. R., & Dyb, T. (2016). Teamwork quality and project success in software development: A survey of agile development teams. *Journal of Systems and Software*, 122, 274-286.
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional intelligence: New ability or eclectic traits? *American psychologist*, 63(6), 503.
- Mayer, J. D., Salovey, P., Caruso, D. R., & Sitarenios, G. (2001). Emotional intelligence as a standard intelligence.
- Mazur, A., Pisarski, A., Chang, A., & Ashkanasy, N. M. (2014). Rating defence major project success: The role of personal attributes and stakeholder relationships. *International Journal of Project Management*, 32(6), 944-957.

- McCauley, R. (2001). Agile development methods poised to upset status quo. *ACM SIGCSE Bulletin*, 33(4), 14-15.
- McGregor, D. M. (1967). *The professional manager*.
- Melo, C., Cruzes, D. S., Kon, F., & Conradi, R. (2011). Agile team perceptions of productivity factors. Paper presented at the 2011 Agile Conference.
- Melo, C. D. O., Cruzes, D. S., Kon, F., & Conradi, R. (2013). Interpretative case studies on agile team productivity and management. *Information and Software Technology*, 55(2), 412-427.
- Meso, P., & Jain, R. (2006). Agile software development: adaptive systems principles and best practices. *Information systems management*, 23(3), 19-30.
- Mir, F. A., & Pinnington, A. H. (2014). Exploring the value of project management: linking project management performance and project success. *International journal of project management*, 32(2), 202-217.
- Misra, S. (2011). R&D team creativity: A way to team innovation. *International Journal of Business Insights & Transformation*, 4(2), 31-36.
- Morrison, M., & Morrison, J. (2016). Emotional Intelligence. *Childbirth Education*, 19.
- Mount, G. (2006). The role of emotional intelligence in developing international business capability: EI provides traction. *Linking emotional intelligence and performance at work: Current research evidence with individuals and groups*, 97-124.
- Moxon, P. (1993). *Building a better team: a handbook for managers and facilitators*: Gower Publishing, Ltd.
- Muller, R., & Turner, J. R. (2017). *Project-oriented leadership*: Routledge.
- Mller, R., & Turner, R. (2007). The influence of project managers on project success criteria and project success by type of project. *European management journal*, 25(4), 298-309.
- Murlis, H., & Schubert, P. (2002). *Engage employees and boost performance*. Hay Group, 1-22.

- Nastase, M., Tapurica, O.-C., & Tache, F. (2010). Involving project leaders within project management teams: Key factor towards competitiveness. *Review of International Comparative Management*, 11(4), 582-590.
- Nguyen, T. T., Mia, L., Winata, L., & Chong, V. K. (2017). Effect of transformational leadership style and management control system on managerial performance. *Journal of Business Research*, 70, 202-213.
- Ni, G., Cui, Q., Sang, L., Wang, W., & Xia, D. (2018). Knowledge-sharing culture, project-team interaction, and knowledge-sharing performance among project members. *Journal of Management in Engineering*, 34(2), 04017065.
- Novo, B., Landis, E. A., & Haley, M. L. (2017). Leadership and its role in the success of project management. *Journal of Leadership, Accountability and Ethics*, 14(1).
- Nunnally, J. C. (1994). *Psychometric theory 3E*: Tata McGraw-Hill Education.
- O'Boyle Jr, E. H., Humphrey, R. H., Pollack, J. M., Hawver, T. H., & Story, P. A. (2011). The relation between emotional intelligence and job performance: A meta-analysis. *Journal of Organizational Behavior*, 32(5), 788-818.
- Obradovic, V., Jovanovic, P., Petrovic, D., Mihic, M., & Mitrovic, Z. (2013). Project managers emotional intelligence: a ticket to success. *Procedia-Social and Behavioral Sciences*, 74, 274-284.
- Odusami, K., Iyagba, R., & Omirin, M. (2003). The relationship between project leadership, team composition and construction project performance in Nigeria. *International journal of project management*, 21(7), 519-527.
- Ogbonna, E., & Harris, L. C. (2000). Leadership style, organizational culture and performance: empirical evidence from UK companies. *International Journal of Human Resource Management*, 11(4), 766-788.
- Palmer, B., Walls, M., Burgess, Z., & Stough, C. (2001). Emotional intelligence and effective leadership. *Leadership & Organization Development Journal*, 22(1), 5-10.
- Palmer, S. R., & Felsing, M. (2001). *A practical guide to feature-driven development*: Pearson Education.

- Pandya, K. D. (2014). The key competencies of project leader beyond the essential technical capabilities. *IUP Journal of Knowledge Management*, 12(4), 39.
- Parker, S. K., Bindl, U. K., & Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of management*, 36(4), 827-856.
- Peter, P. C. (2010). Emotional intelligence. *Wiley International Encyclopedia of Marketing*.
- Prabhakar, G. P. (2008). What is project success: a literature review. *International Journal of Business and Management*, 3(9), 3-10.
- Pratch, L., & Jacobowitz, J. (1998). Integrative capacity and the evaluation of leadership: A multimethod assessment approach. *The Journal of Applied Behavioral Science*, 34(2), 180-201.
- Prati, L. M., Douglas, C., Ferris, G. R., Ammeter, A. P., & Buckley, M. R. (2003). The role of emotional intelligence in team leadership: Reply to the critique by Antonakis. *The International Journal of Organizational Analysis*.
- Prinz, J., & Wicker, P. (2016). Diversity effects on team performance in the Tour de France. *Team Performance Management*.
- Pritzker, S. R., & Runco, M. A. (2011). *Encyclopedia of creativity*: Academic Press.
- Purwadita, C. P., Sudiro, A., Mugiono, M., & Idris, I. (2018). Innovation in leadership and team performance: evidence from Indonesia property agent industry. *MEC-J (Management and Economics Journal)*, 2(2), 117-132.
- Putnam, L. L., & Mumby, D. K. (1993). Organizations, emotion and the myth of rationality. *Emotion in organizations*, 1, 36-57.
- Rafaeli, A., & Sutton, R. I. (1987). Expression of emotion as part of the work role. *Academy of Management review*, 12(1), 23-37.
- Rezvani, A., Chang, A., Wiewiora, A., Ashkanasy, N. M., Jordan, P. J., & Zolin, R. (2016). Manager emotional intelligence and project success: The mediating role of job satisfaction and trust. *International Journal of Project Management*, 34(7), 1112-1122.

- Rezvani, A., & Khosravi, P. (2018). A comprehensive assessment of project success within various large projects. *The Journal of Modern Project Management*, 6(1).
- Robinson, G., & Rose, M. (2004). *A Leadership Paradox: Influencing Others by Defining Yourself*: Challenge Quest, LLC.
- Rolle, C., Weidner, V., Weber, J., & Schlothfeldt, M. (2018). Role Expectations and Role Conflicts within Collaborative Composing Projects Musician-Teacher Collaborations (pp. 50-61): Routledge.
- Salovey, P., Mayer, J., & Caruso, D. (2004). Emotional intelligence: Theory, findings, and implications. *Psychological inquiry*, 15(3), 197-215.
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, cognition and personality*, 9(3), 185-211.
- Sauer, C., Gemino, A., & Reich, B. H. (2007). The impact of size and volatility on IT project performance. *Communications of the ACM*, 50(11), 79-84.
- Serrat, O. (2017). *Understanding and developing emotional intelligence Knowledge solutions* (pp. 329-339): Springer.
- Shahid, R., Stirling, J., & Adams, W. (2018). Promoting wellness and stress management in residents through emotional intelligence training. *Advances in medical education and practice*, 9, 681.
- Shott, S. (1979). Emotion and social life: A symbolic interactionist analysis. *American journal of Sociology*, 84(6), 1317-1334.
- Skerlavaj, M., Cerne, M., Dysvik, A., Nerstad, C. G., & Su, C. (2019). Riding two horses at once: The combined roles of mastery and performance climates in implementing creative ideas. *European Management Review*, 16(2), 285-302.
- Smith, R., Killgore, W. D., Alkozei, A., & Lane, R. D. (2018). A neuro-cognitive process model of emotional intelligence. *Biological psychology*, 139, 131-151.
- Soto, C. J. (2019). How replicable are links between personality traits and consequential life outcomes? The Life Outcomes of Personality Replication Project. *Psychological Science*, 30(5), 711-727.

- Srinivasan, B. N., & Mukherjee, D. (2018). Agile teams as complex adaptive systems (CAS). *International Journal of Information Technology*, 10(3), 367-378.
- Stahl, G. K., Maznevski, M. L., Voigt, A., & Jonsen, K. (2010). Unraveling the effects of cultural diversity in teams: A meta-analysis of research on multicultural work groups. *Journal of international business studies*, 41(4), 690-709.
- Stevens, M. J., & Campion, M. A. (1994). The knowledge, skill, and ability requirements for teamwork: Implications for human resource management. *Journal of management*, 20(2), 503-530.
- Stokols, D., Hall, K. L., Moser, R. P., Feng, A. X., Misra, S., & Taylor, B. K. (2010). Cross-disciplinary team science initiatives: Research, training, and translation: na.
- Strohmeier, S. (1992). Development of interpersonal skills for senior project managers. *International journal of project management*, 10(1), 45-48.
- Sun, W., Xu, A., & Shang, Y. (2014). Transformational leadership, team climate, and team performance within the NPD team: Evidence from China. *Asia Pacific Journal of Management*, 31(1), 127-147.
- Sunindijo, R. Y., Hadikusumo, B. H., & Ogunlana, S. (2007). Emotional intelligence and leadership styles in construction project management. *Journal of management in engineering*, 23(4), 166-170.
- Tett, R. P., Simonet, D. V., Walser, B., & Brown, C. (2013). Trait activation theory. *Handbook of personality at work*, 71-100.
- Thamhain, H. J., & Nurick, A. J. (1994). Project team development in multinational environments. *Global Project Management Handbook*. NY, USA: McGraw-Hill.
- Thatcher, S., & Patel, P. C. (2011). Demographic faultlines: A meta-analysis of the literature. *Journal of Applied Psychology*, 96(6), 1119.
- Tippett, D. D., & Peters, J. F. (1995). Team building and project management: How are we doing?

- Totterdell, P., Wall, T., Holman, D., Diamond, H., & Epitropaki, O. (2004). Affect networks: a structural analysis of the relationship between work ties and job-related affect. *Journal of Applied Psychology*, 89(5), 854.
- Truong, D., & Jitbaipoon, T. (2016). How can agile methodologies be used to enhance the success of information technology projects? *International Journal of Information Technology Project Management (IJITPM)*, 7(2), 1-16.
- Turner, J. R. (1993). *The handbook of project-based. Management*, McGraw-Hill, Boston.
- Turner, J. R., & Cochrane, R. A. (1993). Goals-and-methods matrix: coping with projects with ill defined goals and/or methods of achieving them. *International Journal of Project Management*, 11(2), 93-102.
- Turner, J. R., & Mller, R. (2005). The project manager's leadership style as a success factor on projects: A literature review. *Project management journal*, 36(2), 49-61.
- Turner, R., & Zolin, R. (2012). Forecasting success on large projects: developing reliable scales to predict multiple perspectives by multiple stakeholders over multiple time frames. *Project management journal*, 43(5), 87-99.
- Tutorial, P. (1994). *Project Management 101: The Project Manager Administrative Skills*. PM Network.
- Urch Druskat, V., Wolff, S. B., Messer, T. E., Stubbs Koman, E., & Batista-Foguet, J.-M. (2017). Team Emotional Intelligence: Linking Team Social and Emotional Environment to Team Effectiveness. Paper presented at the DIEM: Dubrovnik International Economic Meeting.
- Van Bavel, J. J., Mende-Siedlecki, P., Brady, W. J., & Reinero, D. A. (2016). Contextual sensitivity in scientific reproducibility. *Proceedings of the National Academy of Sciences*, 113(23), 6454-6459.
- Van Knippenberg, D., & Mell, J. N. (2016). Past, present, and potential future of team diversity research: From compositional diversity to emergent diversity. *Organizational Behavior and Human Decision Processes*, 136, 135-145.

- Verner, J., Sampson, J., & Cerpa, N. (2008). What factors lead to software project failure? Paper presented at the 2008 Second International Conference on Research Challenges in Information Science.
- Walumbwa, F. O., & Lawler, J. J. (2003). Building effective organizations: Transformational leadership, collectivist orientation, work-related attitudes and withdrawal behaviours in three emerging economies. *International journal of human resource management*, 14(7), 1083-1101.
- Wateridge, J. (1995). IT projects: a basis for success. *International Journal of Project Management*, 13(3), 169-172.
- Wei, X., Liu, Y., & Allen, N. J. (2016). Measuring team emotional intelligence: A multimethod comparison. *Group Dynamics: Theory, research, and practice*, 20(1), 34.
- Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work.
- West, D., Grant, T., Gerush, M., & DSilva, D. (2010). Agile development: Mainstream adoption has changed agility. *Forrester Research*, 2(1), 41.
- Wilson, C. (2010). Bruce Tuckman's Forming, Storming, Norming & Performing Team Development Model. Retrieved 6 March 2013.
- Zaccaro, S. J., Dubrow, S., & Kolze, M. (2018). Leader traits and attributes.
- Zafar, A. A., Saif, S., Khan, M., Iqbal, J., Akhunzada, A., Wadood, A., . . . Alamri, A. (2018). Taxonomy of factors causing integration failure during global software development. *IEEE Access*, 6, 22228-22239.
- Zarzu, C., Scarlat, C., & Falcioglu, P. (2013). Team composition and team performance: achieving higher quality results in an international higher education environment. Paper presented at the Proceedings of the Management, Knowledge and Learning International Conference.
- Zeidner, M., Matthews, G., & Roberts, R. D. (2004). Emotional intelligence in the workplace: A critical review. *Applied Psychology*, 53(3), 371-399.

Zurcher, L. A. (1985). The war game: organizational scripting and the expression of emotion. *Symbolic Interaction*, 8(2), 191-206.

Appendix A



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

Department of Management Sciences

Questionnaire

Dear Participant,

I am a student of MS Project Management Capital University of Sciences & Technology, Islamabad. I am conducting a research on the topic: **The Role of Project Managers Traits in Agile Team Composition in software Project Success**. You can help me by completing the attached questionnaire. I appreciate your participation in my study and I assure that your responses will be held confidential and will only be used for education purposes.

Sincerely,

Nabiha Batool,

MS Scholar,

Capital University of Science and Technology, Islamabad

Please provide following information.

	1	2	3
Gender	Male	Female	Trans

	1	2	3	4
Age	18- 25	26-33	34-41	42 and Above

	1	2	3	4
Marital Status	Single	Married	Widow	Divorce

	1	2	3	4	5
Qualification	Matric	FSc	Bachelors	Masters	MPhil and Above

	1	2	3	4	5
Experience	Less than 1 year	1 5	6 10	11 15	16 and above

Please tick the relevant choices: 1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree,

5= Strongly Agree

Team Composition.						
1	Sense of Purpose is Clear to individual.	1	2	3	4	5
2	Tools and people have skills according to task.	1	2	3	4	5
3	Individuals are Competent and trained to do the task	1	2	3	4	5
4	Clear understanding of performance objectives which has been established.	1	2	3	4	5
5	High level of customer awareness and standards.	1	2	3	4	5
Emotional Intelligence						
1	I can usually imagine what another person is feeling.	1	2	3	4	5
2	I often use how I feel about a problem to define [the] attention I give to it.	1	2	3	4	5

Transformational Leadership						
1	My supervisor acts in ways that build my respect.	1	2	3	4	5
2	My supervisor talks to us about his/her most important values and beliefs.	1	2	3	4	5
3	My supervisor expresses his/her confidence that we will achieve our goals.	1	2	3	4	5
4	My supervisor spends time teaching and coaching me.	1	2	3	4	5
6	My supervisor seeks differing perspectives when solving problems.	1	2	3	4	5
Project Success						
1	Are projects delayed due to design or implementation problems?	1	2	3	4	5
2	Are completed projects successful in meeting their design objectives?	1	2	3	4	5
3	Is it necessary to redesign and/or re-program projects within two years of the time they become operational?	1	2	3	4	5
4	After projects are implemented, is it apparent that an alternative design could have better served the user?	1	2	3	4	5
5	After projects are implemented, are major reprogramming efforts necessary to improve processing efficiency?	1	2	3	4	5
6	Are new systems designed and implemented in a manner which enhances the credibility of the systems organization?	1	2	3	4	5
7	Do newly developed systems work the way the user expected them to?	1	2	3	4	5