Effect of Managerial Competencies on the Success of IT and Telecommunication Projects in Public Sector

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Leadership competencies have often been explored in the project management literature but limited studies have been carried out to investigate the impact of managerial competencies of project leadership on the success of Public sector projects. Therefore, the objective of this study is to investigate the effect of managerial competencies on the success of IT and telecommunication projects in Public sector. This study employed quantitative research methods and random sampling technique to collect primary data from 160 project managers and project directors of IT & telecommunications projects worked on Public sector projects in Pakistan. In response, 127 responses were received with response rate of 79% where 112 valid responses were used for analysis. In addition to performing reliability, validity and correlation analyses, regression analysis was employed to test research hypotheses of this study. The findings reveal significant impact of resource management, empowering, teamwork, and motivation on the success of IT and telecommunication projects, however, insignificant relationship was found between communication and success of IT and telecommunication projects. Findings suggest that project managers are often not appraising communication as a competency in their managerial performance while implementing of IT and telecommunication projects. The implications of the study suggest that project managers need to put more focus on effective communication during execution of IT and telecommunication projects, in addition to efficient resource management, empowering and motivating the team, and inspiring teamwork.

Keywords: *Leadership, managerial competencies, project success, project manager, IT & telecommunication, Public sector.*

1. INTRODUCTION

Over last few decades, the methodology of managing projects has changed the necessity of project manager's skills required to enhance project effectiveness (Meredith & Mantel, 2012) where achieving high success rate is still a big challenge. Indeed, project managers should be equipped with a set of competencies required to improve the rate of successful projects (Tabassi et al., 2016) since the success of projects is often dependent on leadership competencies of project managers (Podgórska & Pichlak, 2019). A number of projects are not meeting the objectives of cost and schedule due to lack of managerial competencies owned by project managers because of inefficient management of resources, lack of motivation, ambiguous communication, poor teamwork, and lack of empowerment (Ahmed, Philbin, & Cheema, 2020; Kerzner, 2006). The managerial competencies of project managers needs to be improved that represent the behavior, knowledge, skill, and personal traits (Zulkarnaen & Madhakomala, 2020). Though, leadership competencies have often been explored (including emotional competencies), but still there is a limited research conducted to examine the influence of managerial competencies on the success of IT & telecommunication project in Public sector (Ahmed & Lodhi, 2021).

Indeed, the implementation of projects depend on leadership competencies not only for determining the factors to achieve organizational goals, but also to increase the chances of project success (da Silva, Jerónimo, & Vieira, 2019). In recent years, the topic of leadership competencies has become debatable area, yet studies on the project managers as leaders and their managerial competencies ensuing project success are considerably less (Ahmed et al., 2021). Also, due to the rapid increase in the project-based organizations and lack of studies in this domain, project leadership is becoming a vital factor for industrial and academic importance (Kaulio, 2008). According to Loufrani-Fedida and Saglietto (2016), project management should be used to identify and develop competencies of project stakeholders as well as enhance the performance of project activities.

The central issue in the success of IT and telecommunication projects of Public sector is lack of managerial competencies possessed by project managers (Zulkarnaen & Madhakomala, 2020). The success rate of projects cannot be increased without efficient management of project activities and enhancing leadership competencies of projects managers (Ahmed et al, 2020). The Standish Group International (2019) highlighted a disappointing increase in the project failure and a significant decline in the success of IT & telecommunication projects, where 31.1% were failed projects, 52.7% were partially successful projects and only 16.2% were successful projects. Similarly, the success rate of public sector projects is also poor where projects took almost double time to complete against the planned schedule (Ahmed & Azmi, 2014b). Though, a few elements are vital in determining the success of IT and telecommunication projects, where project manager competencies are among one of the most important factor. The Public sector projects often involved various stakeholders who have significant influence on projects, in which project managers have to play a unique role in order to increase the chances of project success (Ahmed & Lodhi, 2021). Nonetheless, research studies have not focused much on the types of competencies required to do better project management in the public sector.

Managerial competences are the expected reflections of project managers which are critical to the manager's success, but are frequently overlooked in practice (Zulkarnaen & Madhakomala, 2020). Project manager as a leader show unwavering determination to focus on attaining project objectives and implementing right decisions in order to portray the competency of achieving goals (Ahmed & Azmi, 2016). Mazur, Pisarski, Chang, and Ashkanasy (2014) articulated that right decisions should be taken to

achieve project objectives as taking right decision is one of the management competencies that is required to become a successful project manager. Jałocha, Krane, Ekambaram, and Prawelska-Skrzypek (2014) emphasized that project managers working on public sector project should focus on managerial competencies, specifically, to enhance project success. The major issue of project management is to meet all of the project's goals and objectives while staying within the project's budget limits (Ofori, 2013). The level of competency led to achieve project objectives, customer satisfaction, meet the client's requirement, ensuring project success (Ahmed & Azmi, 2014a).

Leadership competencies of project managers are vital for projects (Ahmed et al., 2020) and understanding the differences between project leadership and project management is essential for determining their impact on project success (Ahmed, Masood, & Azmi, 2013). Morris (2010) emphasized that project managers as leaders make sure that tasks are done well in time and articulate right vision to the project teams. Yang, Klein, and Chen (2011) considered the competencies in a project environment that enhances likelihood of project success. The earlier literature on leadership competencies ignored to included teamwork as a managerial competency of project managers. Nixon, Harrington, and Parker (2012) and Zavadskas, Vainiūnas, Turskis, and Tamošaitienė (2012) suggested that project success cannot be attained without effective project management performance where managerial skills play a significant role in project success. Though, a number of studies have been conducted to investigate leadership competencies of project managers in general and specific types of projects, but investigating the impact of managerial competencies on the success of Public sector projects has remained untested (Moradi, Kähkönen, & Aaltonen, 2020).

In the recent past, researchers have investigated the impact of project managers' competencies in different sectors or organizational context, including construction, defense, information technology, organizational change, and metallurgical projects (Ahmed & Anantatmula, 2017; Ahmed & Lodhi, 2021; Alvarenga, Branco, Guedes, & Soares, 2019; de Rezende et al., 2021; Elmezain et al., 2021; Irfan et al., 2021; Moradi et al., 2020). Indeed, while IT and telecommunication projects are implemented to facilitate the society through provision of education, health and basic amenities; however, such projects are often not being given priority, especially in the developing countries. Moreover, the earlier studies were limited to investigate the impact of emotional competencies (Ahmed & Lodhi, 2021), managerial political competencies (Mashavira, Chipunza, & Dzansi, 2021), developing managerial competencies (Srikanth & Jomon, 2020) and identifying managerial competencies of middle manager involved in policy making (Zulkarnaen & Madhakomala, 2020). Nevertheless, the influence of managerial competencies particularly on the success of IT and telecommunication projects in Public sector, particularly in developing countries have remained unexplored. To fill aforementioned research gaps, the purpose of this study is to investigate the impact of managerial competencies on the success of IT and telecommunication projects of Public sector.

The remaining article is organized as follows. After introduction, theoretical background and development of research hypothesis are presented, followed by research methods to provide the overview of population and sampling, measurement of variables, reliability and validity analyses. Following that, the results of research hypotheses are discussed. Finally, implications and conclusions including contribution, limitations and future research directions are presented.

2 LITERATURE REVIEW

2.1 Theoretical background and hypotheses

It is imperative for project managers to understand that projects require different approaches of management according to their nature and specifications (Crawford, 2007), and managerial competencies are considered important in achieving project success (Moradi et al., 2020). Project managers possessing relevant competencies should be appointed for successful completion of projects. The competency school of leadership defines the competence as a combination of skills, knowledge and characteristic (Crawford, 2007). This school of thought has been further explored to extensively articulate the existing theories and three leadership dimensions are identified which include; managerial competencies, intellectual competencies and emotional competencies. Müller, Geraldi, and Turner (2012), advocated that the presence of managerial competencies such as resource management, communicating, empowering and developing are key characteristics of project managers which drive the project towards success. Managerial competencies are useful for enhancing organizational performance through execution of projects (Bucur, 2013). These are core competencies and also significant for improving project performance as suggested by Anitei and Chraif (2012). Project manager's success in management of projects is a direct consequence of project manager's competency who ultimately encourage teamwork. The teamwork has not been given much consideration as core managerial competency of project managers.

Project managers are considered responsible for successful completetion of projects throughout the initiating, planning, executing, monitoring and controlling and closing phases. Afterwards, projects are considered successful if schedule and budget objects are achieved, in addition to performance goals. Yet, there is a need to ensure multiple parameters of project success rather than only relying on budget, time and scope constraints (Shenhar & Dvir, 2007). To overcome such issues, project success criteria should be decided at early stages of the projects in consultation with key project stakeholders, to avoid perception of project failure by any stakeholder at the later stage (Baccarini, 2003). To implement projects successfully, the importance of diverse project management strategies required for planning and controlling of time, cost, and quality have been recognized (Munns and Bjeirmi, 1996), and achieving the overall success of projects (Serrador & Turner, 2015). Project management literature shows that project success is yet not guaranted despite advancement in project management methodologies, procedures, tools and techniques (Mir & Pinnington, 2014). To provide better understanding of project success, common success factors needs to be identified by the project stakeholders (Davis, 2014). Recent research studies highlighted identification of critical factors that have an impact on the success of a project during different phases (Kloppenborg, Debbie Tesch, & Manolis, 2014). The smmary of literature on project success factors is presented in Table 1.

Table 1 - Literature summary on project success factors

Literature references	Project success factors				
	Project Efficiency	Impact on users	Impact on team	Business or Organization Success	Preparing for the future
Ahmed & Lodhi (2021)	√	√	√	√	√
Irfan et al. (2021)	√	√	√	-	-
Ahmed & Mohamed (2017)	√	√	√	√	√
Ahmed et al. (2016)	√	√	√	√	√
Ahmed & Azmi (2016)	√	√	√	√	√
Ika (2015)	√	√	√	√	√
Muller et al (2012)	√	√	-	√	-
Müller & Turner (2010)	√	√	-	√	-
Shenhar & Dvir (2007)	√	√	√	√	√
Diallo & Thuillier (2004)	√	√	-	-	-
Baccarini (2003)	√	√	-	-	-
Shenhar & Dvir (1997)	√	√	-	√	√

Project success has often been discussed in literature but still there is no consensus on its definition. An appropriate measurement criteria of project success based on its dimensions is desirable (Davis, 2014). For practitioners and researcher, it is difficult to measure success of project due to lack of comprehensive and agreed list of critical success factors (Belassi & Tukel, 1996). Initially, the conventional triangle (time, cost, and quality) was used to measure project success. A multi-dimensional assessment criteria for project success was developed by Shenhar and Dvir (2007), and operationalized by Ahmed and Azmi (2017) on 5-point Likert scale, that includes: a) project efficiency – to measure short-term objectives; b) customer satisfaction – to address customer or user needs; c) organizational success – improving organizational performance through project outcomes d) team satisfaction – ensuring mentoring and coaching of team members during the project; and e) preparing for the future – to facilitate the organizations in future projects. This study adopted multi-dimensional assessment model for measurement of project success, the main purpose for adopting multi-dimensional project success was to capture the opinion of participants in terms of achieving the goals of cost, time, scope, impact on customer, impact on team, business success, and contribution towards future projects.

2.2 Resource management and project success

Resource management refers to setting defined objectives, providing constructive and honest feedback, monitoring and evaluation of team work, and converting long-term goals into action plans (Dulewicz & Higgs, 2005). Crawford (2007) discussed managing resources as a factor for achieving the project's specified goals and objectives, while recent literature defines resource management as a critical success factor by effectively allocating resources through the entire project portfolio (Beringer, Jonas, & Kock, 2013).

As a component of managing resources**,** effective communication regarding available resources for project success has been discussed by Ofori (2013). According to Jusuf and Kurnia (2017), managerial actions such as distributing or directing resources, monitoring operations, and supporting choices, have critical role in the success of IT & telecommunication projects. Indeed, the project manager is often responsible to identify, recognize and organize required resources ensuring project completion successfully (Silvius and Schipper (2014). Accordingly, the involvement of the project managers in managing project resources have a significant effect on the success of projects (Beringer et al., 2013). Therefore, it is hypothesized that:

H1. The success of information technology and telecommunications projects can be significantly influenced by resource management.

2.3 Communication and project success

Communication being a most important factor has often been explored in project management literature, owing to its importance toward projects. Dulewicz and Higgs (2005) argued that engaging communication is one of the important factors that integrate the managerial competencies to enhance the chances of project success. Engaging communication is a characteristic that enable the project manager to be a good communicator for engaging others and gaining their support. Engaging others also involve communicating instructions and vision. Tailoring the content according to the interest of the audience, inspiring the stakeholders including team members to convey approachability and easy access. Communication is an essential and vital competency that helps the project managers to successfully complete their projects (Arendse, 2013). Communication, if incorporated and managed effectively, help to connect all the project team members for achieving project objectives (Kerzner, 2013; Ofori, 2013). Communication is an ability of a project manager that facilitate to interact with project stakeholders in a critical critical situation during the execution of projects (Zulch, 2014). Monteiro de Carvalho (2013) highlighted that communicating and engaging have critical importance to the success of the projects which are yet not prioritized. Thus, it is hypothesized that:

H2. The success of information technology and telecommunications projects can be significantly influenced through effective communication.

2.4 Empowering and project success

Empowering is a managerial competency through which project manager or project leader gives autonomy to the team members, encourage new ideas, problem solving, develop vision and take up challenging and demanding tasks in accordance with existing policies and practices of an organization (Dulewicz and Higgs, 2005). In projects, project leaders focus on empowering their team members to achieve project objectives through creating an environment of effective and efficient management of project performance. Project team not only require support from its leader but also an empowering environment in addition to frequent meetings for good performance management (Ahmed, Azmi & Masood, 2013). Along with support, problem solving (Keil, Lee, & Deng, 2013) and empowerment (de Araújo & Pedron, 2015) are also important components which helps to enhance project success. Jałocha et al. (2014), while describing the core competencies required to project managers for execution of public sector projects, the managerial competency in terms of empowering team members for project success was highlighted. Chen, Neubaum, Reilly, and Lynn (2015) suggested that greater level of empowerment and autonomy can result in an effective decision making and better project operational outcomes. The managerial competencies involve empowerment of teams that encourage collaboration (Stettina & Hörz, 2015), set the urgency of project completion time frame (Patanakul & Shenhar, 2012) and take up challenges to solve problems and focus on accountability which are essential for the completion of projects (Müller et al., 2012).

Moreover, the manager of a project itself is responsible for providing authority, autonomy and support to the teams members that ultimately enhance the chances of project success (Ahmed & Azmi, 2014a). The following hypothesis is proposed:

H3. The success of information technology and telecommunications projects can be significantly influenced by empowering the team members.

2.5 Teamwork and project success

Dulewicz and Higgs (2005) highlighted development of managerial competencies of team members where project manager or leader believes that the subordinates have the ability and capacity to take challenging and demanding project tasks. Project managers encouraging teamwork ensure provision of adequate support, develop team's competencies, provides coaching, identify new tasks and roles in order to develop team members and provides necessary critical feedback. Competencies such as teamwork focus on working and developing people, taking responsibility and knowing one's self to contribute into the successful management of projects (Arditi, Nayak, & Damci, 2017). Araújo and Pedron (2015) identified coaching and mentoring team members, motivating and providing feedback as critical factors while studying the characteristics required to a manager for project success. Bucur (2013) observed that some projects are big and it is difficult to have all the competencies in one person. Yet, as the managerial competencies especially teamwork are essential performance indicators, organizations must work towards developing these competencies. Therefore, organizations should encourage their project managers to improve teamwork, which lead to the positive outcomes and success of the projects. The following hypothesis is suggested:

H4. The success of information technology and telecommunications projects can be significantly influenced by teamwork.

2.6 Motivation and project success

Leading, motivating and coaching have been discussed as an essential factor contributing to project success (Saadé, Dong, and Wan (2015). The use of competency elements improve performance through delegation of authority, motivating team members and developing people which are critical for project success (Arditi et al., 2017). Liikamaa (2015) highlighted that understanding the viewpoints of team, realizing the development needs, and encouraging and reinforcing their abilities are significant for project success. The foremost elements for project leadership comprise of motivating, inspiring and coaching the project team members (Ahmed et al., 2013) where motivating and encouraging teamwork increase likelihood of project success in Public sector (Jałocha et al. (2014). Hwang and Ng (2013) and Zadeh, Dehghan, Ruwanpura, and Jergeas (2016) emphasized on teamwork, problem solving and accountability of team members. The self-assessment of project team members hold great significance for the success of a project (Arendse (2013). The self-assessment is not only a source of feedback but also helps the team members to develop their leadership skills and competencies. The importance of feedback can also been supported to track and motivate the teamwork in projects (Ramos and Mota (2016). The following hypotesis is proposed:

H5. The success of information technology and telecommunications projects can be significantly influenced by motivation.

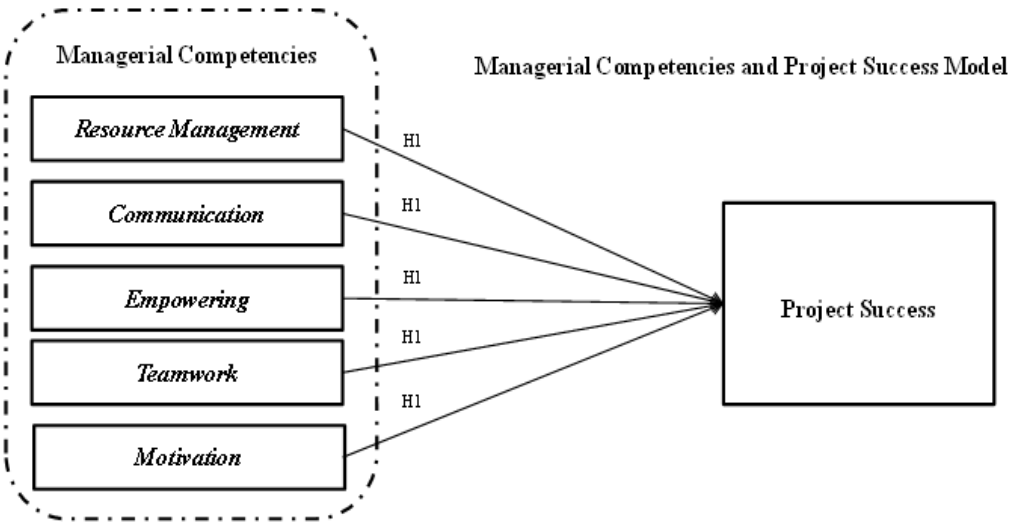

Figure 1: Research Model

3. METHODOLGY

3.1 *Population and sampling*

This quantitative study is based on deductive approach due to which a post-positivistic epistemological perspective is adopted. To test and validate the proposed research model, an online survey instrument was distributed among the respondents to collect cross sectional data for this study. To identify the respondents for the collection of data, the Office of the Planning Commission of Pakistan was contacted and a list of project director's/project managers of 272 IT & telecom projects completed under the Public Sector Development Programs (PSDP) was obtained. The respondents of this study were the project managers and project directors who executed Public sector's IT & telecommunication projects. Such projects are funded by the government through the Ministry of Planning, Development and Reforms, which is a funding agency of public sector projects working under the umbrella of Federal territory of government of Pakistan. The instruments for measurement of variables were adapted from previous studies, where items were adapted from Dulewicz and Higgs (2005) for managerial competencies, and from Ahmed and Azmi (2017) to measure project success on 5-point Likert scale (ranging from 1 'strongly disagree' to 5 'strongly agree'). For collection of data, the project managers and project directors of Public sector projects were contacted, where the title of project director is most often used for Public sector projects in Pakistan. A sample of 160 was selected according to Kerjcie & Mogan (1970) population and sampling criteria. Thus, we employed simple random sampling technique and distributed the survey instrument among 160 project directors and project managers of Public sector's IT and telecommunication projects. The survey was self-administered and follow-up process approach was adopted for collection of data from the respondents. For follow-up, the respondents were reminded three times to participate in the survey after every two weeks. In response, a total of 127 questionnaires with an overall response rate of 79% were received from the respondents of the study. After screening the data, a final sample of 112 valid responses was used for analysis of this study, where 15 incomplete responses were excluded. Out of 112 respondents, 80% respondents were male and 20% were female, and managing projects in Public sector, having experience of <3 years (6%), 3-5 years (11%), 5-10 years (37%), 10-15 years (22%), and >15 years (23%).

3.2 Reliability and validity

Reliability and validity analyses were performed to analyze the data. For reliability, Cronbach's Alpha (α) was used to check the consistency among the items of variables. The Cronbach's Alpha (α) value of 0.70 is considered suitable and

above than 0.8 is considered meritorious which indicate high degree of internal uniformity (Nunnally & Bernstein, 1994). The Cronbach's Alpha of all variable of this study was above the threshold of 0.70 value. The reliability and validity values of managerial competencies are summarized in Table 2.

Table 2: Managerial competencies reliability and validity

Variable	Cronbach Alpha	Item Code	Loadings				
			1	2	3	4	5
Managerial Competencies							
Resources Management	0.84	RM-1	0.756				
		RM-2	0.748				
		RM-3	0.669				
		RM-4	0.609				
		RM-5	0.716				
Communication	0.79	CM-1		0.477			
		CM-2		0.565			
		CM-3		0.486			
		CM-4		0.723			
		CM-5		0.685			
		CM-6		0.726			
Empowering	0.78	EP-1			0.583		
		EP-2			0.727		
		EP-3			0.597		
		EP-4			0.636		
		EP-5			0.655		
Teamwork	0.81	TW-1				0.613	
		TW-2				0.781	
		TW-3				0.583	
		TW-4				0.546	
		TW-5				0.593	
Motivation	0.78	MT-1					0.613
		MT-2					0.576
		MT-3					0.697
		MT-4					0.601

To check the validity of measurement items, the Kaiser-Meyer-Olkin (KMO) sampling adequacy test (Kaiser, 1974) and Bartlett (1950) test of Sphericity were performed. The value of KMO was 0.878 which was well above the threshold of 0.50 and results of Bartlett's test were also significant (1551.393, P<0.001). The reliability and validity results of project success are summarized in Table 3

Table 3: Project success reliability and validity

Variable	Cronbach Alpha	Item Code	Loadings				
			1	2	3	4	5
Project Success							
Project Efficiency	0.73	PE-1	0.770				
		PE-2	0.823				
		PE-3	0.276				
		PE-4	0.584				
		PE-5	0.610				
Impact on User	0.92	IU-1		0.775			
		IU-2		0.821			
		IU-3		0.888			
		IU-4		0.865			
		IU-5		0.807			
Impact on Team	0.77	IT-1			0.642		
		IT-2			0.744		
		IT-3			0.768		
		IT-4			0.724		
		IT-5			0.820		
Business Success	0.78	BS-1				0.482	
		BS-2				0.600	
		BS-3				0.506	
		BS-4				0.795	
		BS-5				0.873	
Preparing for Future	0.81	PF-1					0.567
		PF-2					0.881
		PF-3					0.773
		PF-4					0.832
		PF-5					0.550

The relationship between managerial competencies of project managers and the success of information technology and telecommunication projects was investigated through bivariate correlation analysis. Pearson's correlation coefficient test was chosen to identify and analyze the relationship among the variables of the study based on sample data. A significant relationship was found between each dimension of managerial competencies and project success ($p<0.01$) based on the results of correlation analysis (see Table 4).

Table 4. Results of Correlation Analysis

Sr	Variable	Mean	SD	1	2	3	4	5	6
1	Resource Management	4.079	0.689	1					
2	Communication	3.808	0.676	0.650**	1				
3	Empowering	3.959	0.621	0.599**	0.652**				
4	Teamwork	4.230	0.602	0.611**	0.600**	0.644**	1		
5	Motivation	4.009	0.652	0.597**	0.649**	0.739**	0.695**	1	
6	Project Success	3.381	0.436	0.270**	0.130*	0.210*	0.301**	0.307**	1

**P<0.01, *p<0.05.

4. RESULT AND ANALYSIS

4.1 *Results of Hypotheses Testing*

The normality, homoscedasticity, linearity and multicollinearity were checked to ensure the pre-requirements of testing of research hypotheses, as per guidelines of Hair, J., Black, W., Anderson, R., & Babin, B. (2018), before running the regression analysis. To evaluate the research hypothesis and determine the impact of each dimension of managerial competency on the success of Public sector's IT & telecommunication projects, the Ordinary Least Square (OLS) regression approach was utilized. Each managerial competency was incorporated into regression analysis while the regression analysis method was completed. In accordance with Hair et al. (2018) and Huselid (1995), findings indicate significant impact of each project manager's managerial competency on project success, based on significant values ($P<0.05$) of coefficient, 't' and R^2. The findings of regression analysis are presented in Table 5.

Table 5. Findings of regression analysis

Variables		Project Success (Dependent)						
Hyp	Independent	R^2	Adj R^2	F	t	Sig	β	SE
H1	Resource Management	0.073	0.064	8.647	2.941	0.004	0.171	0.058
H2	Communication	0.017	0.008	1.887	1.374	0.172	0.084	0.061
H3	Empowering	0.044	0.035	5.077	2.253	0.026	0.147	0.065
H4	Teamwork	0.090	0.082	10.927	3.306	0.001	0.218	0.066
H5	Motivation	0.094	0.086	11.462	3.386	0.001	0.205	0.061

There was no requirement of multicollinearity because no high correlation near to 1 (> 0.750) was found among the variables of this study. Resource management yielded a significant and positive impact on project success (β=.171, p<0.005), an insignificant impact of communication was found on project success (β=.084, p>0.05), empowering yielded a significant and positive impact on project success (β=0.147, p<0.05), teamwork yielded a significant impact on project success (β=0.218, p≤0.001), and motivation indicated a significant and positive impact on project success (β=0.205, p≤0.001). On the basis of
findings, except second hypothesis, all research hypotheses of the study were fully supported.

5. DISCUSSION

The objective of this study was to investigate the impact of project manager's managerial competencies on the success of Public sector project due to limited research studied conducted managerial competencies in the area of IT and telecommunication projects. A number of studies were conducted which emphasized to identify project manager' leadership competencies in general and/or specific type of projects, however, investigation of managerial competencies of project managers in IT and telecommunication projects of Public sector was not objective of earlier studies and this area remained unexplored (Moradi et al., 2020). The results shown significant relationship between resource management, empowering, teamwork, motivation and the success of IT and telecommunication projects, which are consistent with earlier studies (Muller et al. 2012). It is apparent that timely provision of resources is always important in projects and project managers grasp support from the senior management and other project stakeholders (Ahmed & Azmi, 2017). Project managers should clearly communicate the project objectives to the team member and encourage teamwork to achieve those objectives. Project managers must delegate authority and give empowerment to the team members in order to perform activities in a coherent manner to ensure successful completion of projects.

The project managers of IT and telecommunication projects are expected to possess required managerial competences, and focus on the area requiring improvement in enhancing the chances of project success. Findings of this study shows that many project managers are not appraising communication as a competency in their managerial performance during the implementation of projects. Motivation, empowering, developing, teamwork and communication are critical managerial competencies which are required to be possessed by the project managers of IT and telecommunication projects in Public sector. These findings are consistent with Muller & Turner (2012). Furthermore, project managers can learn and develop managerial competencies that have significance influence on project as there is a consensus among practitioners and researchers on it (Srikanth & Jomon, 2020).

The working environment in IT and telecommunication projects should be based on efficient management of resources, effective communication, encouraging empowerment and teamwork, and high level of motivation whereas IT and telecommunication projects often suffer due to non-availability or mismanagement of resources, ineffective communication among project stakeholders, lack of empowerment, lack of teamwork, and lack of motivation. Project-based organizations that aspire to achieve high success rate in Public sector projects should not only encourage to identify the managerial competencies of project managers that are most critical to project success but also ensure that certain competencies are to be incorporated in assessment and appraisal measuring performance of project managers.

6. CONCLUSION

This study is an effort to make a significant contribution in the domain of managerial competencies and Public sector projects by investigating the relationship between resource management, communication, empowering, teamwork, motivation competencies and project success. Findings revealed that resource

management, empowering, teamwork, and motivation have significant influence towards successful completion of projects, especially in IT and telecommunication projects of Public sector. Though, engaging communication is a critical factor in projects but it shows insignificant impact on the success of public sector projects in the context of this study. For this, the key reason is that the projects of Public sector are governed under well-defined roles and responsibilities where formal or written communication is preferred as compared to informal communication among the project managers, team members, and other project stakeholders. The implications of findings suggest that very less communication or ineffective communication have taken place in IT and telecommunication projects in Public sector of Pakistan.

The scarcity of material, human and technology resources is always a big challenge for projects in Public sector and such challenges can be minimized by the project managers through adopting and practicing managerial competencies. We urge the researchers and practitioners to consider the challenges and complexities involved in managerial competencies of project managers of IT and telecommunication projects. This study was limited to IT and telecommunication projects of Public sector in Pakistan, future study may consider to test and validate the model of this study by collecting data from other than IT and telecommunication projects of Public sector from other developing countries as well as developed countries. As this was a cross sectional study, a longitudinal study may be considered in future for in depth study of managerial competencies of project managers, team members and other project stakeholders, which may ensure to achieve high project success rates.

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