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IMPACT OF EMOTIONAL INTELLIGENCE ON PROJECT MANAGER'S COMPETENCY

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ABSTRACT

There is increased awareness about the factors that affect project success since project stakeholders are constantly working towards a successful project. Although there are many aspects that affect a project's success, project managers are essential. The purpose of this study is to investigate how emotional intelligence (EI) affects project managers' ability to manage projects effectively. Research has been done in fields of relation between emotional intelligence and project success, but influence of emotional intelligence on project manager's competency in the field is unknown. In this study linear regression is applied to determine the inter relation between emotional intelligence and competency of a project manager. The practical application of linear regression was demonstrated and conclusions were drawn from the findings of the study. The inter-relations between emotional intelligence and competency of project managers are determined along with the degree of dependency. It is important to understand the dependency of competency on soft skills to enhance a project manager's performance and thus the project's success.

Keywords: Emotional Intelligence, Competency, Project Management

1. INTRODUCTION

A growing proportion of building projects are failing as a result of inadequate project management Khlaifat et al. (2019). For a very long time, social skills were undervalued in favour of technical abilities as the most crucial qualities of an effective project manager for buildings. Project managers' "soft skills," particularly emotional intelligence (EI), a social skill that can be expressed nonverbally, face obstacles as projects get more complicated, but these challenges are by no means lessened Rezvani et al. (2016).

The efficiency of project teams has been significantly impacted by the emotional quotient of project managers. Stephens and Carmeli (2016) According to recent studies, emotional intelligence enhances project management and results in successful project completion Meng and Boyd (2017), Kirchoff et al. (2016), Rezvani et al. (2020). There is evidence that project management in the

construction sector is shifting from the conventional method, which focuses planning and control, to new project management, which places a higher emphasis on the role of people and collaborative partnerships. Meng and Boyd (2017)

The previous study focused on the impact of project managers' leadership on project performance, but as research develops, it increasingly emphasises personal traits like communication skills, emotional intelligence, and other knowledge and abilities that enhance project success. Khosravi et al. (2020) The efficiency of project teams has been significantly impacted by the emotional quotient of project managers. Stephens and Carmeli (2016) The interaction between a project's intricacy and the emotional commitment of its project manager is vital for determining how well it will turn out. Knowing that emotional intelligence (EI) complements rather than substitutes for intellectual intelligence is crucial. Authenticity in relation to the feelings and ideas of others is a component of EI. In an effort to develop and apply EI abilities in project management to enhance and improve the projects, as well as raise the efficacy of the employees and the project manager, this study focuses on establishing the relationship between EI and project manager effectiveness.

A key factor in determining a project's success is the emotional intelligence of the project managers and other members of the team. Wu et al. (2017) Recent research by Rezvani et al. (2020) presents a positive model association between emotional intelligence and project performance through unfavourable interactions with detrimental conflict categories and demonstrates this association in the context of infrastructure projects. (relationship, team, and process). Through adverse interactions with negative conflict categories, recent research by Rezvani [16] proposes a framework that links emotional intelligence to effective project execution and illustrates this association in the context of infrastructure projects. (relationship, team, and process). Rezvani et al. [18] emphasise that job happiness and trust impede this link and that emotional intelligence negatively effects project success. Research has been done in the field of the relation between emotional intelligence and project success, but the influence of emotional intelligence on a project manager's competency in the field is unknown.

1.1. EMOTIONAL INTELLIGENCE

"Emotional Intelligence (EI)" used for the first time in Salovey and Mayer's paper as "the ability to monitor one's own and other's feelings and emotions, to differentiate among them, and should make use of this knowledge to direct one's thoughts and actions" Salovey and Mayer (1990). Salovey and Mayer's "Four-Branch" model is the most widely used theoretical model of EI Mayer et al. (2016). The four basic emotion-related skills that this model suggests are: (1) recognizing emotions; (2) enabling thought using emotion; (3) comprehending emotions; and (4) controlling emotions. Numerous authors emphasise the use of soft skills in the execution of construction projects and the vital role that emotional intelligence plays in the management of challenging projects Wu et al. (2017).

Emotional intelligence is the capacity to control your emotions and those of others in order to achieve predetermined objectives Sunindijo (2015). A project's cost, schedule, quality, and participant satisfaction are all monitored to determine its success, and its results must satisfy the clients' expectations. Huang et al. (2016)

A project's success is greatly influenced by a person's social abilities. Delegation, trust, commitment, and cooperation were determined to be key human elements that influence decision-making. More often than managers with lower EI

scores, project managers with high EI ratings use rewarding, delegating, open communication, and participating. Similar to this, staff members viewed bosses who encouraged them as being the most effective Sunindijo (2015). This aspect is crucial since it has a similar impact on the project's success as the technical aspect does. High emotional quotient project managers have been found to be adaptable and cooperative in conflict resolution, continually seeking out win-win situations that will satisfy all sides. Additionally, they are more adaptable when changing their conflict resolution approaches, which improves performance and results and increases the satisfaction of all parties. Sunindijo (2015)

EI is currently measured using a variety of tools. The most common are listed in Table 1 along with a brief explanation of each.

Table 1

Table 1 Comparison Between Methods to Measure Emotional Intelligence

EQ-I Scales	MSCEIT Branches	WLEIS	TEIQue	GENOS
Emotional self-awareness	Understanding	Self-emotion appraisal	Emotional perception	Self-awareness
Impulse control	-	Regulation of emotions	Impulsive stress management	Self-management
Flexibility	Managing		Adaptability	Self-management
Self-actualization	Managing	Use of emotions	Self-motivation	-
Optimism	Facilitating	Use of emotions	Optimism	-
Empathy	Understanding	Others' emotions appraisal	Empathy	Awareness of others
-	Perceiving	-	Social awareness	-
-	Managing	-	-	Positive influence
Assertiveness	Managing	-	Assertiveness	Positive influence
-	Managing	-	-	-
-	Managing	-	-	-
Interpersonal	Managing	-	Relationships	Positive influence

Julio César came to the conclusion that the WLEIS allows users to acquire scores for each of the four first-order elements it assesses as well as an overall EI score. This enables the WLEIS to be used as a general indicator of EI or to highlight particular features of this variable, at least for the four components that this scale assesses. In order to evaluate EI in leadership, management, and organisational behaviour contexts, the WLEIS is a trustworthy and valid tool. Thus, WLEIS method was adapted to measure emotional intelligence of project managers'. Goleman et al. (2013).

1.2. PROJECT MANAGERS' COMPETENCY

The learned skills based on emotional intelligence are called competencies provide extraordinary performance, according to Goleman et al. Competencies are the potential of emotional intelligence converted into practical capabilities. Acosta-Prado et al. (2022)

Table 2

Table 2 Represents Various Competency Factors Identified from Literature.

Sno	Competencies	Trivellas and Drimouss is (2013)	Hwang and Ng (2013)	Zhang et al. (2013)	Omorede et al. (2013)	Keil et al. (2013)	Jatocha et al. (2014)	Ramazani and Jergeas (2015)	Brière et al. (2015)	Liikamaa (2015)	Loufrani Fedida and Missonier (2015)	Bredillet et al. (2015)	Mesly (2015)	Mansor et al. (2016)	Anvari et al. (2016)	Silvius (2016)	Arroyo añada et al. (2016)	Omar and Fayek (2016)	Dziekoński (2017)	Moradi et al. (2020a)
1	Team management		✓	✓	✓	✓	✓	✓					✓		✓		✓	✓	✓	✓
2	Control and monitoring						✓								✓					
3	Planning					✓		✓							✓			✓		
4	Decision making									✓					✓			✓	✓	
5	Problem solving		✓			✓	✓	✓						✓	✓		✓	✓	✓	✓
6	Communication					✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
7	Innovation									✓								✓		
8	Strategic thinking					✓										✓				
9	Motivation	✓				✓										✓	✓	✓	✓	
10	Project knowledge				✓	✓	✓				✓	✓		✓					✓	
11	Building trust									✓			✓					✓		
12	Leadership	✓	✓	✓		✓		✓	✓	✓	✓		✓		✓	✓		✓		✓
13	Change management			✓			✓		✓		✓							✓		
14	Critical thinking							✓												
15	Conflict management	✓		✓		✓				✓	✓									✓
16	Analytical thinking									✓							✓	✓		
17	Relationship management		✓			✓				✓					✓					
18	Time management					✓	✓											✓	✓	
19	Cost management					✓	✓											✓	✓	✓
20	Risk management					✓	✓											✓		
21	Stakeholder management					✓												✓		✓
22	Stress management		✓			✓	✓			✓	✓								✓	
23	Resource management						✓							✓				✓		✓
24	Training and development of employees														✓			✓		✓
25	Documentation						✓												✓	
26	Commitment					✓				✓			✓					✓		
27	Understanding others									✓		✓								
28	Reporting													✓						
29	Self assessment									✓										
30	Productivity									✓										
31	Business environment									✓							✓	✓		
32	Achievement management									✓										
33	Responsible									✓										
34	Organizational experience			✓				✓	✓			✓								
35	Negotiation	✓	✓			✓										✓		✓	✓	
36	Inter personal and intra personel skills							✓	✓								✓	✓		
37	Assertiveness	✓													✓			✓	✓	
38	Ethics	✓							✓		✓					✓		✓		
39	Technical competency		✓			✓		✓												
40	Presentation and public speaking		✓																	
41	Language proficiency									✓										
42	Good listener					✓														
43	Creativity	✓													✓				✓	
44	Result orientation	✓								✓										
45	Collaboration			✓				✓		✓						✓				
46	Attention to detail					✓								✓						
47	Adaptability						✓	✓										✓		

According to Ekrot, Kock, and Gemünden Ekrot et al. (2016), project management competence retention (PMCR) is positively correlated with the organisation's typical project success. In their conclusion, they stated that in order to sustain project management competency, official project management development views, such as a potential job route or educational options, as well as the development of a formal lessons learned system, are required. Project managers' competencies are critical during significant project modifications, according to Brière, Prouix, Flores, and Laporte Brière et al. (2015), and these are essential for developing project management skills. Although the project managers' competency component can be used as a supplement to organisational competencies, doing so is not as beneficial, according to the study of Loufrani-Fedida and Missonier Loufrani-Fedida and Missonier (2015).

As a result, organisational and project management skills are essential for improving project performance. Regardless of the size or complexity of the project, certain knowledge, skills, and abilities have emerged as being particularly important to its success Gallagher et al. (2015). Participation, documentation, application, and development, maintenance of quality assurance procedures, critical thinking, project reviews, communication, leadership, and adaptability are a few of these.

1.3. HYPOTHESES DEVELOPMENT

The positive effects of EI on various outcomes have been supported by prior empirical research on large-scale projects, which also found a correlation between team members' abilities to control, perceive, and understand their own feelings and emotions as well as those of their teammates, and their ability to perform well at work. Lindsjørn et al. (2016), Rezvani et al. (2018) and Maqbool et al. (2017) both found that team members' emotional intelligence has an impact on how well the team performs. Additionally, Maqbool et al. found that members of project teams with high EI promote social and emotional environments that improve communication and efficiency.

Individuals with high EI also tend to induce positive moods and emotions in their workplace Ashkanasy and Dorris (2017) and reduce emotion-related problems including stress and burnout enhancing overall team performance, Greenidge et al. (2014). These findings support the value of EI as a trait that fosters positivity and camaraderie in project teams Urda and Loch (2013) and as a crucial ability that teams may use to gather and share information in order to accomplish their stated objectives and improve their performance Kaufmann and Wagner (2017) .

On the other hand, low levels of performance, high levels of team tension, conflict, negative feelings, and dissatisfaction are caused by a lack of EI Rezvani et al. (2018), Rezvani et al. (2018). Other researchers Kirchoff et al. (2016), Stanczyk et al. (2015) have demonstrated that teams with low EI operate irrationally and frequently base their judgements and actions on feelings and intuition, which results in subpar performance.

Research on Impact of Construction Project Managers' Emotional Intelligence on Project Success identifies the relationship between emotional intelligence between internal and external stakeholders and project success using hypothesis to understand the correlations. The research by Zhu and Wang explores the impact of project managers' emotional intelligence on project performance by using the

hypothesis method. The preceding research served as a guide for developing the central hypothesis of this investigation, which is:

Hypothesis 0: Construction project managers' emotional intelligence is positively correlated with project managers' competency.

Figure 1

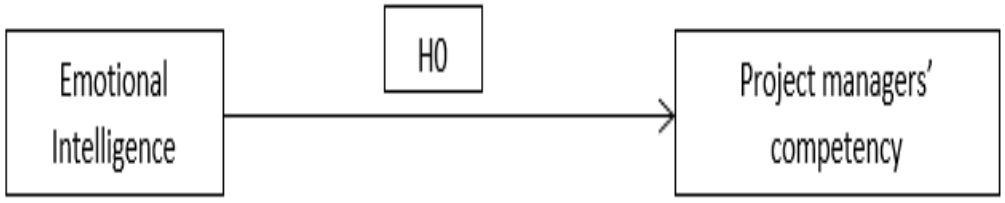

Figure 1 Conceptual Model of Study

Independent Variables

The Wong and Law scale (WLEIS), which measures emotional intelligence, based on the concept provided by Mayer and Salovey

1) Self-emotion appraisal (SEA): assessing and expressing one's own emotions
2) Others-emotions appraisal (OEA): evaluating and recognising the emotions of others
3) Use of emotion (UOE)—using feelings to stimulate thought
4) Regulations of Emotions (ROE) refers to controlling one's own emotions.

The WLEIS EI scale was created specifically for management studies. A self-emotion appraisal, according to Mayer et al. Acosta-Prado and Zárate (2017), is the ability to accurately identify and express one's feelings. The other hand side, emotional integration is the capacity to differentiate diverse emotions and how they affect one's thought process. Knowing the origins of emotions and how they are related to one another is necessary for understanding them. In order to attain the required outcome, managing emotions necessitates analysing numerous approaches as well as exercising self- and other-control.

Dependent Variables

From a literature review, 47 factors relating to the competency of project managers were found. Critical elements were selected by taking into account factors whose prevalence was greater than 50%. Leadership has been cited as a vital aspect in project manager competency papers by 68% of the papers, team management by 63% of the papers, communication by 63% of the papers, and problem resolution by 53% of the papers. Thus, the identified dependent variables are Leadership, Team management, Communication, Problem solving.

2. MATERIALS AND METHODS

The study intends to investigate the connection between a project manager's emotional intelligence and productivity. While there have been many studies on emotional intelligence as a requirement in the field of management, the literature review found that few published works directly connect to the project management profession. A survey of the literature served as the foundation for the

identification of emotional intelligence components and the project manager's success in terms of project cost, time, and quality. To gather information, a questionnaire with three sections—Demographic, EI scale, and Manager Effectiveness Survey—is created. Also, the association between project managers' effectiveness and emotional intelligence was examined using SPSS.

The questionnaire was formulated initially by identifying the factors obtained through the literature review. The questionnaire is divided into three parts,

- Section 1: profile of the respondent
- Section 2: to understand how emotionally intelligent the person is

A concise emotional intelligence test with 16 items was created for management research and study. The wong and law emotional intelligence scale (wleis) elements are based on the emotional intelligence ability paradigm. The respondent had to indicate how much they agreed or disagreed with each of a set of assertions in order to complete the questionnaire.

- Section 3: to understand how competent the person is

A concise (16-item) competency assessment tool created through research. Respondents were asked to complete a questionnaire by checking the boxes next to each statement to indicate how much they agreed or disagreed with it.

To measure the weightage of each factor, an ordinal five point Likert scale was applied (1 - strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, 5 - strongly agree). The questionnaire was floated exclusively to Project managers in the field of construction. A total of 57 responses were collected. The respondent profile is mentioned in figures below.

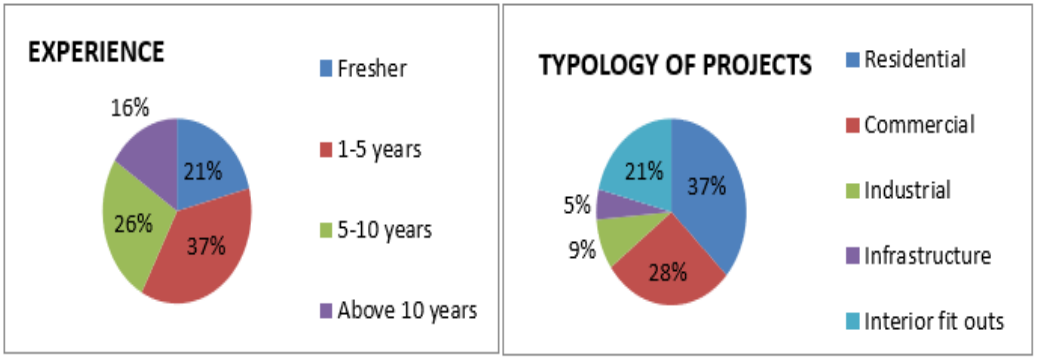

Figure: Respondent profile

The software packages SPSS Statistics version 27 were used for all analyses pertaining to the research that was undertaken. Two methods of data analysis were used, including Cronbach Alpha test and Linear Regression

Reliability of questionnaire

Another technique to assess the quality of the questionnaire being utilised is reliability. The degree to which the questionnaire may provide the same findings under the same circumstances is calculated. Based on the premise that the individual results provided by each item are consistent with the entire questionnaire, statistical reliability is evaluated. Sahel (2018), Setiani & Majid (2019).

Table 3

Table 3 Summary of Valid and Excluded Data from Questionnaire Responses

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

a. Listwise deletion based on all variables in the procedure.

A total of 57 responses were collected and all the responses were found to be valid as per above table. The most commonly used method to test the reliability of a research instrument is Cronbach's Coefficient Alpha (Cα). This method is used to determine the dependability of the questionnaire between each section and the overall questionnaire mean. The typical range of Cronbach's alpha (Cα) coefficient is between 0.0 and +1 and more closer the value is to 1, the internal consistency is more. The preferable value of Cα has to be more than 0.700 to say that the instrument is reliable Setiani & Majid (2019), Kothari (2004), Pallant (2007). Cronbach's alpha values > 0.7 are valid and the values for the floated questionnaire are found to be 0.841 as shown in Table 4 Thus, the validity of the questionnaire and its responses is proved.

Table 4

Table 4 Cronbach's Alpha Test Results

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.841	.856	8

3. RESULTS AND DISCUSSIONS

Linear regression is used to identify interdependency of independent and dependent factors considered for this study. Following hypothesis were tested to understand the same.

3.1. COMPETENCY

The purpose of this study is to look at the impact of emotional intelligence on project managers' competence. Following hypothesises was made in (1)

H0: *Construction project managers' emotional intelligence (EI) is positively correlated with project managers' competency (PMC).*

The dependent variable (competency) was regressed on predicting variable Emotional Intelligence (1,55) =36.580, p.001, demonstrates that the four factors being considered have a big impact on competency, shows that the independent variables strongly predict competency. Additionally, R^2 = 0.389 evidence that the model is accurate for 38.9% of the variation in Competency.

Additionally, the coefficient's impact on the criteria variable was evaluated further. (competency). H0 examines the relationship between emotional intelligence (EI) and competency (PMC). According to the findings, EI significantly and favourably affects competency (B=0.632, t=6.048, p.001).H0 was therefore supported Table 5 presents the findings.

Table 5

Table 5 Results of Hypotheses

R= 0.632; F (1, 55) = 36.580

Hypotheses	Regression Weights	B	t	p-value	Results
H0	EI -> PMC	0.632	6.048	<.001	Supported

Note: p<0.05. EI: Emotional Intelligence, PMC: Project Managers' Competency.

Hence it is concluded that Emotional Intelligence (EI) affects Project Mangers' competency (PMC) qualities of a project manager.

To understand the interdependency of each of the sub factors of Emotional Intelligence and Project Managers Competencies Linear regression was carried out individually for each of the dependant variables. Values of coronaches alpha for each of the considered categories are tabulated and all the categorises are identified to be valid.

Table 6

Table 6 Variables with the Following Characteristics: Mean, Sd, Number of Sub-Constructs, and Cronbach's Alpha

VARIABLE	Sub Constraints	Mean	SD	ALPHA
Self-emotional appraisal (SEA)	4	3.842	0.562	0.824
Others' emotional appraisal (OEA)	4	3.461	0.715	0.83
Use of emotions (UOE)	4	4.000	0.59	0.841
Regulation of emotions (ROE)	4	3.539	0.863	0.85
Leadership (L)	4	3.829	0.478	0.81
Team management (TM)	4	4.079	0.680	0.79
Communication (C)	4	3.816	0.529	0.814
Problem solving (PS)	4	3.553	0.605	0.818

Linear regression for each of the emotional intelligence categories is carried out to understand the dependency of factors on each other. The threshold significance should be <0.50 for the factor to be considered significant. The factors are listed on independent and dependent matrix and their significance values are tabulated in the matrix below.

Table 7

Table 7 Significance of Emotional Intelligence Factors

		DEPENDENT VARIABLE			
		SEA	OEA	UOE	ROE
INDEPENDENT VARIABLE	SEA	-	-	-	-
	OEA	0.052	-	-	-
	UOE	0.070	<0.001	-	-

	ROE	0.003	0.023	0.627	-

Values of significance that fall under 0.050 are highlighted in the matrix. It is derived from the matrix that Others Emotional Appraisal (OEA) is dependable of Use of Emotions (UOE) and Regulation of emotions (ROE). Self-emotional appraisal (SEA) is dependable on Regulation of emotions (ROE).

Values of significance under 0.050 are highlighted in the tables below. Higher the beta values higher the level of significance between the compared factors. The Beta values are colour code to represent red as high, yellow as medium significance and green is low significance comparatively.

LEADERSHIP

The purpose of this study is to look into the impact of emotional intelligence on leadership. Following hypothesises were proposed.

H1: There is significant positive impact of Self-emotional appraisal (SEA) on Leadership (L)

H2: There is significant positive impact of Others 'emotional appraisal (OEA) on Leadership (L)

H3: There is significant positive impact of Use of emotions (UOE) on Leadership (L)

H4: There is significant positive impact of Regulation of emotions (ROE) on Leadership (L)

Self-emotional appraisal (SEA), others' emotional assessment (OEA), use of emotions (UOE), and regulation of emotions (ROE). were applied to predict the dependent variable (leadership). F (4,52) =13.936, p .001, which shows that the independent variables strongly predict leadership, shows that the four components under consideration have a significant impact on leadership. Additionally, R^2 = 0.517 evidence that the model is accurate for 51.7% of the variation in leadership.

Furthermore, coefficients were further evaluated to determine how each factor affected the criteria variable. (leadership). H1 assesses whether leadership is significantly and favourably impacted by self-emotional appraisal (SEA). According to the findings, SEA significantly and favourably affects leadership (B=0.405, t=3.763, p=0.000). H1 was therefore supported. H2 assesses whether leadership is considerably and favourably impacted by others' emotional appraisal (OEA). According to the findings, OEA does not significantly and favourably affect leadership (B=-0.031, t=-0.275, p=0.785). H2 is therefore not supported. H3 assesses if the use of emotions (UOE) has a significant, favourable impact on leadership. According to the findings, UOE significantly and favourably affects leadership (B=0.311, t=2.808, p=0.007). H3 was therefore supported. H4 assesses whether leadership is significantly and favourably impacted by regulation of emotions (ROE). According to the findings, ROE significantly and favourably affects leadership (B=0.321, t=2.960, p=0.005).H3 was therefore supported. The findings are shown in Table 8.

Table 8

Table 8 Results of Hypotheses

R= 0.719; F (4, 52) = 13.936

Hypotheses	Regression Weights	B	t	p-value	Results

H1	SEA -> L	0.405	3.763	0.000	Supported
H2	OEA -> L	-0.031	-0.275	0.785	Not supported
H3	UOE -> L	0.311	2.808	0.007	Supported
H4	ROE -> L	0.321	2.960	0.005	Supported

Note: p<0.05. **SEA:** Self-emotional appraisal, **OEA:** Others 'emotional appraisal, **UOE:** Use of emotions, **ROE:** Regulation of emotions.

Hence it is concluded that Self-emotional appraisal (SEA), Use of emotions (UOE), Regulation of emotions (ROE) effect Leadership qualities of a project manager.

TEAM MANAGEMENT

This study aims to look into the impact of emotional intelligence on team management. Following hypothesises were proposed.

H1: There is significant positive impact of Self-emotional appraisal (SEA) on Team Management (TM)

H2: There is significant positive impact of Others 'emotional appraisal (OEA) on Team Management (TM)

H3: There is significant positive impact of Use of emotions (UOE) on Team Management (TM)

H4: There is significant positive impact of Regulation of emotions (ROE) on Team Management (TM)

Team management was the dependent variable, whereas self-emotional appraisal (SEA), others' emotional assessment (OEA), use of emotions (UOE), and regulation of emotions (ROE) were the predictive variables. F (4,52) =12.708, p .001, which shows that the independent variables strongly predict team management, shows that the four components under research have a considerable impact on leadership. Additionally, R^2 = 0.494 evidence that the model is accurate for 49.4% of the variation in leadership.

Furthermore, coefficients were further evaluated to determine how each factor affected the criteria variable. (team management). H1 examines whether self-emotional appraisal (SEA) has a significant, favourable impact on team leadership. The results revealed that SEA has significant and positive impact on Team Management (B=0.361, t=3.273, p=0.002) H1 was therefore supported. H2 assesses whether leadership is considerably and favourably impacted by others' emotional appraisal (OEA). The findings showed that OEA did not significantly affect Team management but does have a beneficial impact (B=0.072, t=0.612, p=0.543). H2 is therefore not supported. H3 examines whether the use of emotions (UOE) has a significant, favourable impact on team leadership. According to the findings, UOE significantly and favourably affects team management (B=0.321, t=2.832, p=0.007). H3 was therefore supported. H4 assesses whether team management is significantly and favourably impacted by regulation of emotions (ROE). According to the findings, ROE significantly and favourably affects team management (B=0.263, t=2.377, p=0.021).H3 was therefore supported Table 9 presents the findings.

Table 9

Table 9 Results of Hypotheses
R= 0.703; F (4, 52) = 12.708

Hypotheses	Regression Weights	B	t	p-value	Results
H1	SEA -> TM	0.361	3.273	0.002	Supported
H2	OEA -> TM	0.072	0.612	0.543	Not supported
H3	UOE -> TM	0.321	2.832	0.007	Supported
H4	ROE -> TM	0.263	2.377	0.021	Supported

Note: p<0.05. SEA: Self-emotional appraisal, OEA: Others 'emotional appraisal, UOE: Use of emotions, ROE: Regulation of emotions.

Hence it is concluded that Self-emotional appraisal (SEA), Use of emotions (UOE), Regulation of emotions (ROE) effect Team management qualities of a project manager.

COMMUNICATION

This study aims to look into how emotional intelligence affects communication. Following hypothesises were proposed.

H1: There is significant positive impact of Self-emotional appraisal (SEA) on Communication (C)

H2: There is significant positive impact of Others 'emotional appraisal (OEA) on Communication (C)

H3: There is significant positive impact of Use of emotions (UOE) on Communication (C)

H4: There is significant positive impact of Regulation of emotions (ROE) on Communication (C)

Communication was regressed against the predictive factors of self-emotional assessment (SEA), others' emotional assessment (OEA), use of emotions (UOE), and regulation of emotions. (ROE). F (4, 52) =13.299, p .001, which shows that the independent variables strongly predict communication, demonstrates the importance of the four research components on communication. Additionally, R^2 = 0.506 evidence that the model is accurate for for 50.6% of the variation in communication.

Furthermore, coefficients were further evaluated to determine how each factor affected the criteria variable. (Communication). H1 examines whether communication is significantly and favourably impacted by self-emotional appraisal (SEA). According to the findings, SEA significantly and favourably affects communication (B=0.610, t=5.604, p=0.000). H1 was therefore supported. H2 examines whether communication is significantly and favourably impacted by others' emotional evaluation (OEA). The findings showed that OEA had a negligible but beneficial effect on communication (B=0.162, t=1.400, p=0.167).H2 is therefore not supported. H3 examines if the use of emotions (UOE) has a significant, favourable impact on communication. The findings showed that UOE had a little but beneficial effect on communication (B=0.146, t=1.301, p=0.199).H3 is therefore not supported. H4 examines whether communication is significantly and favourably impacted by the regulation of emotions (ROE). According to the findings, ROE does not significantly and favourably affect communication (B=-0.058, t=-0.526, p=0.601).H3 is therefore not supported Table 10 presents the findings.

Table 10

Table 10 Results of Hypotheses

R= 0.711; F (4, 52) = 13.299

Hypotheses	Regression Weights	B	t	p-value	Results
H1	SEA -> C	0.610	5.604	0.000	Supported
H2	OEA -> C	0.162	1.400	0.167	Not supported
H3	UOE -> C	0.146	1.301	0.199	Not supported
H4	ROE -> C	-0.058	-0.526	0.601	Not supported

Note: p<0.05. SEA: Self-emotional appraisal, OEA: Others 'emotional appraisal, UOE: Use of emotions, ROE: Regulation of emotions.

Hence it is concluded that Self-emotional appraisal (SEA) impacts Communication (C) qualities of a project manager.

PROBLEM SOLVING

This study aims to look into how emotional intelligence affects problem-solving. Following hypothesises were proposed.

H1: There is significant positive impact of Self-emotional appraisal (SEA) on Problem Solving (PS)

H2: There is significant positive impact of Others 'emotional appraisal (OEA) on Problem Solving (PS)

H3: There is significant positive impact of Use of emotions (UOE) on Problem Solving (PS)

H4: There is significant positive impact of Regulation of emotions (ROE) on Problem Solving (PS)

Problem solving was a dependent variable, whereas self-emotional appraisal (SEA), others' emotional assessment (OEA), use of emotions (UOE), and regulation of emotions (ROE)were used as predictive variables. F (4, 52) =6.622, p.001, which shows that the independent variables significantly influence problem solving, suggests that the four elements under investigation have an impact on communication. R^2 = 0.337 also shows that the model accounts for 33.7% of the variance in problem-solving.

Additionally, coefficients were further assessed to ascertain the influence of each of the factors on criterion variable (problem solving). H1 examines whether problem solving is significantly and favourably impacted by self-emotional appraisal (SEA). According to the findings, SEA does not significantly and favourably affect problem-solving (B=-0.008, t=-0.064, p=0.949).H1 is therefore not supported. H2 assesses whether problem solving is significantly and favourably impacted by Others' Emotional Appraisal (OEA). According to the findings, OEA significantly and favourably affects communication (B=0.502, t=3.751, p=0.000).H2 was therefore supported. H3 examines if the use of emotions (UOE) has a significant, favourable impact on problem solving. According to the findings, UOE does not significantly and favourably affect problem-solving (B=-0.056, t=-0.430, p=0.669).H3 is therefore not supported. H4 assesses whether problem solving is significantly and favourably impacted by the regulation of emotions (ROE). The findings showed that ROE has a little but beneficial effect on problem solving (B=0.217, t=1.712, p=0.093).H4 is therefore not supported. The findings are shown in Table 11.

Table 11

Table 11 Hypotheses Results

R= 0.581; F (4, 52) = 6.622

Hypotheses	Regression Weights	B	t	p-value	Results
H1	SEA -> PS	-0.008	-0.064	0.949	Not supported
H2	OEA -> PS	0.502	3.751	0.000	Supported
H3	UOE -> PS	-0.056	-0.430	0.669	Not supported
H4	ROE -> PS	0.217	1.712	0.093	Not supported

Note: p<0.05. SEA: Self-emotional appraisal, OEA: Others 'emotional appraisal, UOE: Use of emotions, ROE: Regulation of emotions.

Hence it is concluded that Others 'emotional appraisal (OEA) impacts Problem Solving (PS) qualities of a project manager.

Table 12

Table 12 Independent and Dependent Variables with Direction of Influence, Beta Values, T Value, Significance, R And R Square Values.

Independent Variable	Direction of Influence	Dependent Variables	Beta	t	Sig	R	R square
ROE	<->	SEA	0.386	3.099	0.003	0.386	0.149
UOE	<->	OEA	0.461	3.847	<0.001	0.461	0.212
ROE	<->	OEA	0.301	2.342	0.023	0.301	0.091
SEA	>	L	0.596	5.504	0.000	0.596	0.355
UOE	>	L	0.416	3.391	0.007	0.416	0.173
ROE	>	L	0.488	4.144	0.005	0.488	0.238
SEA	>	TM	0.559	4.995	0.002	0.559	0.312
UOE	>	TM	0.459	3.831	0.007	0.459	0.211
ROE	>	TM	0.445	3.688	0.021	0.445	0.198
SEA	>	C	0.666	6.613	0.000	0.666	0.443
OEA	>	PS	0.540	4.754	0.000	0.540	0.291

From the above Table 12 and Figure 1 conceptual model for study a web diagram is developed to understand the inter dependencies of Constant and variable factors. The lines are colour coded as red, orange and green to represent high, medium and low impact on the corresponding factors. The respective R square values are marked on the direction and impact indicator.

Figure 2

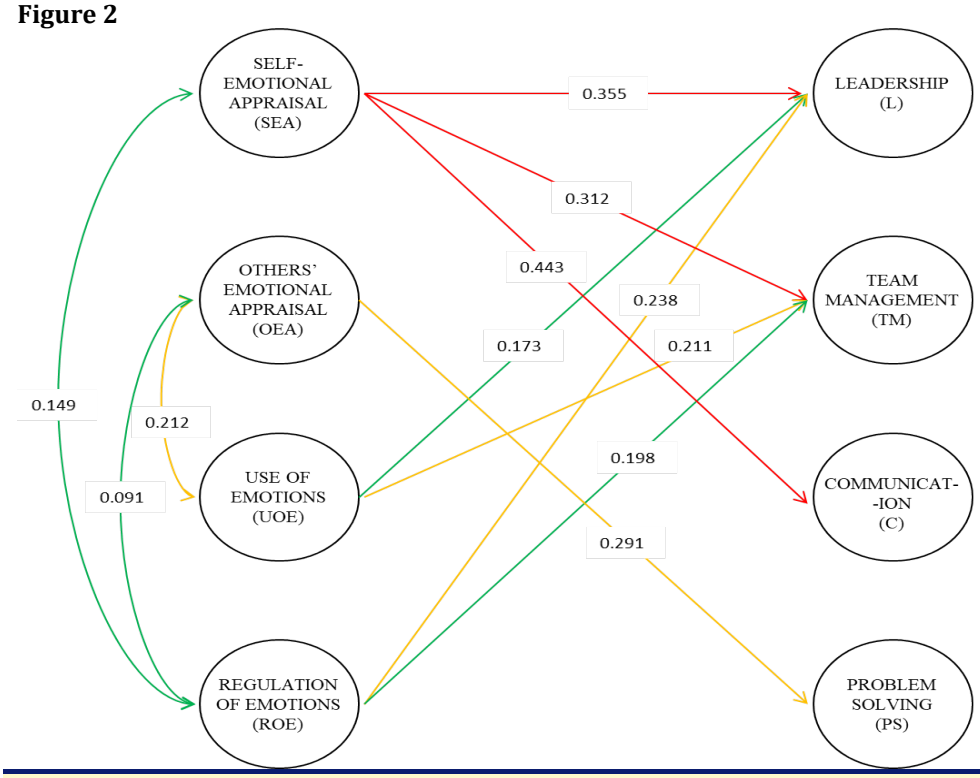

Figure 3 Web Diagram of Correlation Between EI And PMC Factors

Construction project managers' emotional intelligence was hypothesised to be favourably connected with their competence. From the above web diagram it can be understood that Project Mangers'' Emotional Intelligence is significantly and positively correlated to Project Managers' Competency. Hence H0 is supported.

4. CONCLUSIONS AND RECOMMENDATIONS

The independent sub factors of Emotional Intelligences' bidirectional inter relationship is represented in the above figure. It is understood that Self-emotional appraisal (SEA) and Regulation of emotions (ROE) are correlation with low impact of 14.9%. Others' emotional Intelligence (OEA) is related to Use of Emotions (UOE) and Regulation of Emotions (ROE) at medium impact of 21.2% and low impact of 9.1% respectively.

From figure it can be understood that Self-emotional appraisal (SEA) has high impact- 35.5%, 31.2%, and 44.3% on Leadership (L), Team Management (TM) and Communication (C) respectively. Problem solving skills (PS) of a project manager is affected only by Others' Emotional Appraisal (OEA) at a medium impact of 29.1%Use of emotions (UOE) affects Team management (TM) qualities of a project manager at a medium level of 21.1% and Leadership (L) qualities of a project manager at a low level of 17.3%.Regulation of Emotions (ROE) has medium impact on Leadership (L) qualities of project manager at 23.8% and a low impact on Team management (TM) at 19.8%.

Hence it can be concluded that, Self-emotional appraisal (SEA) has high impact on Project managers' competency, while Others' Emotional Appraisal (OEA), Use of Emotions (UOE) and Regulation of Emotions (ROE) has medium impact on Project

managers' competency. Overall Emotional intelligence has 38.9% of effect on Project manager's competency.

CONFLICT OF INTERESTS

None.

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