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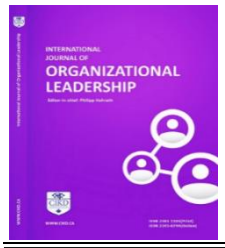

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Project Manager's Competencies as Catalysts for Project Success: The Mediating Role of Functional Manager Involvement and Stakeholder Engagement

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ABSTRACT

Drawing motivation from the principles of Resource-Based View (RBV) and Stakeholder theory, this endeavor assessed the impact of the Project Manager's (PM) competencies on Project Success (PS). The study further seeks to understand the mediating role of Functional Manager involvement (FM) and Stakeholder Engagement (SE) in the correlation between PM competencies and PS. Data were collected from 288 project team professionals operating in the healthcare sector in Pakistan. Partial Least Square – Structural Equation Modelling (PLS-SEM) was employed to validate both direct and mediating effects. The utilization of PLS-SEM for data analysis enhances the robustness of the study's outcomes. The findings revealed a significant influence of PM competencies on PS. Furthermore, the results affirmed that functional manager involvement serves as a mediator in the relationship between PM competencies and PS; however, the mediating effect of stakeholder engagement remains insignificant. This research significantly contributes to the field of healthcare project management. The identification of PM competencies as a substantial predictor of PS underlines the importance of skilled project management practices to achieve project outcomes successfully. Moreover, the exposure of functional manager involvement as a mediating variable between PM competencies and PS offers valuable insights into the organizational dynamics influencing PS. While the mediating effect of stakeholder engagement remains insignificant, this finding opens the avenues for further exploration in this domain. Overall, the study contributes to both theoretical advancements in project management literature and practical implications for project management specialists in the healthcare sector in Pakistan.

The success of a project has long been a focal point of interest in the field of project management. Project Success (PS) is a multifaceted concept that evolved to encompass a range of criteria (Siddiqui & Shaukat et al., 2023). Traditionally, project success was often measured by the "iron triangle" of balancing project scope, time, and cost. However, contemporary perspectives on project success have expanded to encompass a broader spectrum of dimensions, including business success, client satisfaction, stakeholder benefits, project personnel satisfaction, and organizational benefits (Aga et al., 2016; PMI, 2017). These expanded dimensions underscore the multifaceted nature of project success, which is no longer solely confined to the traditional constraints of cost, time, and quality. While numerous factors contribute to project success, project manager competencies play a pivotal role in augmenting greater project success (Khan et al., 2014).

Project manager competencies are recognized as valuable tools for assessing and enhancing the performance of organizational leaders and managers, who are tasked with orchestrating complex projects and ensuring their success (Maqbool et al., 2017). In the realm of competency, Goleman et al. (2013) emphasized the significance of competencies that are rooted in emotional intelligence and lead to high performance. The conventional project manager competencies associated with old business setups are unable to fulfill the demands of modern firms (Mabey et al., 2012). Despite other competencies, the project manager's communication skills (hereafter PM communication skills) are an integral component of their competencies, serving as a critical tool for effective leadership (Butler & Chinowsky, 2006). Effective communication is paramount for understanding and responding to stakeholder concerns and becomes the basis of project success (Khan et al., 2014). However, earlier studies have indicated that the impact of PM communication skills on project success has not been ascertained conclusively which required further investigation (Alshammari et al., 2020; Rogo et al., 2020; Yang et al., 2011; Elmezain et al., 2021). In addition, Awan et al. (2015) argued that prior research that has a focus on the PM communication skill influencing project success is relatively less. There is a consensus that an unbalanced focus on hard factors may understate the human factors that can significantly affect the hard factors through which project success is typically established (Jetu & Riedl, 2012; Podgórska & Pichlak, 2019; Rogo et al., 2020).

PM communication skills alone cannot be sufficient to contribute to better project success. There is consensus in the literature that various factors may interfere between project managers and project success (Yang et al., 2014). Studying mediating variables in the relationship can help explain the role of PM communication skills on project success and further clarify the paths through which managers can lead to improved project success). In addition, the underlying processes by which project leaders impact project success should be investigated (Aga et al., 2016). Existing research call for an investigation of functional manager involvement and stakeholder engagement (Shaukat et al., 2022; Wang et al., 2018). To bridge this knowledge gap, this study included functional manager involvement and stakeholder engagement as potential mediators between the relationship of PM communication skill and project success. Functional managers play a pivotal role in ensuring the success of project practices within their domains. They oversee resource allocation and provide guidance, evaluation, and support to project managers. The interplay between project managers and functional managers is crucial to achieving project success (Pitagorsky, 1998). In addition, stakeholder management is an essential practice in project management, involving the

identification of stakeholders, and their needs, and ensuring their expectations are met. Effective stakeholder management is crucial for project success, as it goes beyond traditional project constraints to consider the influence and interests of various stakeholders (Littau et al., 2010). The collaboration and engagement of stakeholders have been found to be more valuable than strict adherence to project plans, contributing significantly to project success (Achterkamp & Vos, 2008).

The extant literature highlighted various research gaps concerning the role of PM communication skills, project success, functional manager involvement, and stakeholder engagement. First, the existing literature provides a multifaceted understanding of project success, but the specific role of project manager communication skills in impacting project success remains relatively unexplored (Alshammari et al., 2020; Rogo et al., 2020). This research aims to bridge this gap ultimately contributing to a more comprehensive understanding of project success dynamics (Elmezain et al., 2021). Second, although managerial communication competencies are acknowledged as crucial tools for leadership, the healthcare sector's unique context is known to influence the application and effectiveness of these competencies. Limited research has examined PM communication skills in healthcare industries and their subsequent implications for project success (Levenson et al., 2006). Third, while stakeholder management is recognized as pivotal for project success, its mediating mechanisms in the relationship between project manager competencies and project success are not well-documented. This study aims to fill this void by exploring the mediating role of stakeholder engagement in the relationship between project manager competencies and project success (Littau et al., 2010). Fourth, the role of functional managers in supporting project success has been acknowledged, but the interactions and dynamics between project managers and functional managers are underexplored. This research seeks to provide insights into the intricate relationship between these two roles and their combined impact on project success, particularly within the healthcare sector (Pitagorsky, 1998). Finally, to the best of the author’s knowledge, these endeavors provide a holistic perspective of PM communication skills, functional manager involvement, and stakeholder engagement by examining their interplay and the mediating effects that drive project success, offering a more comprehensive framework for assessing project success within healthcare organizations (Aga et al., 2016). Based on these literature gaps, the purpose of this study is to explore the impact of PM competency on project success with the mediating role of functional manager involvement and stakeholder engagement. Consequently, this study's research questions include:

1. Does PM communication skill impact project success?
2. Does functional manager involvement mediate the relationship between PM communication skills and project success?
3. Does stakeholder engagement mediate the relationship between PM communication skills and project success?

This research contributes to the body of knowledge from various perspectives. Theoretically, this research utilized the Resource-Based View (RBV) and Stakeholder theories. RBV underscores the importance of internal resources and competencies for achieving a competitive advantage. RBV suggests that a firm's success is contingent upon its unique resources, capabilities, and knowledge, which can lead to exceptional returns (Barney, 1991). On the other hand, Stakeholder theory, emphasizes the significance of building and maintaining

strong relationships with stakeholders as a foundation for successful corporate operations (Freeman et al., 2010). Based on this theoretical support, we proposed a comprehensive framework and mediating mechanism through which PM communication skills, contribute to project success. Moreover, this research delves into the intricate dynamics of project success, focusing on the role of project manager competencies and their impact, mediated by functional manager involvement and stakeholder engagement. The study aims to contribute to the understanding of how project manager competencies drive project success and the mechanisms through which they influence project outcomes. Importantly, this research represents a unique exploration of these variables in the context of project success. Moreover, the study holds significance in the context of healthcare management, shedding light on the critical role of project manager competencies in ensuring project success. By examining the influence of project manager competencies, mediated by functional manager involvement and stakeholder engagement, the research contributes to the healthcare sector's understanding of effective project management. It highlights the importance of project governance and the need for robust project management practices in the healthcare industry. As healthcare executives grapple with resource optimization and management, this study offers insights into the leadership and management practices that can contribute to the sector's sustainability goals. In essence, this research examines the management roles of project managers in healthcare, with implications for the sector's overall success.

Literature review

Project Success

Project success is a multifaceted concept, often defined based on diverse perspectives and criteria. Crawford (2001) emphasizes high levels of satisfaction with project results, alignment with project goals, and meeting technical performance standards as indicators of project success. Cleland (1986) suggests that project success can be accurately judged based on two perspectives: achieving technical performance goals within time and budget constraints and the project's contribution to the enterprise's strategic objectives. Moreover, Freeman and Beale (1992) illustrate that success can be subjective, varying from one stakeholder to another, including aesthetic appeal, technical prowess, financial efficiency, employee satisfaction, and stock market performance. Additionally, project success is commonly associated with the completion of predefined project objectives. This may encompass factors like schedule, budget, quality, and customer satisfaction, which are considered essential dimensions for evaluating successful project completion (Khan & Spang, 2011). The achievement of project goals within the specified time frame, sustainability, and adherence to budgetary constraints are critical aspects of project success (Santos et al., 2014). The success of a project is also associated with community involvement, strategic direction, leadership, organizational culture, resource availability, and stakeholder management (Shaukat et al., 2022). The traditional criteria for project success encompass meeting project scope, deadlines, financial goals, and client satisfaction (Navarre & Schaan, 1988; Schwalbe, 2012). However, different perspectives, including the micro and macro viewpoints, suggest a more comprehensive evaluation of success (Lim & Mohamed, 1999). The macro perspective includes completion on time, satisfaction, utility, and operation, reflecting the diverse interests of project stakeholders.

Therefore, project success should consider a variety of viewpoints and criteria to provide a comprehensive evaluation (Prabhakar, 2009).

PM communication skill

Project Manager (PM) communication competency, often referred to as communication skill, is a multifaceted attribute that plays a central role in the success of project management. This competency encompasses a project manager's ability to convey information, ideas, expectations, and feedback clearly and effectively (Tahir, 2019). It involves verbal and written communication, non-verbal cues, and the capacity to adapt to diverse cultural and interpersonal dynamics (Raziq et al., 2018). Effective communication is not limited to the transmission of messages but also includes active listening, comprehension, and the establishment of a shared understanding among project stakeholders (Mazur et al., 2014). In essence, PM communication competency facilitates an open, transparent, and collaborative environment in which project teams and stakeholders can work together cohesively. The concept of PM communication competency extends beyond mere technical proficiency and linguistic skills (Tahir, 2019). It encompasses the art of engaging and inspiring individuals, resolving conflicts, and establishing a positive project culture (Raziq et al., 2018). It enables project managers to navigate the complex terrain of stakeholder management and to align project outcomes with the expectations of diverse interest groups, including clients, sponsors, and end users. Moreover, this competency empowers project managers to address challenges, convey the project's vision, and manage risks effectively (Mazur et al., 2014). It is a dynamic and adaptive capability that is integral to effective project leadership and management.

The importance of PM communication competency cannot be overstated in the context of project management. It serves as a critical foundation for project success, influencing project scope management, risk mitigation, stakeholder engagement, and decision-making (Tahir, 2019). Effective communication minimizes misunderstandings, reduces scope creep, and enhances customer satisfaction (Raziq et al., 2018). It fosters trust, transparency, and collaboration among project team members and stakeholders, contributing to a positive project culture. This competency empowers project managers to facilitate discussions, mediate conflicts, and align the project team's efforts with the project's objectives (Mazur et al., 2014). It is the linchpin that holds the intricate elements of project management together, ensuring that projects progress smoothly and that their outcomes meet or exceed expectations. In summary, PM communication competency is not merely a skill but a dynamic capability that underpins the success of project management endeavors.

Functional Manager Involvement

Functional managers are those professionals who hold leadership positions in specific departments within the organizations (Wang et al., 2018). They are responsible to oversee technical aspects and ensure the efficient operation of respective departments. Functional managers play a key role in resource management, staff supervision, and career development (Pitagorsky, 1998). They possess robust analytical abilities to handle technically difficult challenging tasks and prioritize the requirements of functional areas and team members (Minavand, 2013). In addition, functional managers' duties may extend to supervise the ongoing operations related to projects and directly undertake project tasks or provide resources

under the guidance of project managers (Tonnquist, 2008). Functional manager involvement plays a vital role in the success of projects, especially in organizations where projects intersect with functional departments. Operationalizing the concept involves defining the responsibilities and potentials of functional managers within the project context (Wang et al., 2018). This includes their active participation in project management activities, resource allocation, decision-making processes, and overall oversight within their respective areas of expertise (Tonnquist, 2008). To measure functional manager involvement, organizations often rely on various metrics, such as the frequency of their attendance at project meetings, their contribution to project planning, execution, and decision-making, and their availability to address project-related issues (Turner et al., 1998). Ultimately, functional managers collaborate with project managers to ensure project success and effective communication within the organization, which leads to more operational project management practices.

Stakeholder Engagement

Stakeholders encompass individuals, groups, or organizations affected by corporate decisions making and have the potential to influence them (Freeman, 1984). In project management, stakeholders play a pivotal role, as they are impacted by the actions and endeavors undertaken to realize project outcomes. Based on various organizational structures, stakeholders may consist of project teams, suppliers, owners, end users, or actively involved members of various pressure groups (Konzelmann et al., 2005; Wreder et al., 2009). Scholars like Larsson and Larsson (2020) stated that project stakeholders are comprised of individuals or groups with a vested interest in the project and the potential to influence its progress, either positively or negatively. Similarly, Garvare and Johansson (2010) stated stakeholders contribute to project execution and provide the necessary support to the organization for the achievement of desired objectives. To recognize the importance and sensitivity of stakeholders, project stakeholder management has been integrated as an essential knowledge area in the Project Management Body of Knowledge (PMBOK) (Fraz et al., 2016; PMI, 2017). Stakeholder engagement holds paramount importance to ensure project success, as it facilitates sustainable project management activities throughout their lifecycle (Shaukat et al., 2022). Collaboration and cooperation among stakeholders are important across project management phases, from initiation to completion (Rohracher, 2001; Williams & Dair, 2007). Project stakeholder engagement involves various steps. Scholars like Bal et al. (2013) proposed a 6-step process for stakeholder engagement, encompassing identification, alignment of stakeholders with sustainability goals, prioritization, management, performance measurement, and action implementation.

PM Communication Skills and Project Success

Effective communication is a fundamental aspect of project management, and it plays a pivotal role in determining project success (Zulch, 2014). Project managers need strong communication skills to lead their teams, coordinate activities, and interact with stakeholders. Communication within a project team is essential for ensuring that everyone is aligned with the project's objectives, goals, and expectations (Greenberger, 2016). Research has consistently shown that project managers who possess excellent communication skills are more likely to predict issues, understand team members' concerns, and resolve conflicts promptly (Siddiqui

& Ali et al., 2023). Effective communication fosters a collaborative environment where team members can work together efficiently, which is crucial for project success (Oh et al., 2019). In the context of healthcare projects, the significance of effective communication and communication skills cannot be understated. Studies have indicated that strong communication skills among healthcare professionals are essential for delivering high-quality healthcare services and improving patient outcomes (Curtis et al., 2013). Communication is the lifeblood of project management, and it is vital for the successful implementation of projects (Čulo, & Skendrović, 2010). Project success, in general, is defined by factors such as meeting project scope, adhering to the budget and schedule, and satisfying stakeholders' needs and expectations (Serrador & Turner, 2015). Effective communication contributes to stakeholder satisfaction, which is one of the key determinants of project success (Serrador & Turner, 2015). Additionally, communication clarity helps establish trust among stakeholders and enables project managers to control change and settle conflicts that could hinder project performance (Anantatmula, 2010).

The Resource-Based View (RBV) theory, a fundamental concept in strategic management, posits that a firm's competitive advantage and overall success are closely tied to the unique and valuable resources it possesses (Barney, 1991). In the context of project management, this theory offers a valuable lens through which we can examine the hypothesis that there is a positive impact of PM communication skills on project success. Effective communication is an intangible asset that, when leveraged skillfully, can enhance a project's performance and outcomes (Teece, 2007). Moreover, effective communication fosters trust, transparency, and a positive project culture, all of which are critical to project success. The RBV theory provides a valuable framework to support the role of PM communication skills on PS. Effective communication is a valuable resource that project managers can leverage to gain a competitive advantage in project management. This resource influences various facets of project success, from scope management and risk mitigation to stakeholder engagement and decision-making (PMI, 2017). By enhancing their communication skills, project managers can enrich their resource arsenal and enhance their capacity to drive project success in today's competitive project management landscape. Building on this line of reasoning, we put forth the following hypotheses.

H1: *There is a positive impact of PM communication skills on project success.*

Mediating Role of Functional Manager Involvement

Functional managers also referred to as resource managers, are pivotal in optimizing resource utilization within an organization, encompassing responsibilities such as training, assessment, and allocation. Functional managers' duties may extend to supervising the ongoing operations related to projects and directly undertaking project tasks or providing resources under the guidance of project managers (Tonnquist, 2008). Project manager forms a collaborative relationship with functional managers which is essential for attaining optimal project performance and organizational well-being (Pitagorsky, 1998). In the context of project success, functional managers play a vibrant role, particularly in the day-to-day management of functional departments and the efficient resource allocation to meet project and operational requirements (Dunn, 2001). In addition, functional managers exert direct control over

situations affecting project team members, mainly those tied to their technical specializations, career growth, and discipline-specific matters (Minavand, 2013). Within a functional matrix, functional managers collaboratively share responsibilities for project participants and a portion of the project, working in tandem with project managers to attain a balanced approach to resource management and success (Turner et al., 1998).

The Resource-Based View (RBV) theory underscores the importance of utilizing internal resources in gaining a competitive edge and ensuring long-term performance (Barney, 1991; Wang et al., 2018). In the realm of healthcare management, RBV serves as a fundamental framework for evaluating the availability and deployment potential of internal resources for strategic initiatives and decision-making (Barney & Arikan, 2017). Functional managers, being contributory in resource allocation and strategic decisions play a vital role in applying RBV within organizations, ensuring the operational utilization of both tangible and intangible assets for strategic success (Wang et al., 2018). This role positions functional manager involvement as a potential mediating factor in the relationship between project manager competence and project success. Building on this line of reasoning, we put forth the following hypothesis.

H2: *Functional manager involvement mediates the relationship between PM competencies and project success.*

Mediating Role of Stakeholder Engagement

Throughout the entire project life cycle, stakeholders play a vital and active role, significantly contributing from the initial conceptualization to the final termination stages to achieve superior project outcomes (Williams & Dair, 2007). The World Bank (2012) underscores the importance of stakeholder engagement in ensuring the seamless operation of project management activities. This process required establishing an enduring relationship with potential stakeholders and aligning the entire engagement process with the core principles of sustainability. Bourne and Walker (2005) emphasized active stakeholder engagement by highlighting its purpose in capturing stakeholders' valuable contributions throughout the project development processes. In this perspective, adopting a stakeholder management approach becomes a critical foundation for successful project completion. This strategic approach acknowledged the diverse roles of stakeholders and involved them actively in decision-making processes by ensuring their perspectives are considered at every stage of the project life cycle (Shaukat et al., 2022).

The extant literature consistently emphasized the intricate relationship between stakeholder engagement, effective leadership, and overall project success. In this regard, scholars like Ika and Donnelly (2017) advocate for elevated levels of stakeholders' commitment, collaboration, and adaptability by recognizing these elements as essential for achieving project success. Nangoli et al. (2016) extended this perspective further by proposing proactive stakeholder consultation before project implementation and stressing the ongoing involvement of stakeholders throughout the entire project life. Fraz et al. (2016) contribute to this discourse by demonstrating a substantial relationship between project success and stakeholder management. They highlighted the importance of continual coordination, transparent information sharing, and proactive management of key project stakeholders' concerns for achieving project success across various project life cycle stages. This holistic and inclusive approach not only fosters

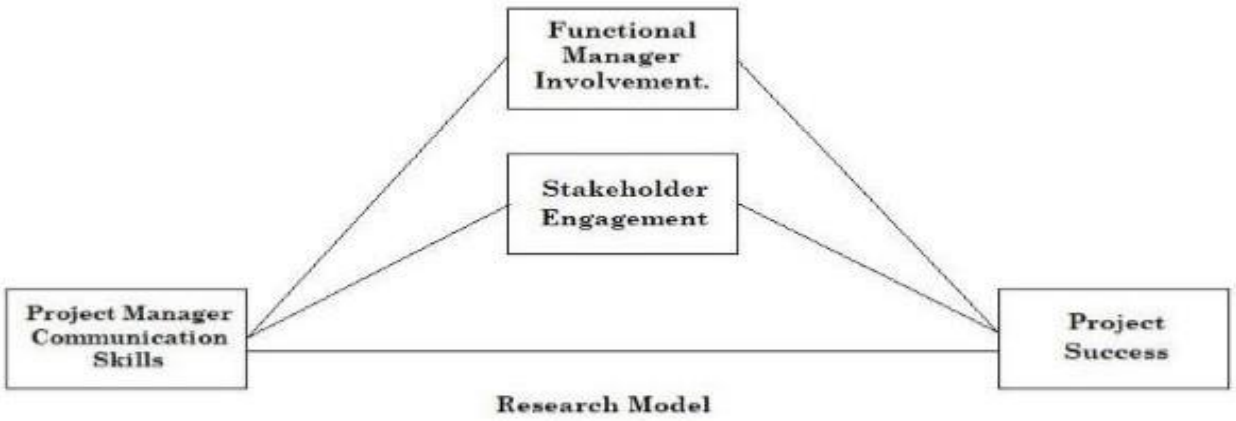
successful project outcomes but also aligns with the broader principles of PM competencies for project acceptance and execution. Building on this line of reasoning, we put forth the following hypothesis.

H3: *Stakeholder engagement mediates the relationship between PM competencies and project success.*

This research seeks to explore the interplay between PM communication skills, functional manager involvement, stakeholder engagement, and their influence on project success within the healthcare project management context, underscoring the need for an expanded theoretical foundation. By concentrating on the theoretical underpinnings of these relationships, we aim to shed light on the mechanisms through which health sector projects can accomplish optimum results. The RBV theory provides a valuable perspective into how different organizations leverage internal resources to gain competitiveness and ensure sustainable performance (Barney, 1991). In the project management realm, RBV theory offers a lens through which we can understand the importance of PM communication skills as a viable resource that stimulates project success (Rogo et al., 2020; Teece, 2007). Effective communication has been considered an intangible resource that plays a pivotal role in facilitating project success by raising trust, transparency, and cooperation between project stakeholders (Khan et al., 2014). Drawing from RBV guidelines, project managers harness their communication skills to mobilize resources, manage project scope, reduce risks, and engage stakeholders throughout the project life cycle (Tahir, 2019). Thus, PM communication skills become vital to gain a competitive edge in the complex landscape of healthcare project management (Levenson et al., 2006).

In addition, it is imperative to delve deeper into the mediating role of functional manager involvement in the relationship between PM communication skills and project success. Functional managers with their proficiency in resource allocation and strategic decision-making, assist as mediators who translate project objectives into actionable implementation and allocate resources efficiently (Minavand, 2013). With the motivation from RBV principles, functional manager involvement can be conceptualized as a mechanism through which firms resources are mobilized and aligned with project objectives to heighten project performance (Wang et al., 2018). Likewise, stakeholder engagement emerges as a vital element in the relationship between PM competencies and project success. Stakeholder theory offers insights into how a firm can effectively manage relationships with stakeholders to produce value and achieve sustainable outcomes (Freeman et al., 2010). By implementing a stakeholder-centric approach, project managers can line up project activities with stakeholder interests, address conflicts, and shape trust and support during the course of the project life cycle (Shaukat et al., 2022). By incorporating RBV theory guidelines and Stakeholder theory principles into project management practices, firms can leverage resources effectively, manage active stakeholder relationships, and attain superior project outcomes in the realm of the healthcare sector. Figure 1 illustrates the research model.

Figure 1
Research Model



Method

Sample and Procedure

The research method applied in this endeavor involved a quantitative, cross-sectional research design with a specific focus on the survey research method. The quantitative research approach typically encompasses several research methodologies, with surveys and experimental research ranking among the most prevailing. This approach enabled the uniform collection of data for characterizing variables and exploring correlations between them (Malhotra & Grover, 1998). The key objective of the research is to examine the effect of project manager competencies, functional manager involvement, and stakeholder engagement on project success. The study respondents comprise health workers from both local and international organizations working within the health sector of Pakistan. Questionnaires were administered during regular working hours and data collection followed over a time period from June 2022 to October 2022, allowing for a comprehensive exploration of variables and their relationships during this time frame. Project team members within the health sector have been considered as units of analysis for this study. These individuals play a crucial role in the success of healthcare projects, making them the essential focus of this investigation. We employed a convenience sampling technique for data collection. A total of 308 questionnaires were distributed among potential respondents, and 288 questionnaires were deemed suitable for further analysis, resulting in a vigorous response rate of 82.28%. A total of 20 surveys were rejected because numerous statements were left blank by study participants, leaving data gaps. There were no missing data points in the items relevant to the study constructs in the remaining 288 useable replies. This comprehensive research method provides an organized framework for examining the link between project manager competencies, functional manager involvement, stakeholder engagement, and project success in the dynamic context of the health sector. The adoption of a quantitative research design and the use of a convenience sampling technique ensured the collection of appropriate data for an in-depth analysis of these critical relationships.

The participant's demographic profiling is illustrated in Table 1. The table provides detailed information on the gender, age, education level, and professional experience of the study's participants. Under the gender criteria, the participants are divided into male and female categories. The data were collected from 123 male respondents and 165 female respondents.

Similarly, the age category is divided into various age groups starting from 18 to 25 years and up to 50 years and above. In the current study, the majority of participants (i.e. 143) fall in the age group of 34-41 years. The respondents were also asked to provide information regarding their academic qualifications. In the education section, participants are categorized based on their qualifications, including intermediate, bachelor's, master's, and PhD degrees. Overall 222 respondents hold a Bachelor's degree. Respondents were also categorized based on their experience. The experience category is further divided into three groups: 1-5 years, 6-10 years, and 11 years and above. In the current study, the majority of participants (i.e. 187) have experience more than 10 years. Overall, Table 1 depicts a detailed overview of the demographic traits of the study respondents, allowing for a better understanding of the sample structure.

Instrument

The questionnaires were distributed among respondents working in the health sector. A five-point Likert scale was used to record responses, with 1 denoting "strongly disagree" and 5 denoting "strongly agree." The respondents were also asked to provide demographic details.

PM competency: PM communication skill is an independent variable in this study. The scale for PM communication skills was adopted from (Irfan et al., 2021). All eight items were adopted.

Project success: Project success is the dependent variable in this study. The scale for project success was adopted from (Engelbrecht et al., 2017). All seven items were adopted.

Functional manager involvement: Functional manager involvement is the mediator variable in this study. The scale for functional manager involvement was adopted from (Allen et al., 1988). All 19 items were adopted.

Stakeholder engagement: Stakeholder engagement is the mediator variable in this study. The scale for stakeholder engagement was adopted from (de Oliveira & Rabechini Jr, 2019). All 5 items were adopted.

Table 1

Demographics Profiling of Respondents

Criteria		Participants	%
Gender	Male	123	42.7
	Female	165	57.3
	Total	288	100
Age	18 -25	3	1.1
	26-33	60	20.8
	34-41	143	49.7
	42-49	73	25.3
	50 and above	9	3.1
	Total	288	100
Education	Inter	21	7.3
	Bachelor	222	77.1
	Masters	34	11.8
	PhD	11	3.8
	Total	288	100
Experience	1-5 years	23	7.9
	6-10 years	78	27.1
	11 and above	187	64.9
	Total	288	100

Data Analysis Procedure

The present research utilized the Statistical Package for the Social Sciences (SPSS) software to handle data and perform preliminary analysis. Primarily, the data were entered into the SPSS software, and a comprehensive screening process was applied to ensure data integrity and reliability. Only the cleaned and filtered dataset was selected for further analysis to affirm the finding's validity.

Smart-PLS software was employed for the model assessment purposes. The research data collected from the respondents underwent examination using Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM is a widely acknowledged analytical tool utilized in social and business sciences for its capability to handle intricate relationships and non-normal data distributions (Hair et al., 2014). It is particularly appropriate for exploratory studies and research with relatively small sample sizes. The application of PLS-SEM in leadership studies has been widely recognized for its effectiveness in generalizing research findings and uncovering complex relationships in leadership dynamics (e.g., Shaukat & Alam, 2023; Siddiqui & Shaukat et al., 2023). The PLS-SEM procedure applied in this study comprised two key stages: measurement model assessment and structural model estimation (Ringle et al., 2020). In the measurement model, several metrics including outer loadings, alpha, Composite Reliability (CR), convergent, and discriminant validity were evaluated to ensure the reliability and robustness of the measurement constructs. These valuations provided insights into the quality of the measurement model and the associations between the study's variables. In addition, the structural model estimation stage focused on estimating the path coefficients and determining the level of significance between hypothesized relationships. By applying the bootstrap procedure in Smart-PLS, the significance of the path coefficients was evaluated. This stage aimed to find out the direct and indirect influence of the independent variables on the dependent variable and illuminate the underlying mechanisms and associations within the research model. By leveraging PLS-SEM, this study aimed to offer thorough insights into variables and relationships and contribute to a broader understanding of leadership phenomena in numerous settings.

Results

Constructs Descriptive Statistics

In the first step, we analyzed descriptive statistics to elucidate the key characteristics of PM communication skills, functional manager involvement, stakeholder engagement, and project success. The outcomes of the descriptive analysis reveal the mean values and standard deviation values for each item, as illustrated in Table 2. The table showed that with a mean value of 3.56, participants generally agreed with the items related to functional manager involvement and PM communication skills. Similarly, the mean value of 3.73 indicates agreement with the items assessing project success. Moreover, the mean value of 3.60 suggests agreement with the items pertaining to stakeholder engagement.

Table 2

Constructs Descriptive Statistics

Items	Minimum	Maximum	*M*	*SD*
FM1	1	5	3.84	0.91
FM2	1	5	3.76	1.00
FM3	1	5	3.88	1.02
FM4	1	5	3.84	1.06
FM5	1	5	3.79	1.06
FM6	1	5	3.62	1.07
FM7	1	5	3.65	1.06
FM8	1	5	3.72	1.11
FM9	1	5	3.74	1.04
FM10	1	5	3.76	1.05
FM11	1	5	3.74	1.00
FM12	1	5	3.63	1.10
FM13	1	5	3.78	0.97
FM14	1	5	3.68	1.13
FM15	1	5	3.80	1.02
FM16	1	5	3.57	1.06
FM17	1	5	3.80	0.99
FM18	1	5	3.57	1.10
FM19	1	5	3.76	0.96
PMC1	1	5	3.56	1.06
PMC2	1	5	3.77	1.03
PMC3	1	5	3.73	1.22
PMC4	1	5	3.83	1.10
PMC5	1	5	3.81	1.09
PMC6	1	5	3.98	1.08
PMC7	1	5	3.76	1.10
PMC8	1	5	3.59	1.03
PS1	1	5	3.86	1.08
PS2	1	5	3.90	0.97
PS3	1	5	3.74	0.99
PS4	1	5	3.84	1.03
PS5	1	5	3.73	1.02
PS6	1	5	3.93	1.02
SE1	1	5	3.75	1.09
SE2	1	5	3.65	1.04
SE3	1	5	3.60	1.24
SE4	1	5	3.71	1.14
SE5	1	5	3.74	1.02

Note. FM = Functional Manager Involvement, PMC = Project Manager Communicational Skills, SE = Stakeholder Engagement, PS = Project Success

Measurement Model

We employed different methods to assess the measurement model, which includes outer-loadings, Cronbach's alpha, composite reliability, and convergent and discriminant validity. Typically, loadings exceeding .50 are considered acceptable (Bagozzi & Yi, 1988; Gefen & Straub, 2005). The findings showed that all items met the criteria of outer loadings. The composite reliability, with a recommended threshold of .70, was found to be in line with the acceptable range for all constructs (Bagozzi & Yi, 1988). Additionally, Cronbach's coefficient alpha, a widely acknowledged measure of internal consistency for multiple items (Saunders et al., 2009), typically should exceed .70 (Nunnally, 1978). Our findings reflected that the variables achieved higher reliability as indicated by Cronbach's alpha. The details are presented in Table 3.

Table 3

Loadings, Alpha, CR, AVE

Variable	Item	Loading	Alpha	CR	AVE
Functional manager involvement	FM3	.73			
	FM4	.65			
	FM5	.75			
	FM6	.75			
	FM7	.70			
	FM8	.74			
	FM10	.67	.92	.93	.52
	FM12	.73			
	FM13	.73			
	FM14	.74			
	FM15	.73			
	FM16	.71			
	FM17	.75			
	FM19	.67			
PM communication skill	PMC2	.57			
	PMC3	.64			
	PMC4	.79			
	PMC5	.75	.85	.86	.54
	PMC6	.83			
	PMC7	.78			
	PMC8	.71			
Project success	PS1	.82			
	PS2	.83			
	PS3	.78	.87	.87	.66
	PS4	.83			
	PS5	.80			
Stakeholder engagement	SE1	.70			
	SE2	.63			
	SE3	.76	.81	.82	.57
	SE4	.83			
	SE5	.83			

We measured convergent validity by calculating the Average Variance Extracted (AVE), where a value of .50 or higher is normally considered acceptable (Fornell & Larcker, 1981). The findings showed that all variables demonstrated convergent validity by meeting the criteria. To evaluate discriminant validity, we employed a combination of methods, including the Heterotrait-Monotrait (HTMT) ratio, Fornell and Larcker Criteria, and cross-loading analysis. According to Henseler et al. (2015), an acceptable HTMT ratio should be below 0.9, with an upper confidence interval of 1. The findings showed that the HTMT values and their corresponding confidence intervals for each variable were all below .90 and 1, respectively, confirming discriminant validity. In addition, following Fornell and Larcker's (1981) guidelines, we ensured that the square root of the AVE for each construct exceeded the correlations between that construct and the remaining variables. Moreover, the cross-loading values indicate that all constructs exhibit lower values than their loadings on the intended constructs. The details are presented in Table 4, 5, and 6. The measurement model is presented in Figure 2.

Table 4

Fornell and Larcker's Criterion

	FM	PMC	PS	SE
FM	.72			
PMC	.61	.73		
PS	.72	.55	.81	
SE	.68	.70	.52	.75

Table 5

HTMT Ratio

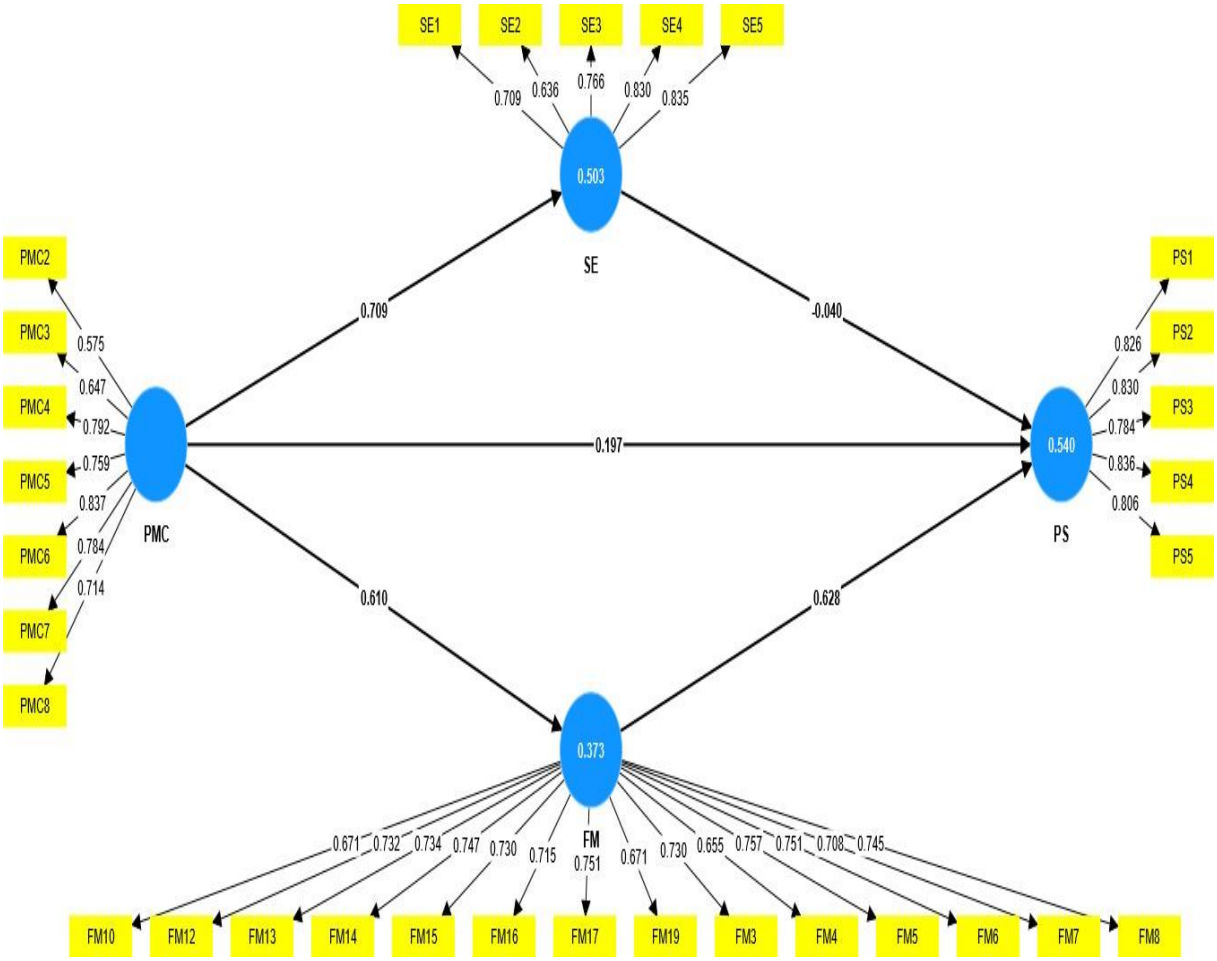
	FM	PMC	PS	SE
FM				
PMC	.67			
PS	.79	.62		
SE	.77	.83	.61	

Table 6

Cross-loading Analysis

	FM	PMC	PS	SE
FM3	.73	.49	.47	.44
FM4	.65	.37	.48	.44
FM5	.75	.40	.51	.53
FM6	.75	.48	.52	.56
FM7	.70	.41	.51	.48
FM8	.74	.42	.47	.54
FM10	.67	.49	.51	.56
FM12	.73	.35	.50	.47
FM13	.73	.45	.53	.52
FM14	.74	.43	.60	.52
FM15	.73	.46	.53	.51
FM16	.71	.46	.49	.46
FM17	.75	.49	.55	.44
FM19	.67	.38	.53	.38
PMC2	.46	.57	.43	.40
PMC3	.29	.64	.27	.39
PMC4	.44	.79	.39	.51
PMC5	.39	.75	.35	.50
PMC6	.53	.83	.53	.58
PMC7	.51	.78	.43	.62
PMC8	.43	.71	.34	.55
PS1	.60	.47	.82	.43
PS2	.58	.48	.83	.41
PS3	.54	.44	.78	.44
PS4	.62	.41	.83	.44
PS5	.57	.42	.80	.43
SE1	.43	.57	.40	.70
SE2	.38	.44	.29	.63
SE3	.51	.49	.38	.76
SE4	.53	.53	.38	.83
SE5	.68	.62	.50	.83

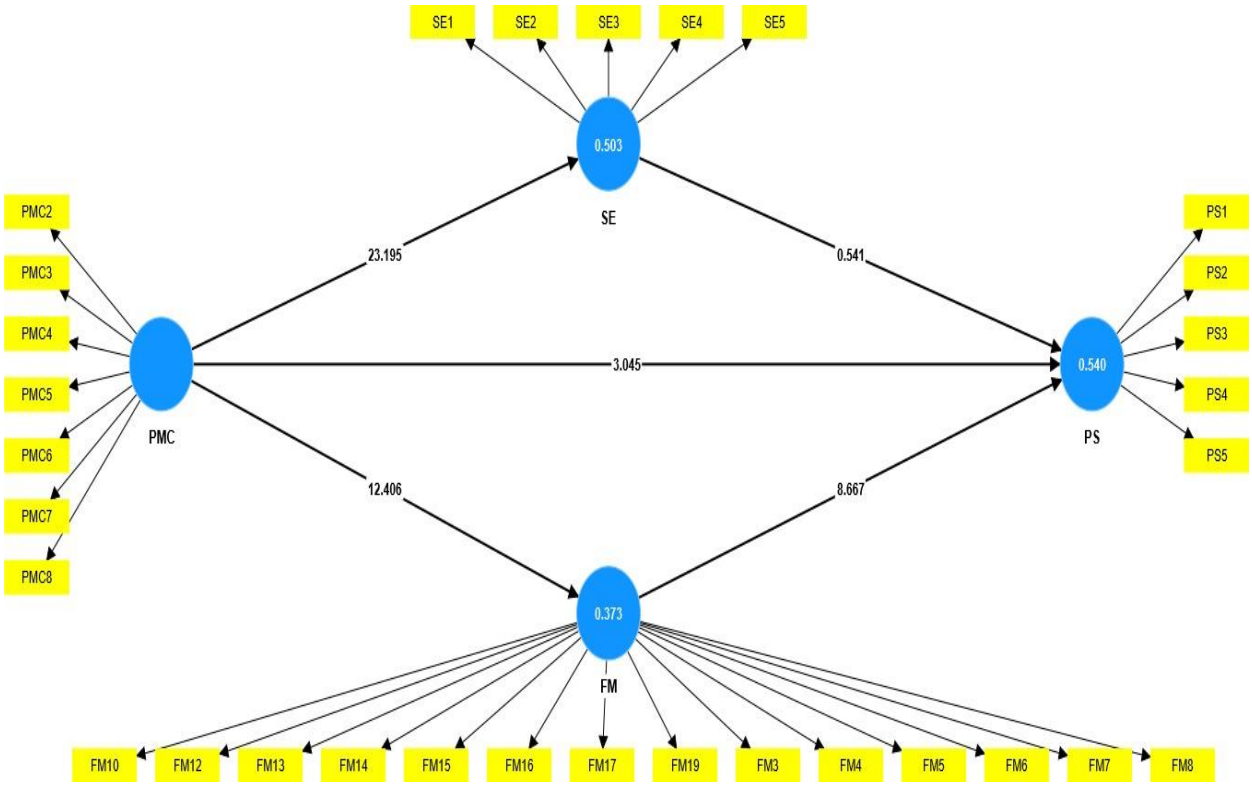
Figure 2
Measurement Model



Structural Model

In our study context, we assessed the structural model by following the reputable guidelines outlined by Hair et al. (2017). In the preliminary phase of our estimation, we focused on two critical metrics: the coefficient of determination (R^2) and the predictive relevance measure (Q^2). Our results revealed that the model demonstrated a notable degree of predictive accuracy. Specifically, we observed that the project success underwent a substantial 54% change (R^2 = .54), while stakeholder engagement and functional manager involvement variances of 50% (R^2 = .50) and 37% (R^2 = .37) respectively due to PM communication skills. These findings are aligned with the criteria outlined by Hair et al. (2017), representing the model overall predictive capability. Moreover, we employed the blindfolding procedure to calculate Q2, a measure of predictive relevance. The Q2 values obtained for project success, stakeholder engagement, and functional manager involvement were .29, .49, and .36 respectively. Notably, these values exceeded zero, indicating the robust predictive relevance inherent in our SEM framework and also in line with the criteria defined by Hair et al. (2017). The structural model of the study is presented in Figure 3.

Figure 3
Structural Model



Hypotheses Testing

We assessed the study's hypotheses by evaluating the variables direct and indirect relationship. H1 measured whether PM communication skill has a positive effect on project success. The outcomes revealed that PM communication skills substantially affected project success (t = 11.10, p < .000), thus H1 supported. We evaluated the mediating mechanism with the help of two individual factors including functional manager involvement and stakeholder engagement in the relationship between PM communication skills and project success (H2, H3). In order to validate the mediating analysis, the bootstrap technique was employed using Smart PLS-4. The results indicated a significant indirect effect of PM communication skills, mediated through functional manager involvement, on project success (t =7.03, p < .000). The total effect of PM communication skills on PS was also substantial (t = 11.10, p < .000). Moreover, the inclusion of mediating factor revealed a significant effect of PM communication skills on PS (t = 3.04, p < .001). These results suggest a complementary partial mediation, leading to the acceptance of the H2 hypothesis. For H3, the result indicated an insignificant indirect effect of PM communication skills, mediated through stakeholder engagement, on project success (t = .53, p < .29). The total effect of PM communication skills on PS was substantial (t = 11.10, p < .000). Moreover, the inclusion of mediating factor revealed a significant effect of PM communication skills on PS (t = 3.04, p < .001). It is, therefore, H3 of the study not substantial. The details are presented in Table 7.

Table 7

Direct and Mediation Results

				t	*p*
H1: PMC→PS				11.10	0.000
Total Effect (PMC→PS)		Direct Effect (PMC→PS)		Indirect Effect (PMC→PS)	
t	*p*	*t*	*p*	Hypotheses	*t*	*p*
11.10	0.000	3.04	0.001	H2: PMC→FM→PS	7.03	0.000
				H3: PMC→SE→PS	0.53	0.296

Discussion

The study aims to explore the relationship between PM communication skills, functional manager involvement, stakeholder engagement, and project success, drawing on the Resource-Based View (RBV) and Stakeholder theories.

The outcomes of the proposed hypotheses affirm a positive and substantial influence of PM communication skills on project success. These findings are consistent with existing literature, including works by (Alshammari et al., 2020; Awan et al., 2015; Podgórska & Pichlak, 2019; Elmezain et al., 2021). For instance, in their comprehensive examination, Awan et al. (2015) placed a primary focus on PM communication skills, empirically measuring its impact on project success. Their research established a significant relationship between PM communication skills and the successful outcomes of projects. Similarly, our outcomes align with the findings of Podgórska and Pichlak (2019), who provided empirical validation for the overarching impact of a project manager's leadership competencies, emotional intelligence, and managerial skills on project success. Among others, project manager leadership competencies closely associated with project success, PM communication skills were found most effective. Within the realm of project manager leadership competencies, as elucidated by Rogo (2020), PM communication skills emerged as a particularly influential factor in fostering project success. Furthermore, Alshammari et al. (2020) contributed to the body of literature by emphasizing the pivotal role of effective communication in conjunction with other managerial aspects. Their findings underscore the multifaceted nature of PM communication skills, which play a central and interconnected role in the broader spectrum of project success.

This finding underscores the key role of effective communication by project managers to ensure success in projects. Effective communication facilitates project managers to communicate objectives, prospects, and updates to their project team members, and all potential stakeholders involved in the project activities (Siddiqui & Ali et al., 2023). By fostering open and transparent lines of communication, project managers able to nurture collaboration, manage conflicts, and affirm alignment towards project objectives among team members (Iqbal et al., 2019). In addition, transparent and crystal-clear communication helps to mitigate misunderstandings, reduce hazards, and address challenges throughout the project life cycle (Harris & Sherblom, 2018). Moreover, robust communication skills empower project managers to respond to stakeholders' concerns, offer prompt responses, and adapt communication tactics as required to accomplish project management activities in an effective manner (Awan et al., 2015). Ultimately, this proactive approach to communication heightens coordination, boosts project team morale, and contributes to overall project success.

Consequently, the development of communication skills among project managers is imperative for firms with aims to attain successful project outcomes.

The study findings support the notion that functional manager involvement serves as a crucial mediating factor in the relationship between project managers and project success. The outcomes validate the hypothesized relationship between these variables. In the context of achieving project success, our study sheds light on the vibrant and impactful role played by functional managers. Precisely, the research underscores the active involvement of functional managers in the day-to-day management affairs of functional departments, highlighting their instrumental contributions to the efficient resource allocation to meet both project and operational requirements (Dunn, 2001). This finding accentuates the proactive approach of functional managers in the operational aspects vital for project success. In addition, our study further emphasizes the significant impact exerted by functional managers in directly controlling situations that impact project team. This control extended toward technical specializations, career growth, and discipline-related matters, depicting the multifaceted nature of their responsibilities and their direct impact on the project team (Minavand, 2013). Furthermore, our findings highlighted the instrumental role of functional managers in the critical domains of resource allocation and strategic decision-making. This key contribution positions functional managers as vital players in the application of the Resource-Based View (RBV) theory within organizational contexts (Wang et al., 2018). The RBV framework emphasizes the strategic utilization of tangible and intangible assets for long-term success. In this concern, functional managers emerge as pivotal figures in operationalizing RBV theory within organizations, ensuring that resources are optimally leveraged for strategic success.

The findings shed light on the substantial role of functional manager involvement as a mediator between project managers and project success. This association underscores the significance of collaboration and synchronization between project managers and functional managers to achieve successful project outcomes (Fraz et al., 2016; PMI, 2017). Functional manager involvement acts as a bridge between the strategic objectives established by project managers and the operational execution required for project success (Appelbaum et al., 2009). Through active engagement in project activities and aligning them with the firm broader goals, functional managers affirm that resources are effectively utilized to complete project tasks in an efficient manner (Moodley et al., 2016). Besides, functional manager involvement facilitates effective communication and synchronization among project teams, ensuring role clarity, responsibilities, and expectations. This aids in mitigating probable conflicts and addresses any challenges or issues that may arise during the project life cycle (Nicholas et al., 2010). Overall, the findings highlight the substantial relationship between project managers and functional managers and underscore the significance of their collaboration to augment project success. By leveraging the complementary skills, expertise, and perspectives of functional managers, involvement in a firm can able to navigate complexities and uncertainties to deliver successful project outcomes (Minavand, 2013).

In response to the subsequent research question, our study elucidates that stakeholder engagement does not serve as a mediating factor in the relationship between PM communication skills and project success. The extant literature highlighted various reasons for this insignificant impact of stakeholder engagement. For instance, the perspectives shared by Mathur et al. (2008) provide valuable context, suggesting that the value of stakeholder

engagement depends on how firms conceptualize and operationalize this concept. They propose three distinct perspectives: (i) management, (ii) ethics, and (iii) social learning. From a strategic management viewpoint, stakeholder engagement serves as a conduit for gathering valuable information, enhancing innovative capacity, and resolving conflicts. Ethically, it contributes to responsible decision-making, impartiality, and the building of social capital. From a social learning perspective, stakeholder engagement fosters the evolution of organizational value systems and the development of a shared vision and objectives. Thus, organizations must adopt a comprehensive approach that integrates all three perspectives of stakeholder engagement, otherwise, the impact of stakeholder engagement may not yield significant contributions. Similarly, our results underscore that the impact of stakeholder engagement remains statistically insignificant. This finding prompts a deeper exploration into the multifaceted nature of stakeholder engagement, drawing insights from the work of Alwaer et al. (2008), who posit that the agreement on sustainability issues among project stakeholders poses a critical challenge owing to the complexities associated with prioritizing sustainability-related indicators. In addition, scholars such as Larsson and Larsson (2020), and Nguyen and Mohamed (2021) suggested various strategies to enhance stakeholder engagement. These include stakeholder management strategies, collaboration enhancement with project stakeholders, and awareness initiatives. Failing to comply with these stakeholder strategies may cause insignificant effects. Moreover, the study conducted by Shaukat et al. (2022) sheds light on external factors contributing to inadequate stakeholder engagement in the Pakistan project management context. These factors include a lack of public awareness, inadequate stakeholder interest, and scarce legislative and regulatory frameworks.

Conclusion

This study has brought attention to pivotal and innovative concepts, specifically PM competencies, functional manager involvement, and stakeholder engagement as integral factors contributing to project success. The research represents one of the earliest attempts to establish a framework linking PM communication skills with project success, employing functional manager involvement, and stakeholder engagement as a facilitating mechanism. Notably, the study identifies key components of PM competencies, with functional manager involvement and stakeholder engagement serving as a mediating variable to enhance project success. The results underscore the impact of PM communication skills on the success of health sector projects, highlighting the mediating role of functional manager involvement in this relationship, however, stakeholder engagement is not mediated in this relationship. Consequently, the study concluded that PM competencies significantly influence the accomplishment of projects within the health sector in Pakistan. It further emphasizes the importance for health sector organizations to enable stakeholders to make effective decisions for efficient project management and success. The study suggests that policymakers and leaders should devise strategic plans to seamlessly implement PM competencies, and foster a dynamic work environment to adeptly involve project stakeholders, ensuring the effectiveness of project completion.

Research Implications

This paper holds both theoretical and practical implications. At first, our findings align with the Resource-Based View, emphasizing the importance of integrating project manager competencies to enhance project success. Notably, this study addressed a research gap in empirical evidence within this stream and provided substantive support for the pivotal role of PM communication skills in project management. Our results also underscore the significance of considering communication skills as a foundational factor throughout the project life cycle, thereby highlighting the practical implication that project managers should prioritize and nurture effective communication skills for successful project execution. Secondly, our paper adds to stakeholder theory by underscoring the significance of functional manager involvement in efficient project management. Specifically, we discovered a positive impact of functional manager involvement, acting as a mediator between PM communication skills and project success. In addition, in contrast to the findings by early scholars who viewed stakeholder engagement as a possible determinant for project success, our findings emphasize the role of stakeholder engagement across diverse sectors and cultural contexts. Third, the implementation of communication competence by health sector managers enables them to integrate functional manager involvement that contributes significantly to improving overall project success. This underscores the importance for organizations to prioritize PM communication skills that pay attention to fostering professional growth and creating a vibrant work environment. Organizations and practitioners should prioritize the development and augmentation of communication skills between project managers through professional development workshops and training initiatives. By diligently attending to these aspects, health sector organizations can position themselves at an advantageous stage for effectively managing PM competencies and leveraging stakeholders, ultimately fostering success in their projects. Fourth, the mediating role of functional manager involvement highlights the importance of collaboration and teamwork between project and functional managers in the healthcare sector. Firms should promote interdepartmental collaboration and establish vibrant communication channels between project and functional team members to leverage the expertise and resources of functional managers efficiently. By involving functional managers in project-related activities and decision-making processes, firms able to enhance project performance, mitigate risks, and ensure orientation with organizational goals and objectives. Fifth, the findings underscore that stakeholder engagement does not mediate the relationship between PM communication skills and project success. This suggests that firms need to reassess their approach to stakeholders' engagement in health sector projects. While stakeholder engagement remains a vital aspect of project management, practitioners should recognize that PM effective communication alone may not be sufficient to drive stakeholder engagement and project success. Instead, firms should adopt a universal approach to stakeholders' engagement, including stakeholder analysis, engagement planning, and relationship management to ensure significant involvement of stakeholders throughout the project life cycle. By understanding and addressing these factors firms can improve project outcomes, foster teamwork, and ultimately advance the delivery of healthcare services to patients and communities.

The findings positively advance the field by offering empirical evidence on the critical influence of project manager competencies, mainly communication skills, on PS within the health sector in Pakistan. The findings fill a notable gap in the literature and further provide

context-specific insights that are valuable for scholars and practitioners operating within similar contexts. In addition, this study sheds light on the nuanced dynamics of project management by integrating functional manager involvement as a significant mediator, and emphasizes the importance of cross-functional collaboration and effective communication in order to augment PS. Moreover, the findings underscore the practical implication of communication skills for project managers and further suggest organizations review their stakeholder engagement strategies, highlighting the need for a more inclusive methodology for stakeholder analysis and relationship management. The theoretical implications of our study extend to enrich the extant project management theories including Resource-Based View and Stakeholder theories, by empirically confirming their applicability in the health sector and providing valuable insights for efficient project management. Overall, our study contributes to advancing academic knowledge and enhancing project management practices in the health sector, thereby highlighting the novelty of our work.

Limitation and Future Direction

The study acknowledges certain limitations that present opportunities for future research exploration. First, the data collection was confined to employees within the health sector of Pakistan. To enhance the generalizability of our research model, it is recommended to extend the findings to diverse study settings and industries. Second, the study employed a cross-sectional data-gathering method, and upcoming research could benefit from the inclusion of longitudinal data-gathering techniques. This methodological shift could provide a prospective direction for a more in-depth analysis of the recognized factors over time. Third, the current study focused on exploring the impact of project manager abilities on project success, by incorporating functional manager involvement and stakeholder engagement as mediating factors. Researchers may delve into additional mediators including team-related variables. Fourth, future studies should explore the impact of sustainable and entrepreneurial leadership on sustainable outcomes. In this regard, it is imperative to understand how cultural elements interplay between leadership dynamics and firm outcomes within knowledge-driven organizations. Particularly, the incorporation of knowledge center culture as a moderator variable could provide significant perspectives into how organizational culture shapes the impact of leadership practices on sustainability performance.

Declarations

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