

## THE IMPACT OF EMOTIONAL INTELLIGENCE ON INDIVIDUAL AND PROJECT TEAM PERFORMANCE IN INFORMATION TECHNOLOGY PROJECTS UNDER THE MODERATING ROLE OF TASK INTERDEPENDENCE

<sup>a</sup> Alveena Aziz, <sup>b</sup> Fawad Ahmed, <sup>a</sup> Muhammad F. Aziz, <sup>c</sup> Maria Fayyaz, <sup>c</sup> Nabeel Abid

<sup>a</sup> Shaheed Zulfiqar Ali Bhutto Institute of Science & Technology Islamabad,

<sup>b</sup> Capital University of Science & technology Islamabad,

<sup>c</sup> Pir Mehr Ali Shah Arid Agriculture University Rawalpindi

Corresponding author email: [alveena.aziz@yahoo.com](mailto:alveena.aziz@yahoo.com)

This study explored the impact of emotional intelligence on performance at the individual and team levels in information technology projects. The moderating effect of task interdependence has also been examined amid the relationship of emotional intelligence and individual and project team performances. Data were assembled, by means of questionnaires, from IT firms located in Rawalpindi and Islamabad and the convenient sampling technique was applied for data gathering. Two types of questionnaire were disseminated; first for the project managers and second for the project team members. Out of 260 dispatched questionnaires, workable data was comprised of 200 samples. The conclusion of this research could be put forward as emotional intelligence significantly affects the individual and project team performances and task interdependence positively moderates the relationship of emotional intelligence and performance at team level. This study has numerous theoretical and managerial implications.

**Key word:** Emotional intelligence, individual performance, project team performance, task interdependence.

### INTRODUCTION

Project activity is being intensified in most of the organizations as projects are not only accountable for crafting new products but also for refining the innate procedures (Hyväri, 2006; Shenhar and Dvir, 2007). Quantity of projects has frequently been increased in the field of information technology due to augmented global interactions and industrialization (Bredillet, 2008). Yet this industry has the highest percentage of collapsing projects worldwide as compared to all others sectors like construction and manufacturing (Gao and Xie, 2010).

Providentially, Pakistan is one of those emerging countries which are instigating project management practices to inculcate projectization trend in different fields like National Database and Registration Authority is using Project management institute's (PMI) instruction to implement its IT projects (NADRA, 2019). Information technology is an emerging vivacious sector of Pakistan (Shah et al., 2011) as IT services of the country has contributed 17% in its services sector's exports of \$5 billion in the year 2016 but even so, IT sector of Pakistan hardly made up 0.2% of the global IT trade of around \$500 billion that does not correspond with the potential of this significant sector (Basit, 2017).

Mieritz (2012) report inferred that the percentage of successful projects is only seventeen. There are no clear figures regarding the Pakistan's IT industry, but we can assume from the data around the world that the situation is quite similar and alarming in Pakistan too. The majority of the scholars agree with the notion that competency or skill of a project team member is a vital catalyst in lucrative project outcome and success achievement. It is governed by the nature of the venture too, but statistics portray that up to

fourteen percent of the success of a project is contributed by the aptitude or competency of participants and team as a whole. One of the remarkable skill or aptitude that affects project goal attainment is the capability to identify, rectify, intensify, modify and apprehend the surreptitious sentiments of humans, which is termed as emotional intelligence (Mazur et al., 2014; Rezvani et al., 2018). Certain dimensions of emotional intelligence can manifestly predict the worker's performance and their career satisfaction while the magnitude and quality of performance unswervingly influence mission success or failure (Okoronkwo, 2017; Lebeck and Chighizola, 2018; Rezvani et al., 2018).

Thus, based on the above discussion, in this research, we argue that emotional intelligence is an important measure of performance at both individual and team levels in IT projects. As boosted project activities increased mutual dependencies between different project components, resources and members (Bachrach et al., 2006; De Araújo and Lopes, 2014; Kuthyola et al., 2017) so we'll also put some focus on the moderating effect of task interdependence on the relationship of emotional intelligence and performance at individual and team levels in IT projects.

Disastrous outcomes of IT projects are frequent in Pakistan and the key factor behind this failure is that the managers try to execute and organize endeavors based on the foreign (mostly western) research, philosophies and practices where conditions, norms, associations and teething troubles are entirely different (Javed, 2018). In the perspective of Pakistan, this research will act a foundation for project leaders on the results of which they could rely confidently as this study is being carried out in their local environment with a hope that success ratio of IT projects could be improved by polishing

the skill of emotional intelligence in task performers. Furthermore, this study would be advantageous for multinational firms working in Pakistan as they could better comprehend the sentimental conduct of native workers and could plot setups to improve employee performance.

The objectives of this study are to investigate the impact of individual emotional intelligence and team emotional intelligence on individual performance and project team performance respectively under the moderating influence of task interdependence. Following are the research questions of this research study:

1. Does individual emotional intelligence have an impact on individual performance in team?
2. Does team emotional intelligence have an impact on project team performance?
3. Does task interdependence moderate the relationship between individual emotional intelligence and individual performance (at the individual level) in the team?
4. Does task interdependence moderate the relationship between team emotional intelligence and project team performance?

## **THEORETICAL BACKGROUND**

**Individual & Team Emotional Intelligence:** The terminology of 'Emotional intelligence' was first coined by Beldoch (1964) who clarified the inkling of emotional intelligence in terms of identification and manifestation of emotions in relation with other personal attributes in consort with easiness or difficulty of an individual to express his covert emotions. Later on, the idea was extended by Daniel (Goleman, 1995) who claimed that emotional intelligence could act as a catalyst for amended mental and psychological health by appropriate direction, organization and regulation of sensations.

As per further detailed discussion by Mayer and Cobb (2000), the construct of emotional intelligence covers four capabilities in general; firstly the aptitude of sensing and recognizing personal feelings as well as sentiments of others, secondly the competency of using those feelings and emotions to smoothen other mental activities, thirdly to comprehend the phenomenon of using and merging these emotions to advance personal relationships and, lastly administration and supervision of ideas, thoughts and sentimentalities of one self's as well as of other's. This research will be carried out focusing on the definitions by Goleman (1995) and Mayer and Cobb (2000). Team emotional intelligence is the potentiality of a team towards ingenuity through which it removes task related hurdles and grabs task related opportunities utilizing its vigorous thought process (Barczak *et al.*, 2010). Thus, emotional intelligence is neither an imaginary feature nor an inbuilt one, rather it is a learnt behavior often a latent one. It is truly based on a person's lifelong involvements, observations and learnings plus a malevolent focus of the person on optimism, and positivity in every aspect and phase of life including daily work activities and it overs prudently and cheerfully handling of bothersome conditions and doing the

best stuff as per competences (Javed, 2018).

**Task Interdependence:** A widely accepted definition of task interdependence was presented by Brass (1981) which states that task interdependence is an approach according to which team members share their knowledge, perceptions and other assets between each other. Kiggundu (1981) described task interdependence as the emblem of a motivation because in a team, an individual who relies on each other can carry out their work on the targeted time at quantifying budget. These dependencies could be the foundation of the ties as the tasks in the endeavors are going to be wrapped up simultaneously, the element of task interdependence will compose aspects of bonding among the group (Hackman and Wageman, 1995).

Task interdependence is the inevitability of group members to finish their concerted work undertakings (Vidyarthi *et al.*, 2014). According to (De Veer, 2012), high level of task interdependence is not only responsible of harmonization among team members but also serve as a medium through which members can remain conscious of each other's problems and task interdependency is actually the mutual dependence of one team member on other for the sake of information that is necessary to complete one's task and vice versa.

**Individual & project team performance:** According to Niesten *et al.* (2017) different individuals working on the same project or in identical team have different kind and magnitude of the contribution in the project completion depending upon their individual performance, adeptness level and numerous other reasons. That's why individual performance is a significant construct. Individual performance is continually influenced by a person's level of motivation and emotional intelligence. Indeed, emotional intelligence is considerably a vital determinant of learning based performance of a person as compared to general intelligence (Lam and Kirby, 2002) while in intricate projects, emotional intelligence significantly controls the performance of a team (Rezvani *et al.*, 2018). In the viewpoint of Javed (2018), enthusiastic insight is responsible for putting superlative exertions in every single work an individual do in any situation. Team performance is generally defined as teamwork with few features which are common among all teams such as problems solving attitude and modes of interaction (Dionne *et al.*, 2004).

Emotional intelligence of the team has a tendency of controlling and interpreting colleagues' behaviors, reactions and sentiments. This is why emotional intelligence is considered as a key determinant of team performance (Stubbs and Wolff, 2008).

**Hypothesis Development:** Conceptual framework: Literature is enriched by studies which have tried to ascertain emotional intelligence and its components in relation to trust (Rezvani *et al.*, 2018), team members behaviors, creativity and conflicts (Barczak *et al.*, 2010), leadership (Chang *et al.*, 2012), performance (Sy *et al.*, 2006; Rezvani *et al.*, 2018), job satisfaction (Greenidge *et al.*, 2014) and Project success

(Rezvani *et al.*, 2018). Quoidbach and Hansenne (2009) claimed that emotional intelligence could accelerate team performance and cohesiveness in the nursing profession. Vidyarathi *et al.* (2014) have contributed in this regard by revising the association of emotional intelligence in terms of leader's emotional perspective and employees' performance under the moderating influence of task interdependence.

As per the view of a few scholars, the notion of emotional intelligence is quite anew; not in a sense that it hasn't researched much but in a way that a layman has not understood it profoundly yet (Giardini and Frese, 2006). Whereas literature is silent about emotional intelligence and employee performance in the milieu of project management in the context of Pakistan so this study is aimed to seal this slit. Also confirmed by previous literature analysis, there is no explicit research that has considered the moderating effect of task interdependence on the relationship of emotional intelligence and performance at multilevel in project setting which have indicated by Rezvani *et al.* (2018) too. This study will contribute in the body of literature by filling these gaps.

Affective events theory (1996) by Weiss and Cropanzano (1996) Cropanzano staunchly supports the clue of the positive influence of emotional intelligence and task interdependence on performance. The theory clarifies the role of experiences, emotions, events and work structure in the generating reflex actions & reactions given by employees at their workplaces which eventually impact their performance (Rezvani *et al.*, 2018).

**Emotional intelligence and performance at individual level:** Emotional condition and work surrounding of an individual interact to bring variations in the work results of an individual (Lazarus, 1991). Emotional intelligence is one of the core managerial skills (Rezvani *et al.*, 2018). The quality and status of rapport between project manager and external collaborators get unswervingly affected by the level of emotional astuteness of the manager (Mazur *et al.*, 2014). Individuals with extraordinary emotional intelligence have a natural talent to become persuasive leaders as they have a persona that have a strong impression on everyone else around them (Wasielewski, 1985). Somebody with better understanding, of his own and as well as others' emotions, customarily surpass others in interviews. This capability can also term as trait based EI (Fox *et al.*, 2000). Self-awareness is a dimension of emotional intelligence (Goleman, 1995) and is strongly linked with understanding of one's own sensations which in turn deeply influences the performance of the individual (Malik *et al.*, 2016). EI is considerably a more important determinant of learning based performance of a person as compared to general intelligence (Lam and Kirby, 2002). Individual performance is greatly influenced by a person's level of inspiration and emotional intelligence (Bommer *et al.*, 2007).

Hence this study hypothesizes; **H1:** Individual EI relates positively to individual performance.

**EI and performance at team level:** Melita *et al.* (2003) elucidates that emotionally intelligent team build healthy supporting environment for its all crew members, this is because emotional insight is positively related to socioeconomic roles within a team like coordination, collaboration & teamwork (Golonka and Mojsa-Kaja, 2013). Many scholars advocate the importance of mutual cooperation between peers at workplace while enormous inquiries endorsed the positive association between workers' facilitating and data sharing behavior and the effectual task execution of individual in work atmosphere (Oosterhof *et al.*, 2009). Usually a sense of social responsibility is provoked in coworkers working in a team (Organ and Ryan, 1995) and interdependent personnel try to get emotionally attached with their fellow colleagues in order to understand their feelings and intentions which help them to achieve their desired targets (Eberly and Fong, 2013). Members with elevated level of EI could perform as a mentor to associates which depict rarer EI manners & this sympathetic and conducive atmosphere can avert any harmful consequences on team performance & group collaboration (Rapisarda, 2002).

Team EI has a tendency of controlling and interpreting colleagues' behaviors, reaction and sentiments as team performance highly depends on how well team members cooperate with each other and what is the strength of association between them and that is why emotional intelligence is considered as a key determinant of team performance (Stubbs and Wolff, 2008; Rezvani *et al.*, 2018). Thus, this study hypothesizes: **H2:** Team EI relates positively to project team performance.

**Task interdependence as moderator:** Emotional intelligence assists team members in accomplishing their individual as well as collective tasks effectually and resourcefully when tasks are mutually reliant while better organization and administration of emotions at individual and team levels are linked with team effectiveness, task procedures' productivity and realization of social capital (Druskat *et al.*, 2013).

Brass (1981) revealed that workflows are the basic reason of interaction behind all kind of interdependencies between different people working together whereas task interdependence is the coordination of team members to execute their task duties (Stewart and Barrick, 2000). Interdependence is a mutual attribute of project team working on software or IT projects and amplified level of task interdependence among co-workers boosts the quality of tasks performed by the team which points towards enhanced project performance (Kuthyola *et al.*, 2017).

Wang *et al.* (2011) pointed out the influence of individual performance on teamwork when tasks are highly dependent in context of journalists. Team performance is negatively influenced when an individual team member doesn't complete his assigned task.

According to [Manev and Stevenson \(2001\)](#) community support and amicable working affiliations is core of emotional intellect and the members who are indulged in mutual dependent work assignments have a tendency to exchange treasured information and to provide assistance to coworkers who usually have cordial relationship with others and frequently provide moral and physical support to colleagues. This suggests that work interdependence promote pleasant operational environment and behaviors by providing platform to staff members where they can depict helping attitudes and knowledge sharing conduct with other colleagues ([Wei and Chen, 2006](#)).

Various former studies have declared the positive role of task interdependence in enhancing job performance of employee ([Van Der Vegt and Van De Vliert, 2002](#)). If all team members show effectiveness towards their all interdependent tasks

then it will be easy to gain proposed outcomes from the project ([D'Silva et al., 2016](#)). So we conclude that coordinated & interdependent activities could result in depiction of higher emotional intelligence levels in individuals and teams. And boosted level of task interdependence also escalates performance of team members which, consequently, formulate a team ([Manev and Stevenson, 2001](#); [Bachrach et al., 2006](#); [Lee et al., 2015](#)). Hence this study hypothesizes task interdependence as a moderator as following; **H3**: The relationship between Individual EI and individual performance (at the individual level) is positively moderated by task interdependence in the team.

**H4**: The relationship between team EI and project team performance is positively moderated by task interdependence in the team (Figure 1).

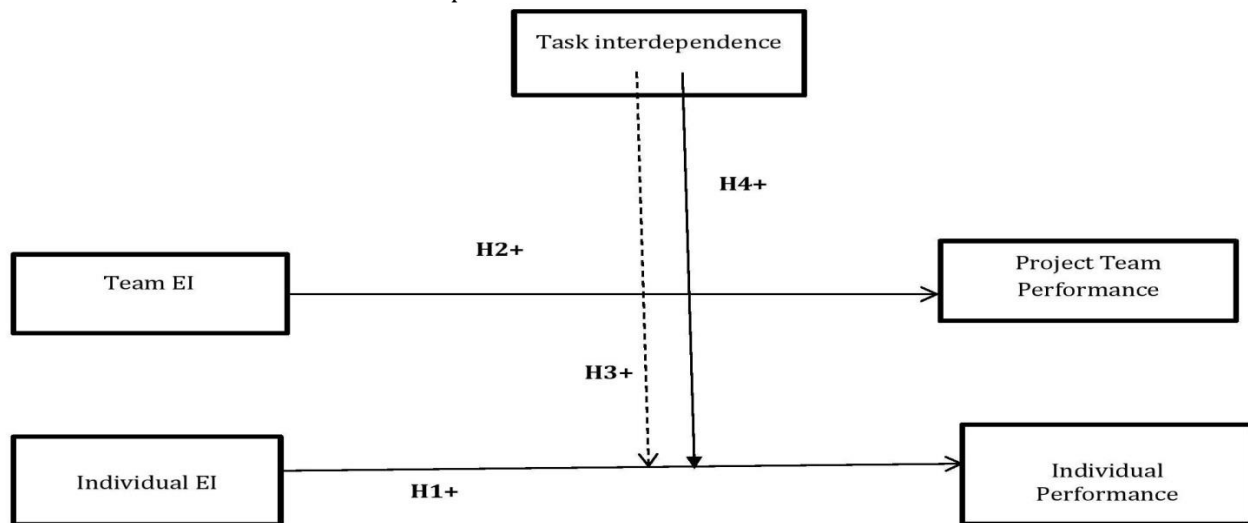


Figure 1: Proposed conceptual model of predictor, moderator and outcome variables.

**Participants:** Due to the time and resource constraints, it is imperative to demarcate the whole population to a demonstrative sample. The convenient sampling strategy was implied in this study. Sample size was 200 for this study. The targeted sector for this study was the IT sector of Pakistan. Only the IT projects carried out in Rawalpindi and Islamabad were considered for this study. The unit of analysis for this research study was the 'individual' working on any type of IT project in based in Rawalpindi-Islamabad. This research is empirical and it has probe the relationship between Independent and dependent variables under the influence of a moderator. Data are of quantitative in nature and this is a cross sectional study. This study comprised of four months in which, initially, topic related pertinent information is reviewed while the data for this research is collected within 30 days. Rest of the time is taken by data enquiry.

**Procedure:** A questionnaire has been adapted from the research study of [Rezvani et al. \(2018\)](#) & [Van Der Vegt and Van De Vliert \(2002\)](#). Nevertheless, only the scale for one construct (task interdependence) is taken from the study of

[Van Der Vegt and Van De Vliert \(2002\)](#). Rest is taken from the study of ([Rezvani et al., 2018](#)). Respondents were asked to give opinion based on the listed variables using a five-point Likert scales ("1" = strongly disagree, "5" = strongly agree). The target data was of primary nature. The data were collected from the desired sample by means of questionnaires as it is a convenient and less expensive method. Two types of questionnaire were disseminated; one for the project managers and other for the project team members. Total dispatched questionnaires were 260 whereas 212 were retrieved. Out of which workable data consisted of 200 samples. Fifty (50) project managers marked performances of their teams. Each team consisted of 3 members whereas total number of team members was 150.

#### DATA ANALYSIS AND RESULTS

**Demographics:** There were 71.3% male and 28.7% female respondents in the data that was collected from project team members. Whereas, project managers' data contained 71.3% male and 28.7% female respondents. The male percentage was higher in samples from both sources. Table 1 and 2 depict



	Min	Max	Mean	SD	Skewness	Kurtosis
I.EI	1.75	4.81	3.8946	0.53305	-0.111	1.090
I.P	1.00	4.83	3.7622	0.55842	-0.363	1.557
TI	2.40	5.00	3.7933	0.48628	-0.154	0.142
Valid N	150					

Table 1: Descriptive Statistics (Project Team members). \*I.EI=Individual emotional intelligence, I.P=Individual performance, TI=Task interdependence

	Mean	SD	Skewness	Kurtosis
T.EI	3.9030	.37106	-.214	0.337
TI	3.7933	.30780	-.417	0.337
T.P	3.7680	.56041	-.925	0.337
Valid N	50			

Table 2: Descriptive Statistics (Project Managers). \*T.EI=Team emotional intelligence, T.P=Team performance that data is normal as all the values of skewness and kurtosis lie within acceptable ranges of  $\pm 1.96$  limits (Rose *et al.*, 2014).

**Reliability test:** Reliability analysis is done to measure the consistency of questionnaire. The normal range of Cronbach's alpha coefficient is from 0 to 1, higher value represents higher reliability. The values (table 3) of 0.830 means higher, 0.7 & 0.706 show medium while 0.69 depicts acceptable (Taber, 2018) consistency among items of questionnaire. One item (TI3) of task interdependence questionnaire is deleted to attain an acceptable value of Cronbach's alpha.

Variable	Cronbach's $\alpha$
Emotional Intelligence	0.83
Task interdependence	0.69
Individual performance	0.7
Team Performance	0.706

Table 3: Cronbach's  $\alpha$  values for detailed scales of questionnaire.

**Correlation:** Correlation Analysis conveys the degree of association between variables. The values of correlation coefficient in the above cases (table 4) are 0.192, 0.419 and 0.424.

	I.EI	TI	I.P
I.EI	-	-	-
TI	0.192	-	-
I.P	0.424	0.419	-

Table 4: Pearson's correlational analysis of Model's variables at individual level.

Results from table 3 demonstrate that individual emotional intelligence has a strong positive relationship with individual performance but there is a weak positive linkage between EI and task interdependence. Additionally, the values of correlation, at team level, are 0.303, 0.435 and 0.5 (table 5). These values, too, are within the acceptable range of -1 to +1. Results exhibit that all constructs at team level have a good positive relationship with each other.

**Regression:** Regression is run using Little *et al.* (2007) and Hayes (2012) method.

**Individual level:** The R value in table 6 denotes the simple correlation and is 0.5604 which points out a medium intensity of correlation. The R<sup>2</sup> value indicates how much of the total variation in the dependent variable, individual performance,

	T.EI	T.P	TI
T.EI	-	-	-
T.P	0.303	-	-
TI	0.435	0.500	-

Table 5: Pearson's correlational analysis of Model's variables at team level.

R	R-sq	F	df1	df2	p
0.5604	0.3140	22.281	3.0	146.0	0.0

Table 6: ANOVA for individual level constructs of the model.

In this case, 31.4% can be explained, which is relatively good. F value shows model's 'goodness of fit' and in the above mentioned tabulation, significance value is less than 0.05 which characterizes that this is a good fit model.

The values of coefficients of I.EI, TI and interaction term in table 7 represent that one unit change in the I.EI, TI & Int\_1 could bring 1.1225, 1.1984 and -0.2051 units change in individual performance respectively. The value of p is less than 0.05 for I.EI & TI which means the change is significant. But their combined effect (Int\_1) is insignificant as  $p > 0.05$  for interaction term. Additionally, when the signs of LLCI & ULCI are different (or 0 lies in between the range of their values) then it means that overall interaction effect of IV & MV is insignificant.

	coeff	se	t	p	LLCI	ULCI
constant	-2.1145	1.6311	1.2963	.1969	-5.3382	1.1093
I.EI	1.1225	.4172	2.6905	.0080	.2980	1.9470
TI	1.1984	.4438	2.7002	.0077	.3213	2.0755
Int_1	-.2051	.1126	-1.8226	.0704	-.4276	.0173

Table 7: Summarized results of hypothesis testing for individual level constructs using SPSS

**Product terms key:** Int\_1: I.EI x TI.

In table 8, R square is signifying the variation in DV due to interaction term which is 0.1% which is quite less. Model is not fit either as  $p > 0.05$ , Focal predict: I.EI (X) Mod var: TI (W) The table 9 illustrates the detailed effect of moderator TI on DV at three different values (responses) of 3.4, 3.8 and 4.2. At these particular values, the moderating impact of TI is significant on IV as  $p < 0.05$  in these three cases. So at these

values TI moderates the relationship between IV & DV. Level of confidence for all confidence intervals in output is 95.

	R2-chng	F	df1	df2	p
X*W	.0156	3.3218	1.000	146.0000	.0704

Table 8: Test(s) of highest order unconditional interaction(s):

TI	Effect	se	t	p	LLCI	ULCI
3.4000	.4250	.0784	5.4240	.0000	.2701	.5799
3.8000	.3429	.0751	4.5658	.0000	.1945	.4914
4.2000	.2609	.0959	2.7203	.0073	.0713	.4504

Table 9: Conditional effects of the focal predictor at values of the moderator:

**Team level:** The R value in table 10 denotes the simple correlation and is 0.5970 which points out a medium intensity of correlation between variables.

R	R-sq	F	df1	df2	p
0.5970	0.3564	8.4905	3.0	46.0	0.0001

Table 10: ANOVA for team level constructs of the model.

The R2 value, here, points toward how much of the total variation in the dependent variable, team performance, can be explained by the predictors T.EI, T.TI and Interaction term. In this case, 35.6% can be explained, which is relatively good. F value shows model's 'goodness of fit' and in the above mentioned tabulation, significance value is less than 0.05 which characterizes that this is a good fit model.

The values of coefficients of T.EI, TI and interaction term in table 11 symbolize that one unit change in the T.EI, TI & Int\_1 could bring 1.6104, 1.5101 and 0.4616 units change in team performance respectively.

	coeff	se	t	p	LLCI	ULCI
constant	8.9399	2.4742	3.6132	.0007	3.9595	13.9202
T.EI	1.6104	.6543	2.4614	.0177	2.9274	.2934
TI	1.5101	.6724	2.2458	.0296	2.8637	.1566
Int_1	.4616	.1754	2.6321	.0115	.1086	.8145

Table 11: Summarized results of hypothesis testing for team level constructs using SPSS.

The value of p is less than 0.05 for T.EI, T.TI & their combined effect (Int\_1) is significant which means that overall interaction effect of IV & MV is significant.

Product terms key: Int\_1 : T.EI x TI.

In table 12, R square is signifying the variation in DV due to interaction term which is 0.9%. Model is fit as  $p < 0.05$ , Focal predict: T.EI (X) Mod var: TI (W)

	R2-chng	F	df1	df2	p
X*W	.0969	6.9282	1.0000	46.0000	.0115

Table 12: Test(s) of highest order unconditional interaction(s)

The table 13 illustrates the detailed effect of moderator TI on DV at three different values (responses) of 3.4, 3.8 and 4.2.

TI	Effect	se	t	p	LLCI	ULCI
3.4000	-0.0411	0.1194	-0.3437	0.7326	-0.2814	0.1993
3.8000	0.1436	0.1110	1.2935	0.02023	0.0799	0.3670
4.2000	0.3282	0.1422	2.3081	0.0255	0.0420	0.6144

Table 13: Conditional effects of the focal predictor at values of the moderator at the particular values of 3.8 & 4.2, the moderating impact of TI is significant on IV as  $p < 0.05$  in these

two cases. But at 3.4, the moderating impact of TI is insignificant on T.P so at this value, TI doesn't moderate the relationship between IV & DV.

Level of confidence for all confidence intervals in output is 95.

## FINDINGS

The findings from tables 6, 7, 8 and 9 demonstrate that H1 is accepted but H3 is not accepted as task interdependence doesn't moderate the relationship between individual EI and Individual performance whereas results from tables 10, 11, 12 and 13 exhibit that H2 and H4 are accepted.

## DISCUSSION

The findings of this study put forwards four conclusions, **1)** EI of a person has a direct and positive influence on the performance of that person working on any (small, medium or large) scale of IT project. People having more insight intelligence, self-esteem and self-motivation tend to perform their individual tasks better [Rezvani et al. \(2018\)](#). **2)** EI of a project team adds in the performance of that project team. IT projects can't be done solely. Project team's exceptional project work is irrefutable for generating better project products or services ([Rezvani et al., 2018](#)). **3)** Task interdependence doesn't influence the positive relationship of individual EI and individual performance in IT projects. This could be explained by the age and informational diversity among teams because in that situation, task interdependence can no longer influence the individual task and creative performance ([Timmerman, 2000; Zhang and Huai, 2016](#)). **4)** Nonetheless, task interdependence affects the positive linkage of project team EI and team performance. It means that highly reliant nature of project tasks adds the performance of project workers as mutual task dependency promotes coordination among coworkers ([Lee et al., 2015](#)).

To summarize, enthusiastically intelligent team members can lead their project duties more commendably which ultimately result their supreme performance in project execution. Project leaders should take some steps to make their subordinates emotionally intelligent by improving their personal & interactive skills to realize improved project outcome

**Implications:** This research study has following academic and managerial implications.

**Academic implications:** This, quite anew, focus in the area of project management ([Javed, 2018](#)) for young researchers (which are mostly students) is mandatory to be explore in Pakistan to boost the IT projects success rate by improving the personnel's performances. This study has definitely given students a new insight into the neglected role of emotional understanding and intellect in performance. This study has aided students who are willing to work in this domain or on model used in this study by reconfirming existing model or by adding a moderator/ mediator in it.

**Managerial implications:** Practically, this study will aid IT specialists & projects managers in dropping the probability of project failure in many ways like; by putting extra focus on maximizing and intensifying project team performance, by

constituting a flexible work setting in which staff members interact and share their knowledge effectually and, by providing resolution of team's each other's problems by apprehending one another's mental condition and perceptions.

**Directions for future research:** Quantitative research was carried out for this study. To get some better results in future qualitative research can be done to get better or more appropriate outcomes. Using other mediators or moderators, the same model can be tested again. Additionally, the measures used in this research are tested in Pakistani culture. Future research can be done in other regions of the world as results may differ in any other region or in different cities of Pakistan. This research has been conducted in IT sector so the relationships could be retested in other sectors as well using same variables or adding some other variables with different framework/methodology. Lastly, this is a cross-sectional study. Results could differ if longitudinal design of study would be followed.

**Conflict of interest:** There is no conflict of interest to declare

## REFERENCE

- Bachrach, D. G., B. C. Powell, B. J. Collins and R. G. J. J. o. A. P. Richey, 2006. Effects of task interdependence on the relationship between helping behavior and group performance. 91(6): 1396.
- Barczak, G., F. Lassk, J. J. C. Mulki and I. Management, 2010. Antecedents of team creativity: An examination of team emotional intelligence, team trust and collaborative culture. 19(4): 332-345.
- Basit, 2017. Seminar on "it growth opportunities". Lahore Chamber of Commerce and Industry.
- Beldoch, M. J. T. c. o. e. m. N. Y. M.-H., 1964. Sensitivity to expression of emotional meaning in three modes of communication. 31-42.
- Bommer, W. H., E. C. Dierdorff and R. S. J. A. o. m. j. Rubin, 2007. Does prevalence mitigate relevance? The moderating effect of group-level ocb on employee performance. 50(6): 1481-1494.
- Brass, D. J. J. A. s. q., 1981. Structural relationships, job characteristics, and worker satisfaction and performance. 331-348.
- Bredillet, C. N. J. P. M. J., 2008. Mapping the dynamics of the project management field: Project management in action (part 1). 39(4): 2-4.
- Chang, J. W., T. Sy and J. N. J. S. G. R. Choi, 2012. Team emotional intelligence and performance: Interactive dynamics between leaders and members. 43(1): 75-104.
- D'Silva, J. L., A. Ortega and A. H. J. M. A. S. Sulaiman, 2016. Influence of personal and task interdependence on task conflict and team effectiveness. 10(4): 95-100.
- De Araújo, M. and P. J. T. Lopes, 2014. Virtuous leadership, organizational commitment and individual performance. 12: 3-10.
- De Veer, R., 2012. Exploring the moderating effect of task interdependence on the relationship between team autonomy and team effectiveness. Master Thesis. Tilburg University.
- Dionne, S. D., F. J. Yammarino, L. E. Atwater and W. D. J. J. o. c. m. Spangler, 2004. Transformational leadership and team performance. 17(2): 177-193.
- Druskat, V. U., G. Mount and F. Sala, 2013. Linking emotional intelligence and performance at work: Current research evidence with individuals and groups. Psychology Press.
- Eberly, M. B. and C. T. J. T. L. Q. Fong, 2013. Leading via the heart and mind: The roles of leader and follower emotions, attributions and interdependence. 24(5): 696-711.
- Fox, S. and P. E. Obti. Spector, Occupational, O. Psychology and Behavior, 2000. Relations of emotional intelligence, practical intelligence, general intelligence, and trait affectivity with interview outcomes: It's not all just 'g'. 21(2): 203-220.
- Gao, Z. and C. Xie, 2010. Notice of retraction the study of content simulation using in the software project management teaching. In: 2010 Second International Workshop on Education Technology and Computer Science. IEEE: pp: 576-578.
- Giardini, A. and M. J. J. o. O. H. P. Frese, 2006. Reducing the negative effects of emotion work in service occupations: Emotional competence as a psychological resource. 11(1): 63.
- Goleman, D., 1995. Emotional intelligence. New york, ny, england. Bantam Books, Inc.
- Golonka, K. and J. J. I. J. o. C. M. Mojsa-Kaja, 2013. Emotional intelligence and team roles-analysis of interdependencies with regard to teamwork effectiveness.
- Greenidge, D., D. Devonish and P. J. H. P. Alleyne, 2014. The relationship between ability-based emotional intelligence and contextual performance and counterproductive work behaviors: A test of the mediating effects of job satisfaction. 27(3): 225-242.
- Hackman, J. R. and R. J. A. s. q. Wageman, 1995. Total quality management: Empirical, conceptual, and practical issues. 309-342.
- Hayes, A. F., 2012. Process: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. University of Kansas, KS.
- Hyväri, I. J. P, 2006. Success of projects in different organizational conditions. 37(4): 31-41.
- Javed, A., 2018. Impact of emotional intelligence on employee performance in project management. CAPITAL UNIVERSITY.
- Kiggundu, M. N. J. A. o. m. R., 1981. Task interdependence and the theory of job design. 6(3): 499-508.
- Kuthyola, K. F., J. Y.-C. Liu and G. Klein, 2017. Influence of task interdependence on teamwork quality and project performance. In: International Conference on Business Information Systems. Springer: pp: 135-148.
- Lam, L. T. and S. L. J. T. j. o. s. P. Kirby, 2002. Is emotional intelligence an advantage? An exploration of the impact of emotional and general intelligence on individual performance. 142(1): 133-143.

- Lazarus, R. S. J. A. p., 1991. Progress on a cognitive-motivational-relational theory of emotion. 46(8): 819.
- Lebeck, B. W. and N. R. J. T. J. o. V.-B. L. Chighizola, 2018. Emotional intelligence and its effect on performance outcomes in a leadership development school. 11(2): 15.
- Lee, C.-c., Y.-h. Lin, H.-C. Huang, W.-w. Huang, H.-h. J. S. B. Teng and P. a. i. journal, 2015. The effects of task interdependence, team cooperation, and team conflict on job performance. 43(4): 529-536.
- Little, T. D., N. A. Card, J. A. Bovaird, K. J. Preacher and C. S. J. M. c. e. i. l. s. Crandall, 2007. Structural equation modeling of mediation and moderation with contextual factors. 1: 207-230.
- Malik, S. Z., S. J. B. o. E. Shahid and Research, 2016. Effect of emotional intelligence on academic performance among business students in pakistan. 38(1).
- Manev, I. M. and W. B. J. J. o. i. b. s. Stevenson, 2001. Nationality, cultural distance, and expatriate status: Effects on the managerial network in a multinational enterprise. 32(2): 285-303.
- Mayer, J. D. and C. D. J. E. p. r. Cobb, 2000. Educational policy on emotional intelligence: Does it make sense? , 12(2): 163-183.
- Mazur, A., A. Pisarski, A. Chang and N. M. J. I. J. o. P. M. Ashkanasy, 2014. Rating defence major project success: The role of personal attributes and stakeholder relationships. 32(6): 944-957.
- Melita, P. L., C. Douglas, G. R. Ferris, A. P. Ammeter and M. R. J. T. I. J. o. O. A. Buckley, 2003. Emotional intelligence, leadership effectiveness, and team outcomes. 11(1): 21-40.
- Mieritz, L. J. G. S. S. W. P. F. G. S. S. W. P. F., 2012. Gartner survey shows why projects fail. 501: G00231952.
- NADRA, 2019. National database and registration authority. Retrieved from <https://www.nadra.gov.pk/services/project-management/>.
- Nielsen, E., A. Jolink, A. B. L. de Sousa Jabbour, M. Chappin and R. J. J. o. c. p. Lozano, 2017. Sustainable collaboration: The impact of governance and institutions on sustainable performance. 155: 1-6.
- Okoronkwo, I., 2017. Team performance and project success.
- Oosterhof, A., G. S. Van der Vegt, E. Van de Vliert and K. Sanders, 2009. Valuing skill differences: Perceived skill complementarity and dyadic helping behavior in teams. *Journal of group organization management*, 34(5): 536-562.
- Organ, D. W. and K. J. P. p. Ryan, 1995. A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. 48(4): 775-802.
- Quoidbach, J. and M. J. J. o. P. N. Hansenne, 2009. The impact of trait emotional intelligence on nursing team performance and cohesiveness. 25(1): 23-29.
- Rapisarda, B. A. J. T. I. J. o. O. A., 2002. The impact of emotional intelligence on work team cohesiveness and performance. 10(4): 363-379.
- Rezvani, A., P. Khosravi and N. M. J. I. J. o. P. M. Ashkanasy, 2018. Examining the interdependencies among emotional intelligence, trust, and performance in infrastructure projects: A multilevel study. 36(8): 1034-1046.
- Rose, S., N. Spinks and A. I. Canhoto, 2014. *Management research: Applying the principles*. Routledge.
- Shah, S., A. Z. Khan, M. S. J. I. J. o. B. Khalil and S. Science, 2011. Project management practices in e-government projects: A case study of electronic government directorate (egd) in pakistan. 2(7): 235-243.
- Shenhar, A. J. and D. Dvir, 2007. *Reinventing project management: The diamond approach to successful growth and innovation*. Harvard Business Review Press.
- Stewart, G. L. and M. R. J. A. o. m. J. Barrick, 2000. Team structure and performance: Assessing the mediating role of intrateam process and the moderating role of task type. 43(2): 135-148.
- Stubbs, K. E. and S. B. Wolff, 2008. Emotional intelligence competencies in the team and team leader: A multi-level examination of the impact of emotional intelligence on team performance. *Journal of Management Development*, 27(1): 55-75.
- Sy, T., S. Tram and L. A. J. J. o. v. b. O'Hara, 2006. Relation of employee and manager emotional intelligence to job satisfaction and performance. 68(3): 461-473.
- Taber, K. S. J. R. i. S. E., 2018. The use of cronbach's alpha when developing and reporting research instruments in science education. 48(6): 1273-1296.
- Timmerman, T. A. J. S. G. R., 2000. Racial diversity, age diversity, interdependence, and team performance. 31(5): 592-606.
- Van Der Vegt, G. and E. Van De Vliert, 2002. Intragroup interdependence and effectiveness: Review and proposed directions for theory and practice. *Journal of Managerial Psychology*, 17(1): 50-67.
- Vidarthi, P. R., S. Anand and R. C. J. T. L. Q. Liden, 2014. Do emotionally perceptive leaders motivate higher employee performance? The moderating role of task interdependence and power distance. 25(2): 232-244.
- Wang, C.-H., C. Yen and T. J. J. o. M. Huang, 2011. Task interdependence, team conflict, and performance of a journalists' team: Clarifying the cooperative conflict perspective. 28: 427-446.
- Wasielowski, P. L. J. S. I., 1985. The emotional basis of charisma. 8(2): 207-222.
- Wei, F. H. and G. D. J. B. j. o. e. t. Chen, 2006. Collaborative mentor support in a learning context using a ubiquitous discussion forum to facilitate knowledge sharing for lifelong learning. 37(6): 917-935.
- Weiss, H. M. and R. Cropanzano, 1996. *Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work*.
- Zhang, Y. and M.-Y. J. S. g. r. Huai, 2016. Diverse work groups and employee performance: The role of communication ties. 47(1): 28-57.



## QUESTIONNAIRE

This is an academic questionnaire, used purely for research purpose. All the data was treated in a confidential manner. There was no right or wrong answer, only your personal opinion was required.

### Demographics

- |                  |                       |           |                     |               |        |
|------------------|-----------------------|-----------|---------------------|---------------|--------|
| 1. Gender        | a. Male               | b. Female |                     |               |        |
| 2. Age           | a. 20-29              | b. 30-39  | c. 40-49            | d. 50 & above |        |
| 3. Experience    | a. 0-5                | b. 11-15  | c. 6-10             | d. 16-20      | e. 21+ |
| 4. Qualification | Bachelors a. (16 yrs) | b. PhD    | c. Masters (18 yrs) | d. Other      |        |

<b>For Managers</b>					
Please answer the following questions, keeping in view the following scale					
5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree					
<b>Team Performance</b>	5	4	3	2	1
1. This team performs well in the whole organization					
2. This team achieves its goals effectively					
3. This team accomplishes its task on time					
4. This team almost always beat their targets within specified budget					
5. This team can solve most problems encountered during the project					
<b>For Project Team Members</b>					
Please answer the following questions, keeping in view the following scale					
5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree					
<b>Emotional Intelligence</b>	5	4	3	2	1
1. I have a good sense of why I have certain feelings most of the time					
2. I have good understanding of my own emotions					
3. I really understand what I feel					
4. I always know whether or Not I am happy					
5. I always know my team members' emotions from their behaviour					
6. I am a good observer of my team members' emotions					
7. I am sensitive to the feelings and emotions of my team members					
8. I have good understanding of the emotions of my team members around me					
9. I always set goals for myself and then try my best to achieve them					
10. I always tell myself I am a competent person					
<b>Emotional Intelligence</b>					
11. I am a self-motivated person					
12. I would always encourage myself to try my best					
13. I am able to control my temper and handle difficulties rationally					
14. I am quite capable of controlling my own emotions					
15. I can always calm down quickly when I am very angry					
16. I have good control of my own emotions					
<b>Task Interdependence</b>					
1. I have to obtain information and advice from my colleagues in order to complete my work					
2. I depend on my colleagues for the completion of my work					
3. I have a one-person job; I rarely have to check or work with others					
4. I have to work closely with my colleagues to do my work properly					
5. In order to complete their work, my colleagues have to obtain information and advice from me					
<b>Individual performance</b>					
1. Carried out the core parts of your job well					
2. Completed your core tasks well using the standard procedures					
3. Adapted well to changes in core tasks					
4. Ensured your tasks were completed properly					
5. Coped with changes to the way you have to do your core tasks					
6. Learned new skills to help you adapt to changes in your core tasks					