

The effect of project managers' emotional intelligence on project success: Evidence from construction projects in Khyber Pakhtunkhwa, Pakistan

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Abstract: The purpose of present study is to examine the effect of project managers' emotional intelligence on the project success in construction projects. The emotional intelligence was measured with four dimensions model such as awareness of own emotion, awareness of other emotion, management of own emotion and management of other emotion. Similarly, project success also measured with four dimensions such as communication, mission clarity, trouble shooting and management support. The data was collected through a self-administered questionnaire from a sample of 218 project managers and project employees. The descriptive stats and structural equation model was applied through SPSS and SmartPLS for data analysis. The results of the study revealed that emotional intelligence of project managers have a significant and positive effect on the project success in construction projects. The study has practical implication for construction companies and recommend the need to look for cognitive intelligence and experience in hardcore management skills to recruit emotionally intelligent managers which results in project success.

Keywords: Project management, project success, emotional intelligence.

I. INTRODUCTION

The project manager's role has been developed in accordance with the understanding of concept of project success (Gorog 2002; 2013). Earlier, when the definition of the projects were as they are unique tasks, project managers were in great need to emphasize on the process of the project, therefore, they manage the implementation process by considering the project results, time and cost constraints. As far as the understandings of the project as a concept has been widened, project manager's importance has also been advanced. The stakeholders management and beneficial change delivery has become the vital part of his/her role and responsibilities. In these days, the roles of the project manager are projects planning, implementation of the plans, managing the stakeholders of the projects, and delivering the beneficial change (Fekete – Dobreff, 2003; Project Management Association, 2006).

The emotional intelligence (EI) concept's popularity gets same coverage from both the scholars and followers, which convince them in publishing both in qualitatively and quantitatively (O'Boyle, Humphrey, Pollack, Hawver, & Story, 2011). Emotional intelligence not only attracted researchers regarding publication but it is a very essential indicator of physical and mental consequences. Emotional intelligence is the same like an important predictor of effective managers (Petrides, Siegling, & Nielsen, 2014). Siegling, Sfeir and Smyth (2014) stated that leadership prospective is directed by emotional intelligence. They further urged that when leaders are highly emotionally intelligent as compare to team members and they develop positive communication which they use with their team members and they create a positive environment for working in order to accomplish the results of the projects.

Those leaders who are emotional intelligent, they indicate their emotions and they do practice emotional impurity to show their happy moods in order to enhance the constructive conditions of team members (Ilies, Curseu, Dimotakis, & Spitzmuller, 2013). They further suggest that emotionally intelligent project managers try to avoid risk of the team members of project, i.e. selection of team members, involvement in jobs, and satisfaction of job. Project leaders who are emotionally intelligent, they develop a creative managerial environment in which managers give importance to emotional intelligence and attract those team members who are emotionally intelligent. The same like that managers with emotional intelligence feature increase the confidence and identity of team members which in turn develop team emotional intelligence (Druskat & Wolff, 2001). Team members play a very vital role in achieving project success, therefore, physical activity and developing prospects should be encouraged by managers in order to

enhance the emotional intelligence and their abilities of team members. Emotionally intelligent executives have the abilities to develop the social uniqueness among the team members and to support and drive them towards the situations of emotions which bring increase in determination and work fulfillment of team members (Ashkanasy & Humphrey, 2011).

It has been observed that emotional intelligence has a great impact on job efficiency. Goleman (1995) states that emotional intelligence has a very huge effect on both job performance and personal life and also urges that human's life success is 80% depended upon emotional intelligence. If the managers have high level of emotional intelligence, the performance of their employees will be better and they do their jobs willingly (Wong & Law, 2002) therefore, emotionally intelligent managers develop a good and positive working environment in which employees perform well that lead them towards the project success. A good and positive working condition are developed by emotional intelligence because of project managers' good attitude with their team members. Sy, Tram and O'Hara (2006) suggested in their research that emotional intelligence of managers has high impact on performance and work accomplishment. They also expressed that emotional intelligence is a social skill and they found high effect of EI on public management work; they also urged that better skill for flexibility, communication and understanding are provided by high emotional intelligence.

There are many research studies that indicated leadership as an emotional process. It is very essential to create relations between confidence and commitment by linking with employees on high emotions (Madera & Smith, 2009). Leban and Zulauf (2004) states that emotional intelligence is vital for project managers to get understanding of different moods and emotions of their employees which will help these managers in making best policies which are of choice of their employees. Team and organizational performance have been improved by leadership practices that create positive and optimistic affectivity (Ozcelik, Langton & Aldrich, 2008). These sorts of findings have indicated that emotional intelligence expresses specific set of skills that provide good leadership outputs (Ashkanasy & Ashton-James, 2005).

The main aim of this study is to develop and test the model in order to investigate the relationship among emotional intelligence and project success in the context of construction project in Khyber Pakhtunkhwa, Pakistan. The present article contribute to the existing body of knowledge in three ways. First, this study will develop and test empirically a model of the emotional intelligence and its impact on the managers of projects in construction sector projects in Khyber Pakhtunkhwa, Pakistan. Second, this study would also investigate the potential ways through which the project managers who are emotionally intelligent would contribute to project success factors as well. Third, this study add knowledge to the body of literature on various aspects of emotional intelligence like emotional, attitudinal, and behavioral implications in project management organizations.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Project Success

The concept of success took many years to be developed gradually. Project success's definition was only based upon the project life cycle and product life cycles only implementation phase in the past years. But in these days project success definition is needed to be defined in a way that covers from the beginning till the end of the project and product life cycles (Jugdev and Muller, 2005). Success means as the opinions of various people in the project context regarding good art (Jugdev and Muller, 2005).

It has always been challenging to define project success in complex projects when the timeframes of projects are long for completion and the size of the projects are substantial (Toor and Ogunlana, 2010; Wang and Huang, 2006), the scholars of project management usually agree upon two main approaches: success criteria and critical success factors (Muller and Jugdev, 2012; Turner and Zolin, 2012). The main focus of success criteria is on objective measures, like project completion on time, quality and cost (Pinto and Slevin, 1987). In defining complex project success, such objective criteria have been criticized a lot. That is why, they moved their efforts towards the development of simplistic constructs that do not mirror the experience in large projects (Toor and Ogunlana, 2010). Furthermore, Jugdev and Muller (2005) stated that behavioral skills and strategic management as objective criteria failed to address broader factors as success indicators.

Critical success factors, on the other hand, emphasizes upon the soft issues, like the project teams' behavioral skills and customer and stakeholders skill as well, thus this approach is considered as a more realistic approach towards the assessment of project success (Jugdev and Muller, 2005; Pinto, 1990). Turner and Zolin (2012) both have identified the success factors other than the impacts of time, cost and

quality that might be calculated prior to the last of the project. This type of assessment is useful in evaluating the success of the project in giving the long timeframes for complex projects. Pinto and Slevin's (1987) approach is employed in this study because it utilizes the ratings of project manager of project success. These factors have been recognized by the Jugdev and Muller (2005). The current study focuses on the four success factors of the project which are people related like (a) effective communication with all stakeholders (internal and external) (b) troubleshooting (i.e., the unexpected uncertainties that occur in the crisis and are managed) (c) clear project mission and (d) top management support (Pinto, 1990). Davis (2014) and Mazur et al. (2014) more recently found in their research findings that these four factors are the great signals of the project success specifically in complex projects.

2.1.1 Communication

Communication refers to “the provision of an appropriate network and necessary data to all key actors in the project” (Pinto and Slevin, 1989, p. 31). This shows that how much effective communication is done between the project managers and internal and external stakeholders in order to make it sure that best knowledge and skills required for the project are available. Project success is influenced by the communication because it is an important managerial competency.

2.1.2 Troubleshooting

Troubleshooting means that one is able to manage the unexpected deviations and uncertainties from the plan (Pinto and Slevin 1989, p. 31). Project managers face various problems and challenges because of the interdependency and complexities of the tasks in complex projects (Pich et al., 2002; Sun and Meng, 2009). These problems and issues are necessary to be addressed in order to make the project successful.

2.1.3 Mission Clarity

Mission clarity refers to “initial clarity of goals and general directions” (Pinto and Slevin 1989, p. 31). There is a high level of complexity and ambiguity presented in complex projects (Dvir et al., 2006). Chang et al., (2013) have shown that it is very important in large and complex defense projects to have clear and specific goals which lead the projects towards success.

2.1.4 Top Management Support

Top management support means to “willingness of top management to provide the necessary resources and authority/power for project success” (Pinto and Slevin 1989, p. 31). Mazur et al. (2014) stated that the critical factor among all the phases of the project planning and execution is top management support.

2.2 Emotional Intelligence

Emotional intelligence has been continuously considered as an important skill of management and has a great effect on the ways leader interact with their followers. This has mostly been seen in complex project environments (Joseph & Newman, 2010). Project management is not only specified by the technical skills while it also depends upon the emotional abilities and skills because emotional intelligence is connected with managerial efficiency (Fisher, 2011). Muller and Turner (2007) stated that there is a relationship between individual attribute of project manager which is emotional intelligence and the efficiency of project management in complex projects. Basically their research work explains that the project manager's abilities and skills are used to identify and control self and other emotions that may improve the quality results and it will create effective and positive relations with internal and external stakeholders.

Xian et al., (2016) identified and categorized emotional intelligence into four main aspects. The first component is awareness of own emotions. It is a skill of an individual in which one has to know about one's own feelings like pleasure, grief, irritation, and etc. If the emotions of a group are exactly well known by themselves and they are well-timed then it is easier for them to keep themselves away from bad emotions.

The second component is management of own emotions which refers to the ability of persons to control their feelings and emotions specifically their negative emotions and moods.

Third component of the model is awareness of other's emotions which means that one should have the capability to understand other's emotions in order to create and build good and positive relations with other people. It is not only direct interaction someone keeps with others while these types of emotions and feelings might be identified through face or body language (Jordan & Lawrence, 2009). If one team member

identifies and understands others' feelings and emotions effectively, obviously he/she would have the ability to communicate in an effective and efficient way in order to give maximum job satisfaction to other team members (Elfenbein, Beaupre, Levesque & Hess, 2007).

Fourth component is management of other's emotions of emotional intelligence. It means that the ability of one to impact others' emotions and feelings. If an individual of a team has the skills to make an employee happy who is depressed and to calm an angry individual then this team member and team by itself would have the skills to overcome these conflicts and problems in the working environment (Christie, Jordan, Troth & Lawrence, 2007).

2.3 Relationship between Emotional Intelligence and Project Success

Emotionally intelligent project managers are highly motivated and they have positive impacts on their team members which lead them towards the project success. They are able to creatively solve the future problems and issues that affect the success of a project (Mount, 2006). Muller and Turner, (2007) conducted a study in which they analyzed that the important prerequisite for project success is emotional intelligence. They further noticed that negative emotions and conditions might be controlled by the emotionally intelligent project managers. Thomas and Mengel (2008) studied in a research and found out that project managers with no emotional intelligence will create depression, stress, and annoyance in the environment of complex projects. These researchers proved that emotional intelligence gives the project success aspects due to its important role of emotional intelligence. Weiss and Cropanzano (1996) urged that at the working environment emotions and behaviors are affected by the recognition and getting know about emotions and moods like pride, enthusiasm, annoyance, embarrassment, fault, anxiety, defeat and jealousy. These types of feelings indicate due to the actions and events which further generate emotional responses in the project working environment. Research studies have showed that not only team members while top management also practice emotions during their working hours (Ashkanasy & Ashton-james, 2005). They also concluded that there is a valid relationship between the feelings and emotions project managers utilize in response to the working environmental actions and strategic decision-making procedures.

Naseer, Chishti, Rahman and Jumani (2011) found in their research that to achieve better project performance there is a need for emotional intelligence and they focus upon that how an individual who identifies to be inspired in pressure and stress, how he/she inspire other team members, manage personal complex relations, and to develop better working conditions to accomplish high level outcomes.

Naseer et al., (2011) also urged that according to the current research project managers with emotional intelligence are better as compare to with no emotional intelligence managers and team members. Therefore, the managers who are by themselves emotionally intelligent they give importance to emotions and feelings and they also create a team with high emotional intelligence that result in better performance and project success. Thus, it is needed for a project manager to consider emotional intelligence as the prime factor during the selection of project team members. Rezvani, A., Chang, A., Wiewiora, A., Ashkanasy, N.M., Jordan, P.J., Zolin, R., (2016) conducted a research study in which they collected data from 373 project managers in the Australian defence industry, the findings expressed that EI has positive effect on project success, job satisfaction and trust. From the above evidences, it is understood that the role of EI in determining project success factors is very significant. Therefore it is hypothesized:

H₁. Project manager's emotional intelligence is significantly related to project success

III. RESEARCH METHODOLOGY

3.1 Population, Sample and Procedure

The data will be collected from the project managers working in construction projects/companies in Khyber Pakhtunkhwa. The total number of construction companies as population working in Khyber Pakhtunkhwa is 398 as per the list provided by the (Pakistan Engineering Council, 2018). The list of the project managers was retrieved from the Pakistan Engineering Council. The sample of the study was selected randomly. The questionnaire was distributed among the selected sample through post mail and email both ways, as per the availability of respondents at ease.

3.2 Measures

The current study uses published and validated measures for all variables included in this study, emotional intelligence and project success. The five-point Likert scale will be used ranging from (1) strongly disagree to (5) strongly agree.

3.2.1 Emotional Intelligence

A self-report measure of emotional intelligence will be used by the author of this study that remains to the Salovey and Mayer (1990) ability definition of emotional intelligence (Jordan and Lawrence, 2009). The scale is consisted of 16 items which is specifically developed within a team context and for use in organizations. This scale is further categorized into four main components of emotional intelligence: (1) awareness of own emotions (2) awareness of others' emotions (3) management of own emotions and (4) management of others' emotions

3.2.2 Project Success

For the measurement of project success in this study a scale developed by the Pinto's (1990) that contains 20 items in order to analyze the respondents' assessment against four factors: (1) communication (2) trouble-shooting (3) mission clarity and (4) top management support.

3.3 Data Analysis

The descriptive statistics (frequency and percentage) are used for analyzing demographic characteristics. Further, internal consistency reliability was assessed by Cronbach Alpha and Composite Reliability, whereas convergent validity was assessed by Average Variance Extracted. Further, the structural Equation Model was applied for testing hypothesis. All the analysis as conducted through SPSS and SmartPLS software.

IV. RESULTS

4.1 Demographic Characteristics of Respondents

The below table and figure 4.1 both shows the distribution of male and female participated in data collection. The total number of male respondents reported were 217 while female respondent was only 1 with 99.5% and 0.5% percentage, respectively. It means that the highest number of respondents were male working in the construction sector projects in Pakistan and the ratio of female was very low.

The ages of respondents who responded to the questionnaire. From age 20 to 30 there were 117 respondents with 53.7% percentage which is reported as the highest number of the total respondents. Then those whose age was from 31 to 40, there were 63 respondents, and its percentage was 28.9%. The respondents with 41 to 50 years old age were 28 only. Its percentage was 12.8 of the total respondents participated in the data collection. And those respondents whose age was from 51 and above, they were only 9 respondents with 4.1%.

Total number of respondents was 218 who responded the questionnaires completely. Respondents with intermediate qualification were 51 with 23.4%. The graduate degree holders were 90 respondents and its percentage was 41.3%. The master degree holder respondents were 45 members and its percentage was 20.6% of the total respondents. While 32 respondents were with MS/Mphil degree holders with 14.7%.

The experience of the respondents is indicated. Respondents with experience range from 0 to 5 years were 102 with 46.8% which is considered as the highest number of respondents of the collected data. From 6 to 10 years' experience holders were 83 respondents with 38.1%. And it is the second highest figure of the collected data. 18 respondents were having 11 to 15 year experience and 8.3% was reported. 16 and above experience holder respondents were only 14 respondents with 6.4% which is considered as the lower figure in the experience of the respondents.

Table 1: Demographic Distribution

Characteristic	Frequency	Percent
Gender		
Male	217	99.5
Female	1	0.5
Age		
20-30	117	53.7
31-40	63	28.9
41-50	28	12.8
51-Above	9	4.1
Experience		
0-5 year	102	46.8
6-10 years	83	38.1
11-15 years	18	8.3
16-Above	14	6.4
Education		
Intermediate	51	23.4
Graduate	90	41.3
Master	45	20.6
MS/Mphil	32	14.7

4.2 Internal Consistency Reliability

To find out the internal consistency, Cronbach alpha is the first criterion. By using correlation between variables Cronbach alpha gives estimation of reliability with an assumption that reliability equally exist among all variables. The results in shown in table 4.19 reveals that all the variables ranged from 0.87 to 0.949. This indicated that all variables have high internal consistency because Cronbach alpha is greater than 0.70 as suggested by Fornell and Larcker (1981).

The second criterion to find the internal consistency is composite reliability of all variables. To check the internal consistency outer loadings is used by the composite reliability among all variables. The results indicated in table 4.20 that all the variables ranged from 0.88 to 0.95. It means that all the variables are reliable because its internal consistency is greater than 0.70 as suggested by Arnold and Reynolds (2003).

Table 2. Reliability Analysis

Dimensions	Cronbach's Alpha	Composite Reliability
AOE1	0.818	0.88
AOE2	0.818	0.88
C	0.847	0.897

EI	0.945	0.952
MOE1	0.846	0.897
MOE2	0.81	0.877
MS	0.802	0.864
PS	0.949	0.954
TS	0.844	0.889

4.3 Convergent Validity

Convergent validity is used to investigate the correlations among all variables. Averaged extracted variance is used to know convergent validity of variables. Table 4.21 represents the results for convergent validity. The result shows that AVE for all the constructs except for Trust and transformational leadership are greater than 0.50, indicating the presence of convergent validity (Fornell and Larcker, 1981). However, trust and transformational leadership have AVE value of 0.483 and 0.479; which is almost close to 0.50. In addition, all other measure such as internal consistency reliability and discriminant validity of these two construct are in acceptable values, therefore these two construct are maintained in the model for the analysis (Kay and Wong, 2016).

Table 3. Convergent Validity

Dimensions	Average Variance Extracted (AVE)
AOE1	0.647
AOE2	0.648
C	0.686
EI	0.554
MOE1	0.685
MOE2	0.646
MS	0.563
PS	0.525
TS	0.618

4.4 Assessment of R Square

Woodridge (2009) urges that R square shows how much variation is explained in dependent variable by independent variable is called R square. The results in table 4. The values of R square for project success, trust, and emotional intelligence are 0.904, 0.594, and 0.777 respectively explained by emotional intelligence (EI).

Table 4. Assessment of R Square

Variable	R Square	Adjusted R Square
PS	0.904	0.903

4.5 Path Coefficient of Structural Model

With the help of the structural model the following hypothesis were tested. The path coefficient between the two latent variables in the structural model is assessed in order to validate the propose hypothesis. Previous literature indicated that there should be a need of at least 0.1 value of path coefficient in order to show impact in a certain model (Hair et al., 2011; Wetzels et al., 2009). The table 4.25 shows the assessment of the path coefficient meaning that all the hypothesis is supported which were proposed. It was also found that all the hypothesis were significant at the level of 0.05 because the p value was less than 0.05. Which, also showed that positive directions and includes the path coefficient value that ranged from 0.127 to 0.882.

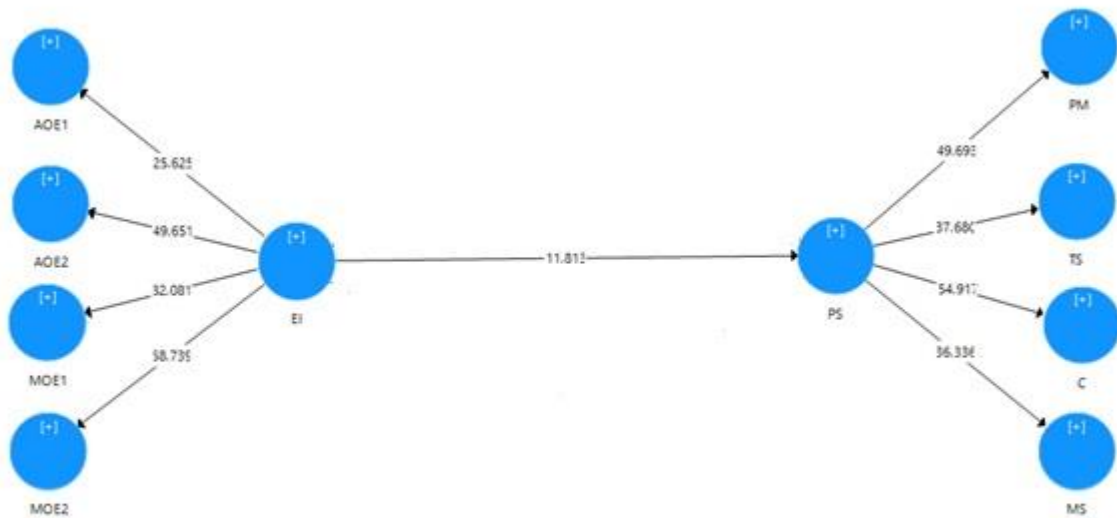
On the basis of analysis, it is expressed that project success is influenced by emotional intelligence ($\beta=0.661$, $t=11.813$, $p<0.001$). Thus, in this way the results show that H1 is supported.

Table 5: Hypothesis Testing

Path	Coefficient	STDV	T Statistics	P Values
H1 EI -> PS	0.668**	0.056	11.813	0.000

Note: **indicating significant at 1 percent and * significant at 5 percent

Figure 1: Structural Model Showing Path Analysis



V. DISCUSSION AND CONCLUSION

In conducting the present study, our primary motivation was to explore the fundamental mechanisms by which a critical component of project management skills, EI, is related to the ratings of project performance factors by managers in a complex project setting. In particular, our findings show that while the EI of project managers is positively linked to project success (Müller and Turner, 2010), this relationship is complex and cannot be completely explained in terms of a direct, straightforward relationship. We built and tested a model that draws on the theory of relevant emotions to explain the underlying mechanisms linking project managers' EI and project success (Ashkanasy, 2002; Weiss and Cropanzano, 1996). Using this theoretical framework, we argued for the link between EI and the success of the project and concluded that two paths can mediate this relationship. First, we argued that trust is an attitude variable that implies an emotional connection that binds EI and the success of the project. As such, by building an emotional bond with their team members, emotionally intelligent project managers build trust with their team, and this relationship is then reflected in project success factors, including communication, clarification of mission, troubleshooting, and support from top management.

The findings of this study support the findings found by Maqbool, Sudong, Manzoor, and Rashid (2017). This research shows that EI has beneficial effects on the success of the project (Maqbool et al.). These findings are also consistent with the Mount (2006), Trejo (2016), and Geoghean and Dulewicz (2008) outcomes. Project managers with high emotional intelligence levels are ideally suited to construct an efficient team of projects focused on cooperation, communication, and transparency. Project managers with high levels of emotional intelligence are better prepared, particularly in an increasingly global business setting, to deal with the complex challenges and problems that emerge with each project. Emotionally intelligent managers, as the results show, greatly predict the success of the project because they are able to solve new problems and various forms of challenges and inspire their team members to work (Mazur, Pisarski, Chang & Ashkanasy, 2014).

Implications

In this research, we explored the influence of emotional intelligence, the transformational leadership style of project managers and their trust in others on project success. The findings indicate that Pakistani construction companies need to look for cognitive intelligence and experience in hardcore management skills to recruit emotionally intelligent managers. In addition, the current workforce must also be educated through professional courses to develop their emotional intelligence. As a consequence, the emotionally intelligent workplace will prevail and lead to collective and organizational progress more effectively.

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