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Research Article

The effect of project managers' competencies on project success with mediating role of project stakeholders' engagement: A case of IT sector

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ABSTRACT

Purpose – The goal of this study is to determine and identify the nature of Project Managers' Competencies (Emotional Intelligence & Cognitive Flexibility) on Project Success (Time, Cost & Scope) mediating the role of Project Stakeholders' Engagement (Internal Stakeholders Engagement & External Stakeholders Engagement) in the sector of Information Sector of Lahore. In this paper we are targeting the Project Manager, team Leaders & Portfolio Manager of IT Sector in which they are involve to manage different types of Projects. Data collection was conducted using a quantitative survey which obtained valid 367 responses for the analysis. Regression Analysis, Correlation Analysis and MARCO Haya's Process was used to find out the results. The study confirmed that overall project success in IT sector is highly associated with the Project Managers Competencies and mediating by the Project Stakeholders Engagement. This research builds on previous studies by providing further evidence that the Project Manager Competencies and Project Stakeholders Engagement on Project Success. These findings can help fund further studies of future development endeavours and also support the Theory of Freeman regarding the Stakeholders Engagement.

1. INTRODUCTION

The success of any project is dependent on the viability and critical management of the projects on rigorous with keen focus, but it gains more importance and Strict control while IT sector has been targeted in Pakistan. The IT sector of Pakistan has shown tremendous growth over the last ten years and assumed the pivotal moderator to boost the economy of Pakistan. It is being forecasted that the economy of Pakistan may reach to 9.7 billion US Dollar with the support of IT sector (Kamal & Kazmi, 2022).

The rapid advancements and changing demands require flexible and adaptive project management practices in IT sector. The key factors that may influence project success are the competencies of the project manager, including emotional intelligence and cognitive flexibility Beringer et al. (2013), the project stakeholders' engagement. Moreover, the same factors are supporting to influence project's environment and resources (Ling, 2006).

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Success in project management (PM) has always been a popular topic in project management literature. During the 1970s, it was assessed regarding time, cost, and scope. Quality viewpoints were likewise remembered for the assessment during the 1980s and 1990s. PM success is an ambiguous, comprehensive, and multidimensional concept. Multiple researchers have defined it in several ways, including project completion outcomes regarding all the aspect including financial, social, technical, and professional issues having the expected outcome in terms of schedule, safety, cost, quality, and customers satisfaction; performing everything as planned; completing the project on time, within scope & cost, with high quality standards, and with satisfied customer requirements; and meeting the specifications and achieving a high level of satisfaction. (Ozorhon et al., 2022)

An unsuccessful project results in losses to project stakeholders. Unfortunately, many projects fail to be completed within their scope, Time, and Cost constraints, thereby guaranteeing the desired outcome of all stakeholders in the IT industry. According to research 34% of the project went failed in 2004 and 32% in 2009 (Cerpa & Verner, 2009). Papke-Shields et al. (2010), collected data from 600 different project organization from 22 countries and resulted that project outcomes of 86% respondents fell short of planned outcomes; thus, there is growing concern about the factors that impact project success.

According to Skulmoski and Hartman (2010), managers spend almost 88% of their time to communicate with different internal and external stakeholders. Such huge communication calls for those managers who can lead effectively to build better relationships, thus ensuring success in their projects (Lewis, 1998).

A study on the relationship styles of Hong Kong's IT managers highlighted that human skills were of the are very significance in project (Rowlinson et al., 1993). According to Sunindijo et al. (2007), also highlighted that manager skills play a critical importance in ensuring project success. Unfortunately, the project management literature has not given sufficient consideration to these soft skills. (Skulmoski & Hartman, 2010). According to Gehring (2007), also explained that in order to increase the likelihood of project success, the project manager must possess the essential skills for project management.

Over the past 20 years, researchers have long been interested in the success or failure of IT projects. The completion of IT projects over budget, late, and without fulfilling requirements contributed to their high failure rates. Stakeholder engagement was one of several critical variables that contributed to the success of the project (Pimchangthong & Boonjing, 2017). Many projects fail because organisations assume every project will be successful and fail to identify, evaluate, and prepare for potential stakeholders. With the quick change and growing competition, this is particularly true (Ghorbani, 2008). A project's goal is to benefit all its stakeholders. Benefits to stakeholders are the project's driving force, and achieving their goals is what makes the project successful (Rajablu et al., 2014). According to Beringer et al. (2013), managing stakeholder behavior is the key to a project portfolio's success.

The concept of stakeholders first emerged in 1984, when (Freeman, 2010) defined organizations' stakeholders as any individuals or groups that have the potential to affect or

be affected by the success of the organization's goals. In the context of project management, stakeholders are considered more crucial. One of the main causes of project failure, according to scholars, is "the ignorance or inadequate stakeholder engagement. (Mazur et al., 2014; Ling, 2006; Rezvani, et al., 2016). It's still uncommon for the academic and professional world to apply the stakeholder's theory to examine these delays or other failures in IT projects.

With a population base of more than 2,000 major enterprises, the IT industry has advanced significantly and expanded its services in many administrative fields, including system integration, network administration, usage of software bundles, item areas, and mechanically dispersed services (Bhoola, 2015).

Considering the industry of IT, the need for stakeholder engagement is becoming increasingly important such as Emotional Intelligence and Cognitive Flexibility for project success. Based on the challenges highlighted above, this study will address the relationship between project manager competencies and project success and the mediating role of project stakeholders' engagement. The organization of the IT sector in Lahore is the study's main point of view.

The study aims to unveils the relationship of Project Managers' Competencies on Project Success with mediation of Project Stakeholders' Engagement. The finding could be utilized by both sector Education and IT sector as well to figure out the extent to which project managers' competencies can influence the outcomes.

2. OBJECTIVES:

- Is there any Influence of project managers' competencies on the project success?
- Is there any association between project managers' competencies and project success mediated by Project Stakeholders' Engagement?
- Is there any direct impact of Cognitive Flexibility on Project Success?
- Is there any direct impact of Emotional Intelligence on Project Success?
- Is there any direct impact of Internal Stakeholders Engagement on Project Success?
- Is there any direct impact of External Stakeholders Engagement on Project Success?

3. LITERATURE REVIEW

3.1. Project Managers' Competencies

The influence of various factors on project management success have been the focus of studies on project management success determinants.

Most studies on project managers have investigated the competencies of project managers. An investigation into the essential skills needed by project managers in various industries was carried out by Chipulu et al. (2013), They analyzed the content of 2306 job postings for project managers in all the world including Malaysia, China, Singapore, Hong Kong, India, the UK, Canada, and the USA. By using three-way multidimensional scaling,

they were able to identify six aspects of competence. The measurements were identified as

- Generic and specialized expertise
- Expertise in domain-specific and general competencies
- Managerial skills
- Personal attributes
- Expertise in methodological procedures and expert abilities.
- Risk management throughout the duration of a project.

The relationship between the project's type and the project managers' leadership style and how it influences the effectiveness of the PM was studied by (Müller & Turner, 2007). They determined the leadership philosophies of project managers using a model comprising managerial, emotional, and intellectual talents. They concluded that (1) project manager leadership styles affect project manager success and (2) various project types call for various leadership styles.

A test model was proposed by Rezvani, et al. (2016), that links emotional intelligence (EI) and project success, and we also look at the mediating roles that job satisfaction and trust play in this relationship. Project managers should consider the practical ramifications of understanding the relationship between EI and project success, especially about hiring and management training. Our findings indicate that companies should think about hiring project managers with high levels of emotional intelligence (EI), as these managers are more likely to have good work attitudes like job satisfaction and trust.

Potter et al. (2018), identified the typical leadership style used by project managers in the construction industry and looked at possible relationships between leadership style and emotional intelligence. The emotional intelligence of project managers and their propensity to use a transformational leadership style to accomplish effective team and project management were found to be significantly positively correlated.

Project management competencies are divided into three categories by the IPMA Competency Baseline: technical, behavioral, and contextual (Caupin, 2006). Technical competences encompass project management-specific skills such as project planning and time management. Behavioral competencies are the personal qualities and traits of the project manager, such as leadership, creativity, and commitment. The range of contextual competences includes abilities that are unique to the context of a particular project, such as development and programming skills, business knowledge, and legal issue comprehension, among others. (Caupin, 2006).

It has been the subject of numerous research Keil et al. (2013); Turner and Müller (2005); Skulmoski and Hartman (2010), to ascertain which managerial and individual competencies are necessary for effective project management. The lack of soft skills like leadership and communication among IT project managers, which compromises their performance, is an interesting conclusion from these studies (Sumner et al., 2006; Stevenson & Starkweather, 2010)

3.2. PROJECT SUCCESS

According to Ika et al. (2011), project success has drawn attention from scholars for a long time and has been thoroughly studied in the project management literature (McLeod et al., 2012).

According to Shamim (2022), determined the aspects of project management that are important to project success. The project manager is connected to several different factors. These variables include delegation of authority, coordination capacity, trade, commitment, expertise, and a perspective on one's role and responsibilities. The leaders of the project team were concerned about a number of crucial aspects, including the technical background, coordination, obstacles, and participation. This study also looks at organizational components including top management assistance and support, a structure for managing the initiative, the encouragement of receptive managers, and the initiative champion. In short, the people, customers, rivals, and suppliers are also among the environmental aspects that must be considered for the project, in addition to the political, economic, cultural, and social contexts. Accurate evaluation of the project's performance or the management of the project's effectiveness is challenging. These types of factors hold the secret to effectively assisting in the provision of programs that will fit a range of stakeholders. Each project will act as a screen to detect the challenges and unknowns it will face in the interim; these strategies are crucial for assessing the success or failure of each specific project.

Several authors have different definitions of project success. According to Pinto, Beth, & Pinto, (1991), the satisfaction of clients, time, cost, and quality are all parts of project success. On the other hand, Carvalho and Rabechini Jr (2017), indicate three aspects in the definition of project success: (a) the impact of the project on the business, the client, and the staff; (b) the efficiency of the project; and (c) the preparation for the future. Interestingly, Wu et al. (2017), explained "It involves the quality, cost, time, health & safety, environmental control, the satisfaction of participants, users, and commercial values", she elaborated. According to Ika et al. (2011), project success has drawn attention from scholars for a long time and has been thoroughly studied in the project management literature (McLeod et al., 2012).

The success of information system (IS)/IT projects is a topic of increasing interest in management because of its significant influence on organizational change and effectiveness.

Research reveal that IT project managers overvalue time and financial restrictions while undervaluing the project's effects on the business and end users' happiness (Atkinson, 1999; William & McLean, 2002). Throughout time, the percentage of failed IT projects has increased as project managers concentrate less attention on impact and end-user happiness (Sumner et al., 2006). These days, IT project managers are expected to manage business considerations and human concerns, such as interpersonal conflicts and team satisfaction, in addition to maintaining control over the project budget and schedule (Sumner et al., 2006).

3.3. PROJECT STAKEHOLDERS' ENGAGEMENT

Stakeholders are the individuals and organisations that voluntarily or involuntarily contribute to a company's ability to generate revenue and its operations, and who are consequently its potential beneficiaries and/or risk bearers. According to Post et al., (2002), thorough stakeholder engagement is necessary for any strategy to be effective and long-lasting because stakeholders influence the organization's resource base, the industry in which it competes, and the social and political environment in which it operates.

The interests of stakeholders must be taken into consideration in project management to support the project's success. It was explored by Achterkamp and Vos, (2007), that how the stakeholder notion is used in this literature by doing a meta-analysis of the project management literature. Most of the papers examined relate the concept of stakeholders to project success, confirming this assumption. Therefore, it is essential to recognize the stakeholders or parties participating in initiatives as well.

According to Yang et al. (2009), give a comprehensive analysis of the most significant contributions to the literature on stakeholder engagement. The core of the stakeholder engagement process is the identification of project stakeholders and the relationship analysis of the various stakeholder kinds. Project managers must recognize stakeholder boundaries, balance all stakeholders' interests, resolve conflicts between them, and accommodate their competing interests. They must also recognize when one stakeholder is being influenced by another.

Looking at the stakeholder theory in the top project management academic journals, Littau et al. (2010), discovered the importance of stakeholders in project management. Project strategy and project evaluation contexts, which cover project success, project risk, and project performance topics, are where stakeholder theory is most frequently used. Stakeholder theory's importance is expanding and growing at the same time. As we have shown, the current impetus and interest in the stakeholder approach is shown by the clearly rising share of stakeholder articles in project management journals and most highly qualitative publications about stakeholder theory that have appeared in recent years.

According to Rajablu et al. (2014), investigated the relationship between the success of a project and the direct impact of stakeholder influence elements as well as the mediating effect of stakeholder engagement techniques. The study's findings led to the creation of two frameworks, the TSIA and SBPMM, which make it easier to manage for stakeholders' principles in project environments. The models are anticipated to give the academic and practice communities more knowledge about their project and stakeholder engagement endeavors.

To enhance how the Performance Management System is perceived by the stakeholders et al. (2021), established four key characteristics that must be included: organizational drivers, digital transformation, cultural context, and sustainable development. By explicitly defining and enhancing what we know about the factors that drive performance deemed important in the organizations which must be studied primarily from a management accounting point of view this helped to contribute to the existing literature. By creating an

ad hoc indicator (SPS) to include at an early stage (define and plan) of the PMS implementation, which seeks to implement, monitor, and manage stakeholders' perception, we offered a viable solution to incorporate stakeholders' engagement drivers in the corporate strategy.

Taken together, ethical AI systems can, Achterkamp and Vos (2007), identified three levels of potentially important stakeholders: individual stakeholders, organizational stakeholders, and national / international stakeholders involved in formulating laws, rules, and regulations. Individually, persons involved in building and creating AI systems are more likely to be focused on the technical performance and system features to be produced. Individual stakeholders could be untrained in social science-based ethical and moral principles. Users might not have a technical enough understanding of AI systems to see how their personal preferences and decisions influence the behavior of the AI systems. Financial performance, shareholder value, and competitive market pressures are likely to be very important organizational elements that determine the organization's priorities for the behavior of the AI systems. Stakeholders' reactions to AI system behaviors and outcomes are likely to be influenced at the national and international levels by already-existing legal/regulatory. It will be crucial for individuals who design, build, and manage AI systems to have a better knowledge of the interests, impacts, and influences of stakeholders at different levels as part of the continual development of responsible AI systems.

Li et al. (2018), performed a questionnaire survey in China and discovered that key stakeholders' involvement is one of the most important CSFs for planning and controlling prefabricated construction projects. Early involvement of key participants, their knowledge and experience being sufficient, effective information sharing and communication among project participants, effective use of information and communication technology, and proper coordination between on-site and off-site trades are all examples of factors that contribute to a successful project.

The purpose of this literature is to determine how project management abilities affect project success and to investigate the effective use of cutting-edge project stakeholder engagement strategies, approaches, or methodologies. The proposed model is chosen to identify the impact of emotional intelligence, cognitive flexibility, and systemic thinking on project success with the mediating role of project stakeholders' engagement in the IT sector of Lahore because no prior research has been done to link the relationship of these variables.

4. RESEARCH DESIGN

The blow Fig. 1 is the proposed model for this study to meet the all objectives.

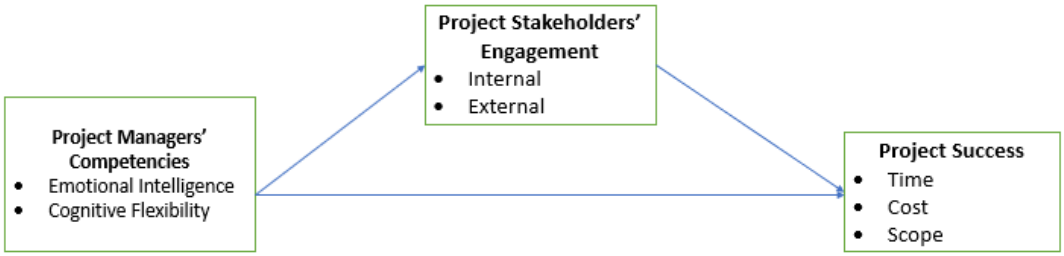

Fig. 1. Proposed Framework

5. HYPOTHESES

There are multiples hypothesis are proposed to check the results. The list of hypotheses are given below:

1. Is there any impact of Emotional Intelligence & Cognitive Flexibility on Time?
2. Is there any impact of Emotional Intelligence & Internal Stakeholder on Time?
3. Is there any impact of Emotional Intelligence & External Stakeholder on Time?
4. Is there any impact of Cognitive Flexibility & Internal Stakeholder on Time?
5. Is there any impact of Cognitive Flexibility & External Stakeholder on Time?
6. Is there any impact of Project Managers' Competencies on Time?
7. Is there any impact of Emotional Intelligence & Cognitive Flexibility on Cost?
8. Is there any impact of Emotional Intelligence & Internal Stakeholder on Cost?
9. Is there any impact of Emotional Intelligence & External Stakeholder on Cost?
10. Is there any impact of Cognitive Flexibility & Internal Stakeholder on Cost?
11. Is there any impact of Cognitive Flexibility & External Stakeholder on Cost?
12. Is there any impact of Project Managers' Competencies on Cost?
13. Is there any impact of Emotional Intelligence & Cognitive Flexibility on Scope?
14. Is there any impact of Emotional Intelligence & Internal Stakeholder on Scope?
15. Is there any impact of Emotional Intelligence & External Stakeholder on Scope?
16. Is there any impact of Cognitive Flexibility & Internal Stakeholder on Scope?
17. Is there any impact of Cognitive Flexibility & External Stakeholder on Scope?
18. Is there any impact of Project Managers' Competencies on Scope?
19. Is there any relationship between Project Managers' Competencies on Project Success?
20. Is there any relationship between Project Stakeholders' Engagement on Project Success?
21. Is there any relationship between Project Managers' Competencies & Project Stakeholders' Engagement?

6. RESEARCH METHODOLOGY

The study's overarching goal is to learn how to evaluate IT projects successfully and to discover what factors are linked to different degrees of success. A questionnaire survey was prepared and administered via e-mail to the IT companies 367 questionnaire were found correct for the analysis. Almost 20 questionnaires were found incomplete, so they are not included in the analysis. The respondents were requested to fill in the questionnaires based

on the Project Manager Competencies, Project Stakeholders Engagement and Project success of the projects they have completed so far. We targeted Team Lead, Project Managers, Portfolio Manager are our targeted population. Data will be analyzed using descriptive statistics to summarize the data and inferential statistics to test the hypotheses. SPSS Hayes Process will be used to test the mediation effect of stakeholder engagement on the relationship between project managers' competencies and project success.

The survey was composed of three main sections including (1) Project Manager Competencies (2) Project Stakeholders Engagement (3) Project Success. The respondents were requested to assess the impacts of these factors on the project success using a five-point Likert Scale ranging from 1: Strongly Disagree to 5: Strongly Agree. Univariate and multivariate analyses were used to examine the variables in the study. In statistical analyses, individual analysis of each variable will perform to access the impact of each variable on other variables. During the analysis, author also access the computed analysis of Independent Variable on Dependent Variable and analysis the mediation analysis using Hayes Process in SPSS.

7. RESULTS OF SURVEY

7.1. DESCRIPTIVE STATISTICS

Table 1. Descriptive Statistics of Variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
Gender	367	1.00	2.00	1.0790	.27014	3.134	.127
Job Position	367	1.00	3.00	1.3106	.56440	1.656	.127
Qualification	367	2.00	3.00	2.3243	.46873	.754	.127
Job Experience	367	1.00	2.00	1.3733	.48434	.526	.127
Project Management Certifications	367	2.00	2.00	2.0000	.00000	.	.
Age	367	2.00	5.00	2.7875	.70016	.752	.127
Project Manager Competencies	367	2.80	14.00	11.1324	1.65242	-1.273	.127
Project Stakeholder Engagement	367	3.00	15.00	11.7439	1.71824	-1.015	.127
Project Success	367	3.40	17.00	13.4234	1.95210	-1.095	.127

In Table # 1 the descriptive statistics explain the Mean, Standard Deviation and Skewness of the data which used for the data analysis.

Table 2. Regression Analysis of Emotional Intelligence & Cognitive Flexibility on Time

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.183		.094	1.945	.000	1322.855**
Emotional Intelligence	.099	.115	.023	4.373		
Cognitive Flexibility	.711	.851	.022	32.384		
Dependent Variable: Time	*R = .938*		*R Square = .879***		**P < 0.05 , **P < 0.01*	

In the above table # 2, the inferred multiple regression analysis reveal that the Independent Variables (Emotional Intelligence & Cognitive Flexibility) are sign. Highly associated with each other having R value is 0.938. Meanwhile the significant positive changes in time caused by the Independent Variables (Emotional Intelligence & Cognitive Flexibility) are 0.874. Therefore, the author is convinced to accept the alternative hypothesis "Is there any impact of Emotional Intelligence & Cognitive Flexibility on Time" The results are consisted

with the previous studies (Potter et al., 2018; Shamim, 2022). It also been found that the Cognitive Flexibility having significant positive yet higher influence on Time (Skulmoski & Hartman, 2010). Stakeholder theory is a framework for understanding the relationships and responsibilities between an organization and its stakeholders. This includes shareholders, employees, customers, suppliers, communities, and other groups. Stakeholder theory argues that organizations are responsible for considering the interests of all their stakeholders, not just their shareholders. Stakeholder theory also emphasizes the importance of stakeholder engagement. Organizations should manage with their stakeholders to understand their needs and concerns and keep them updated.

Table 3. Regression Analysis of Emotional Intelligence & Cognitive Flexibility on Scope

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	1.269		.215	5.894	.000	146.815**
Emotional Intelligence	.071	.077	.052	1.365		
Cognitive Flexibility	.547	.611	.050	10.859		

Dependent Variable: Scope *R = .668* *R Square = .446*** **P < 0.05 , **P < 0.01*

In the above table # 3, the inferred multiple regression analysis reveal that the Independent Variables (Emotional Intelligence & Cognitive Flexibility) are sign. Highly associated with each other having R value is 0.668. Meanwhile the significant positive changes in time caused by the Independent Variables (Emotional Intelligence & Cognitive Flexibility) is 0.446. Therefore, the author is convinced to accept the alternative hypothesis “Is there any impact of Emotional Intelligence & Cognitive Flexibility on Scope” The results are consisted with the previous studies (Potter et al., 2018; Rezvani, et al., 2016).

Table 4. Regression Analysis of Emotional Intelligence & Cognitive Flexibility on Cost

Variables	B	Beta	Std. Error	t	Sign	F - Stat
(Constant)	1.689		.239	7.061	.000	58.448**
Emotional Intelligence	-.058	-.066	.058	-1.010		
Cognitive Flexibility	.458	.539	.458	8.192		

Dependent Variable: Cost *R = .493* *R Square = .243*** **P < 0.05 , **P < 0.01*

In the above table # 4, the inferred multiple regression analysis reveal that the Independent Variables (Emotional Intelligence & Cognitive Flexibility) are sign. associated with each other having R value is 0.493. Meanwhile the significant positive changes in time caused by the Independent Variables (Emotional Intelligence & Cognitive Flexibility) are 0.243. Therefore the author is convinced to accept the alternative hypothesis “Is there any impact of Emotional Intelligence & Cognitive Flexibility on Cost” The results are consisted with the previous studies (Rezvani, et al., 2016; Potter et al., 2018).

Table 5. Regression Analysis of Project Manager Competencies on Time

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.157		.119	1.327	.000	1521.621**
Project Manager Competencies	0.411	.898	.011	39.008		

Dependent Variable: Time *R = .898* *R Square = .807*** **P < 0.05 , **P < 0.01*

In the above table # 5, the inferred multiple regression analysis reveal that the Independent Variable (Project Manager Competencies) are sign. Highly associated with each other

having R value is 0.898. Meanwhile the significant positive changes in time caused by the Independent Variables (Project Manager Competencies) is 0.807. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Project Manager Competencies on Time" The results are consisted with the previous studies (William & Martin, 2004).

Table 6. Regression Analysis of Project Manager Competencies on Scope

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	1.250		.222	5.621	.000	251.901**
Project Manager Competencies	.313	.639	.020	15.871		
Dependent Variable: Scope	*R = .639*		*R Square = .408***		**P < 0.05 , **P < 0.01*	

In the above table # 6, the inferred multiple regression analysis reveal that the Independent Variable (Project Manager Competencies) are sign. associated with each other having R value is 0.639. Meanwhile the significant positive changes in time caused by the Independent Variables (Project Manager Competencies) is 0.408. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Project Manager Competencies on Scope" The results are consisted with the previous studies (William & Martin, 2004).

Table 7. Regression Analysis of Project Manager Competencies on Cost

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	1.668		.247	6.763	.000	87.415**
Project Manager Competencies	.205	.440	.022	9.350		
Dependent Variable: Cost	*R = .440*		*R Square = .193***		**P < 0.05 , **P < 0.01*	

In the above table # 7, the inferred multiple regression analysis reveal that the Independent Variable (Project Manager Competencies) are sign. associated with each other having R value is 0.440. Meanwhile the significant positive changes in time caused by the Independent Variables (Project Manager Competencies) is 0.193. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Project Manager Competencies on Cost" The results are consisted with the previous studies (William & Martin, 2004).

Table 8. Regression Analysis of Emotional Intelligence & Internal Stakeholders on Time

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.770		.188	4.091	.000	239.715**
Emotional Intelligence	.561	.650	.032	17.488		
Internal Stakeholder	.160	.210	.028	5.647		
Dependent Variable: Time	*R = .754*		*R Square = .568***		**P < 0.05 , **P < 0.01*	

In the above table # 8, the inferred multiple regression analysis reveal that the Independent Variables (Emotional Intelligence & Internal Stakeholders) are sign. Highly associated with each other having R value is 0.754. Meanwhile the significant positive changes in time caused by the Independent Variables (Emotional Intelligence & Internal Stakeholders) is 0.568. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Emotional Intelligence & Internal Stakeholders on Time" The results are consisted

with the previous studies (Rezvani, et al., 2016; Potter et al., 2018; Post et al., 2002; Shamim, 2022).

Table 9. Regression Analysis of Emotional Intelligence & Internal Stakeholder on Scope

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.000		.122	-.002	.000	973.629**
Emotional Intelligence	.194	.210	.021	9.343		
Internal Stakeholder	.671	.818	.018	36.466		

Dependent Variable: Scope *R = .918* *R Square = .843*** **P < 0.05 , **P < 0.01*

In the above table # 9, the inferred multiple regression analysis reveal that the Independent Variables (Emotional Intelligence & Internal Stakeholders) are sign. Highly associated with each other having R value is 0.918. Meanwhile the significant positive changes in time caused by the Independent Variables (Emotional Intelligence & Internal Stakeholders) is 0.843. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Emotional Intelligence & Internal Stakeholders on Scope" The results are consisted with the previous studies (Rezvani, et al., 2016; Potter et al., 2018; Post et al., 2002; Shamim, 2022).

Table 10. Regression Analysis of Emotional Intelligence & Internal Stakeholder on Cost

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.394		.166	2.375	.000	379.722**
Emotional Intelligence	.013	.015	.028	.477		
Internal Stakeholder	.636	.816	.025	25.360		

Dependent Variable: Cost *R = .822* *R Square = .676*** **P < 0.05 , **P < 0.01*

In the above table # 10, the inferred multiple regression analysis reveal that the Independent Variables (Emotional Intelligence & Internal Stakeholder) are sign. Highly associated with each other having R value is 0.822. Meanwhile the significant positive changes in time caused by the Independent Variables (Emotional Intelligence & Internal Stakeholder) is 0.676. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Emotional Intelligence & Internal Stakeholder on Cost" The results are consisted with the previous studies (Rezvani, et al., 2016; Potter et al., 2018; Post et al., 2002; Shamim, 2022).

Table 11. Regression Analysis of Emotional Intelligence & External Stakeholders on Cost

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	1.276		.154	8.279	.000	369.355**
Emotional Intelligence	-1.232	-1.410	.066	-18.625		
External Stakeholders	1.508	1.880	.060	24.991		

Dependent Variable: Cost *R = .818* *R Square = .670*** **P < 0.05 , **P < 0.01*

In the above table # 11, the inferred multiple regression analysis reveal that the Independent Variables (Emotional Intelligence & External Stakeholders) are sign. Highly associated with each other having R value is 0.818. Meanwhile the significant positive changes in time caused by the Independent Variables (Emotional Intelligence & External Stakeholders) is 0.670. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Emotional Intelligence & External Stakeholders on Cost" The results are consisted

with the previous studies (Rezvani, et al., 2016; Potter et al., 2018; Post et al., 2002; Shamim, 2022).

Table 12. Regression Analysis of Emotional Intelligence & External Stakeholders on Scope

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	1.430		.208	6.866	.000	152.490**
Emotional Intelligence	-.442	-.478	.089	-4.946		
External Stakeholders	.916	1.085	.082	11.236		

Dependent Variable: Scope *R = .675* *R Square = .456*** **P < 0.05 , **P < 0.01*

In the above table # 12, the inferred multiple regression analysis reveal that the Independent Variables (Emotional Intelligence & External Stakeholders) are sign. associated with each other having R value is 0.675. Meanwhile the significant positive changes in time caused by the Independent Variables (Emotional Intelligence & External Stakeholders) is 0.456. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Emotional Intelligence & External Stakeholders on Scope" The results are consisted with the previous studies (Rezvani, et al., 2016; Potter et al., 2018; Post et al., 2002; Shamim, 2022).

Table 13. Regression Analysis of Emotional Intelligence & External Stakeholders on Time

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	1.121		.178	6.285	.000	215.137**
Emotional Intelligence	.421	.487	.077	5.496		
External Stakeholders	.207	.263	.070	2.969		

Dependent Variable: Time *R = .736* *R Square = .542*** **P < 0.05 , **P < 0.01*

In the above table # 13, the inferred multiple regression analysis reveal that the Independent Variables (Emotional Intelligence & External Stakeholders) are sign. Highly associated with each other having R value is 0.736. Meanwhile the significant positive changes in time caused by the Independent Variables (Emotional Intelligence & External Stakeholders) is 0.542. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Emotional Intelligence & External Stakeholders on Time" The results are consisted with the previous studies (Rezvani et al., 2016; Potter et al., 2018; Post et al., 2002; Shamim, 2022).

Table 14. Regression Analysis of Cognitive Flexibility & Internal Stakeholders on Time

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.406		.097	4.200	.000	1259.747**
Cognitive Flexibility	.797	.954	.018	43.886		
Internal Stakeholders	.029	.038	.017	-1.748		

Dependent Variable: Time *R = .935* *R Square = .874*** **P < 0.05 , **P < 0.01*

In the above table # 14, the inferred multiple regression analysis reveal that the Independent Variables (Cognitive Flexibility & Internal Stakeholders) are sign. Highly associated with each other having R value is 0.935. Meanwhile the significant positive changes in time caused by the Independent Variables (Cognitive Flexibility & Internal Stakeholders) is 0.874. Therefore the author is convinced to accept the alternative

hypothesis “Is there any impact of Cognitive Flexibility & Internal Stakeholders on Time” The results are consisted with the previous studies (Post et al., 2002; Shamim, 2022).

Table 15. Regression Analysis of Cognitive Flexibility & Internal Stakeholders on Scope

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	-.043		.109	-.396	.000	1129.430**
Cognitive Flexibility	.248	.277	.020	12.171		
Internal Stakeholders	.618	.754	.019	33.094		

Dependent Variable: Scope *R = .928* *R Square = .861*** **P < 0.05 , **P < 0.01*

In the above table # 15, the inferred multiple regression analysis reveal that the Independent Variables (Cognitive Flexibility & Internal Stakeholders) are sign. Highly associated with each other having R value is 0.928. Meanwhile the significant positive changes in time caused by the Independent Variables (Cognitive Flexibility & Internal Stakeholders) is 0.861. Therefore the author is convinced to accept the alternative hypothesis “Is there any impact of Cognitive Flexibility & Internal Stakeholders on Scope” The results are consisted with the previous studies (Post et al., 2002; Shamim, 2022).

Table 16. Regression Analysis of Cognitive Flexibility & Internal Stakeholders on Cost

Variables	B	Beta	Std. Error	t	Sign	F - Stat
(Constant)	.207		.156	1.325	.000	390.195**
Cognitive Flexibility	.078	.091	.029	2.649		
Internal Stakeholders	.603	.775	.027	22.646		

Dependent Variable: Cost *R = .826* *R Square = .682*** **P < 0.05 , **P < 0.01*

In the above table # 16, the inferred multiple regression analysis reveal that the Independent Variables (Cognitive Flexibility & Internal Stakeholders) are sign. Highly associated with each other having R value is 0.826. Meanwhile the significant positive changes in time caused by the Independent Variables (Cognitive Flexibility & Internal Stakeholders) is 0.682. Therefore the author is convinced to accept the alternative hypothesis “Is there any impact of Cognitive Flexibility & Internal Stakeholders on Cost” The results are consisted with the previous studies (Post et al., 2002; Shamim, 2022).

Table 17. Regression Analysis of Cognitive Flexibility & External Stakeholders on Time

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.327		.097	3.361		
Cognitive Flexibility	.775	.928	.024	32.489	.000	1248.081**
External Stakeholders	.007	.008	.022	.292		

Dependent Variable: Time *R = .934* *R Square = .873*** **P < 0.05 , **P < 0.01*

In the above table # 17, the inferred multiple regression analysis reveal that the Independent Variables (Cognitive Flexibility & External Stakeholders) are sign. Highly associated with each other having R value is 0.934. Meanwhile the significant positive changes in time caused by the Independent Variables (Cognitive Flexibility & External Stakeholders) is 0.873. Therefore, the author is convinced to accept the alternative hypothesis “Is there any impact of Cognitive Flexibility & External Stakeholders on Time” The results are consisted with the previous studies (Post et al., 2002; Shamim, 2022).

Table 18. Regression Analysis of Cognitive Flexibility & External Stakeholders on Cost

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.860		.223	3.862		
Cognitive Flexibility	.080	.094	.055	1.467	.000	101.986**
External Stakeholders	.421	.525	.051	8.192		
Dependent Variable: Cost		*R = .599*		*R Square = .359***		**P < 0.05 , **P < 0.01*

In the above table # 18, the inferred multiple regression analysis reveal that the Independent Variables (Cognitive Flexibility & External Stakeholders) are sign. associated with each other having R value is 0.599. Meanwhile the significant positive changes in time caused by the Independent Variables (Cognitive Flexibility & External Stakeholders) is 0.359. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Cognitive Flexibility & External Stakeholders on Cost" The results are consisted with the previous studies (Post et al., 2002; Shamim, 2022).

Table 19. Regression Analysis of Cognitive Flexibility & External Stakeholders on Scope

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.327		.097	4.238		
Cognitive Flexibility	.775	.928	.024	7.221	.000	176.330**
External Stakeholders	.007	.008	.022	5.891		
Dependent Variable: Scope		*R = .701*		*R Square = .492***		**P < 0.05 , **P < 0.01*

In the above table # 19, the inferred multiple regression analysis reveal that the Independent Variables (Cognitive Flexibility & External Stakeholders) are sign. associated with each other having R value is 0.701. Meanwhile the significant positive changes in time caused by the Independent Variables (Cognitive Flexibility & External Stakeholders) is 0.492. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Cognitive Flexibility & External Stakeholders on Scope" The results are consisted with the previous studies (Post et al., 2002; Shamim, 2022).

Table 20. Regression Analysis of Project Manager Competencies on Project Stakeholders Engagement

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.523		.249	2.100	.000	1438.228**
Project Manager Competencies	.166	.140	.033	4.995		
Project Stakeholders Engagement	.941	.829	.032	29.497		
Dependent Variable: Project Success		*R = .942*		*R Square = .888***		**P < 0.05 , **P < 0.01*

In the above table # 20, the inferred multiple regression analysis reveal that the Independent Variables (Project Manager Competencies & Project Stakeholders Engagement) are sign. Highly associated with each other having R value is 0.942. Meanwhile the significant positive changes in time caused by the Independent Variables (Project Manager Competencies & Project Stakeholders Engagement) is 0.888. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Project Manager Competencies & Project Stakeholders Engagement on Project Success" The results are consisted with the previous studies (William & Martin, 2004; McLeod et al., 2012; Freeman, 2010).

Table 21. Regression Analysis of Project Manager Competencies on Project Success

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	3.075		.429	7.160	.000	593.410**
Project Manager Competencies	.930	.787	.038	24.360		

Dependent Variable: Project Success *R = .787* *R Square = .619*** **P < 0.05 , **P < 0.01*

In the above table # 21, the inferred multiple regression analysis reveal that the Independent Variable (Project Manager Competencies) are sign. associated with each other having R value is 0.787. Meanwhile the significant positive changes in time caused by the Independent Variables (Project Manager Competencies) is 0.619. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Project Manager Competencies on Project Success" The results are consisted with the previous studies (William & Martin, 2004; Rajablu et al., 2014).

Table 22. Regression Analysis of Project Stakeholder Engagement on Project Success

Variables	B	Beta	Std. Error	t	Sign.	F - Stat
(Constant)	.907		.245	3.711	.000	2675.936**
Project Stakeholder Engagement	1.066	.938	.021	51.729		

Dependent Variable: Project Success *R = .938* *R Square = .880*** **P < 0.05 , **P < 0.01*

In the above table # 22, the inferred multiple regression analysis reveal that the Independent Variables (Project Stakeholder Engagement) are sign. Highly associated with each other having R value is 0.938. Meanwhile the significant positive changes in time caused by the Independent Variables (Project Stakeholder Engagement) is 0.880. Therefore the author is convinced to accept the alternative hypothesis "Is there any impact of Project Stakeholder Engagement on Project Success" The results are consisted with the previous studies (Freeman, 2010; Post et al., 2002; Achterkamp & Vos, 2007; Yang et al., 2009).

Table 23. Correlations

Variables	PMS	EI	CF	PSM	IS	ES	PS	Time	Scope	Cost
PMS	1									
EI	.925**	1								
CF	.930**	.721**	1							
PSM	.780**	.728**	.719**	1						
IS	.481**	.375**	.515**	.885**	1					
ES	.900**	.916**	.756**	.877**	.553**	1				
PS	.787**	.624**	.832**	.938**	.873**	.779**	1			
Time	.898**	.728**	.934**	.658**	.454**	.710**	.786**	1		
Scope	.639**	.517**	.666**	.878**	.897**	.648**	.877**	.532**	1	
Cost	.440**	.322**	.491**	.807**	.822**	.596**	.839**	.451**	.648**	1

***. Correlation is significant at the 0.01 level (2-tailed).*

In the above table # 23, the inferred Correlation analysis reveal that the Independent Variables Project Manager Competencies (Emotional Intelligence & Cognitive Flexibility) Dependent Variables Project Success (Time, Cost & Scope) and Mediating Variable Project Stakeholders Engagement (Internal Stakeholders & External Stakeholders) are sign. Highly Correlated with each other. Project Manager Competencies (Emotional Intelligence & Cognitive Flexibility) are less correlated with each other as compare with the other variables

which are used in the paper. Internal Stakeholders Engagement is also less correlated with the Cognitive Flexibility.

Table 24. Mediation Analysis

Model: 4 (Using Marco-Hayes Process)						
Model Summary						
R	**R-sq**	**MSE**	**F**	**dt1**	**df2**	**p**
.9422	.8877	.4304	1438.2276	2.0000	364.0000	.0000
Y: PS	*X: PMC*	*M: PSE*	*Outcome Variable: Project Success*			
Model	**Coeff**	**Se**	**T**	**P**	**LLCI**	**ULCI**
Constant	.5230	.2491	2.1000	.0364	.0333	1.0128
PMC	.1658	.0332	4.9948	.0000	.1005	.2310
PSE	.9414	.0319	29.4973	.0000	.8786	1.0041

Outcome Variable: Project Success

Mediation analysis using SPSS Marco-Hayes Process is a statistical technique that helps to explore the indirect effect of an independent variable on a dependent variable through a mediator variable. The mediation analysis aims to examine whether the effect of project managers' competencies on project success is mediated by project stakeholders' engagement.

In the above table # 24, the inferred Mediation results are highly sign. The direct effect of project managers' competencies on project success is statistically significant, indicating that project managers' competencies are positively associated with project success.

The indirect effect of project managers' competencies on project success through project stakeholders' engagement is also statistically significant, indicating that project stakeholders' engagement mediates the relationship between project managers' competencies and project success.

The total effect of project managers' competencies on project success (i.e., the sum of the direct and indirect effects) is also statistically significant, indicating that project stakeholders' engagement partially mediates the relationship between project managers' competencies and project success.

The interpretation of these results suggests that project stakeholders' engagement plays a significant role in mediating the effect of project managers' competencies on project success.

8. CRONBACH'S ALPHA:

Table 25. Cronbach's Alpha

Sr. No.	Variable Name	Items	Cronbach's Alpha
1	Project Managers' Competencies	14	.884
1.1	Emotional Intelligence	7	.809
1.2	Cognitive Flexibility	7	.807
2	Project Stakeholders Engagement	15	.863
2.1	Internal Stakeholders	7	.834
2.2	External Stakeholders	8	.777

Sr. No.	Variable Name	Items	Cronbach's Alpha
3	Project Success	17	.761
3.1	Time	6	.761
3.2	Cost	5	.817
3.3	Scope	6	.768

In the above table # 25, Cronbach's Alpha have been measured of all items which are used in the research paper. Values of all the items are above than the .070 which is acceptable. Cronbach's Alpha is a measure of internal consistency, which is used to assess the reliability of a scale or questionnaire. It provides a value between 0 and 1, with higher values indicating greater internal consistency.

The interpretation of Cronbach's Alpha values can vary depending on the specific context and field of study, but generally:

1. An alpha value of 0.70 or higher is acceptable for most social science research.
2. An alpha value of 0.80 or higher is good.
3. An alpha value of 0.90 or higher is excellent.

It's important to note that a high Cronbach's Alpha value does not necessarily mean that a scale or questionnaire is valid, only that it is reliable or consistent. Validity refers to whether a scale or questionnaire measures what it is intended to measure. Therefore, it's important to assess both reliability and validity when using a scale or questionnaire.

Table 26. Hypotheses Accepted/Rejected

SN	Hypotheses	Accepted/ Rejected
1	Is there any impact of Emotional Intelligence & Cognitive Flexibility on Time?	Accepted
2	Is there any impact of Emotional Intelligence & Cognitive Flexibility on Cost?	Accepted
3	Is there any impact of Emotional Intelligence & Cognitive Flexibility on Scope?	Accepted
4	Is there any impact of Emotional Intelligence & Internal Stakeholder on Time?	Accepted
5	Is there any impact of Emotional Intelligence & Internal Stakeholder on Cost?	Accepted
6	Is there any impact of Emotional Intelligence & Internal Stakeholder on Scope?	Accepted
7	Is there any impact of Emotional Intelligence & External Stakeholder on Time?	Accepted
8	Is there any impact of Emotional Intelligence & External Stakeholder on Cost?	Accepted
9	Is there any impact of Emotional Intelligence & External Stakeholder on Scope?	Accepted
10	Is there any impact of Cognitive Flexibility & Internal Stakeholder on Time?	Accepted
11	Is there any impact of Cognitive Flexibility & Internal Stakeholder on Cost?	Accepted
12	Is there any impact of Cognitive Flexibility & Internal Stakeholder on Scope?	Accepted
13	Is there any impact of Cognitive Flexibility & External Stakeholder on Time?	Accepted
14	Is there any impact of Cognitive Flexibility & External Stakeholder on Cost?	Accepted
15	Is there any impact of Cognitive Flexibility & External Stakeholder on Scope?	Accepted
16	Is there any relationship between Project Managers' Competencies on Project Success?	Accepted
17	Is there any relationship between Project Managers' Competencies & Project Stakeholders' Engagement?	Accepted
18	Is there any relationship between Project Stakeholders' Engagement on Project Success?	Accepted
19	Is there any impact of Project Managers' Competencies on Time?	Accepted
20	Is there any impact of Project Managers' Competencies on Cost?	Accepted
21	Is there any impact of Project Managers' Competencies on Scope?	Accepted

In the above table # 26, the summary of all the hypotheses is given with the status of Accepted and Rejected. In the end it is interred that all the hypotheses are accepted and consistent with the previous studies and support the theory (Freeman, 2010).

9. FINDING & DISCUSSION

The study aimed to examine the effect of project managers' competencies on project success, while also investigating the mediating role of project stakeholders' engagement in the IT sector of Pakistan. The results of the study showed that project managers' competencies have a significant positive effect on project success. This finding is consistent with previous research that has highlighted the importance of project management competencies in achieving project success (Potter et al., 2018; Rajablu et al., 2014; Stevenson & Starkweather, 2010; McLeod et al., 2012).

The study also found that project stakeholders' engagement mediates the relationship between project managers' competencies and project success. This suggests that effective stakeholder engagement is an important mechanism through which project managers' competencies influence project success. The importance of stakeholder engagement in project success has been emphasized in previous research, and this study provides further evidence of its significance in the IT sector of Pakistan.

One possible explanation for the mediating effect of stakeholder engagement is that it helps to ensure that the needs and expectations of stakeholders are taken into account in project planning and execution. This can help to build stakeholder trust and support, which in turn can contribute to project success.

In terms of the specific competencies that are most important for project success, the study found that communication, leadership, and problem-solving competencies are the most significant. This finding is consistent with previous research that has highlighted the importance of these competencies in project management.

Overall, the results of the study suggest that project managers' competencies are an important predictor of project success in the IT sector of Pakistan, and that effective stakeholder engagement is a key mechanism through which these competencies influence project success.

10. CONCLUSION:

In conclusion, this study has provided valuable insights into the relationship between project managers' competencies, stakeholder engagement, and project success in the IT sector of Pakistan. The findings of the study suggest that project managers' competencies are a significant predictor of project success, and that effective stakeholder engagement is an important mechanism through which these competencies influence project success.

The study has important implications for project managers and organizations operating in the IT sector of Pakistan. It highlights the importance of developing and enhancing project management competencies, particularly communication, leadership, and problem-solving competencies. It also emphasizes the need for effective stakeholder engagement to ensure

that the needs and expectations of stakeholders are Considered in project planning and execution.

Overall, the findings of this study contribute to our understanding of the factors that contribute to project success in the IT sector of Pakistan. They provide a foundation for further research in this area and offer practical guidance for project managers and organizations seeking to improve their project management practices.

However, this study is not without limitations. First, the study was limited to the IT sector of Pakistan, and the generalizability of the findings to other sectors or contexts is unclear. Second, the study relied on self-reported data, which may be subject to biases and limitations. Future research could address these limitations by using larger, more diverse samples and by using objective measures of project success and stakeholder engagement.

Overall, this study provides valuable insights into the importance of project managers' competencies and stakeholder engagement in achieving project success in the IT sector of Pakistan. The findings of the study have important implications for project managers and organizations seeking to improve their project management practices, and provide a foundation for further research in this area.

Author Contributions:

The Conceptualization were made by Muhammad Bilal Akram Bhatti and Dr. Muhammad Kashif Khan, Methodology was design by Dr. Muhammad Kashif Khan, Software was used by Muhammad Bilal Akram Bhatti, Validation changed by Dr. Muhammad Kashif Khan and Muhammad Bilal Akram Bhatti, Formal Analysis done by Muhammad Bilal Akram Bhatti, Writing was done Muhammad Bilal Akram Bhatti and reviewed by Dr. Muhammad Kashif Khan

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