Quality Management Practices and Inter-Organizational Project Performance: Moderating Effects of Inter-Organizational Communication, Relationship, and Process Conflicts in Healthcare

Syed Asim Shah1, Muhammad Ali Asif1, Muhammad Haroon Shoukat1, Sema Polatci2, and Shafique Ur Rehman3

Abstract
The purpose of this study is to empirically examine the relationship between quality management practices (QMP) and inter-organizational project performance (IPP), as well as the moderating effects of inter-organizational communication (ICOM), relationship, and process conflicts in Pakistan’s government healthcare organizations (NGOs) and public healthcare organizations. We developed a hypothetical model based on contingency theory. Using a self-administered questionnaire, the empirical data was collected from 296 respondents from NGOs and public healthcare in Pakistan between March and November 2019. SmartPLS 3.3.9 was used to apply structural equation modeling (SEM). The findings show that QMP significantly impacts IPP in healthcare inter-organizational collaborative projects. ICOM and process conflict significantly moderate the impact of QMP on IPP. In contrast, relationship conflict does not affect IPP. This study has practical implications for healthcare NGOs and public healthcare organizations that want to improve the performance of their projects by implementing QMP in their projects. This study added to the total quality management literature by clearly understanding QMP and its relationship to IPP.

Keywords
quality management practices, relationship conflict, process conflict, healthcare, contingency theory, inter-organizational project performance

Introduction
Quality management practices (QMP) are considered a driving force in augmenting organizational quality performance (R. Chen et al., 2020; Gözükara et al., 2019). In recent years, the ever-changing and complex healthcare arena has embarked upon challenges of continuous improvement and higher performance standards through the effective deployment of quality management practices (Horvat & Filipovic, 2020; Maqsood, 2019). According to R. Chen et al. (2020), QMP is a prerequisite for instilling quality standards in any organization in today’s competitive environment. Prior research shows that QMP significantly contributes to performance (Jimoh et al., 2019; Maqsood, 2019; Shafiq et al., 2019). Therefore, any organization that adopts QMP performs better than those that fail to adopt them (Kaynak, 2003).

Presently, most of the relevant research is focused on the collaboration and integration of different stakeholders involved in inter-organizational projects in other sectors, such as textile and fabric (Shafiq et al., 2019) and manufacturing of healthcare equipment (Sabet et al., 2016). In this vein, Tayyab et al. (2020) agreed that while stakeholders had identified quality standards maintenance as a problem, no market had been identified: specific stakeholders who...
participated would implement QMP to solve the problem. As a result, QMP is critical. Organizations must sustain themselves through an effective quality system to solve a problem. Prior behavioral studies in the project management field have also revealed a lack of interdependence between healthcare organizations such as hospitals, pharmaceutical companies, manufacturing companies, and retailers (Tayyab et al., 2020).

Pakistan, a developing country, is still struggling to build a good healthcare infrastructure for the public (Tayyab et al., 2020). According to Javed and Liu (2018), the healthcare sector still needs a lot of input and attention from the government for improvement. A shortage of resources on the government’s part is the most significant impeding factor contributing to the mismanagement of this sector. Furthermore, the lack of innovative machinery, instruments, and assets are detrimental to raising quality standards in this sector (Javed & Liu, 2018). These issues, and the fact that healthcare organizations are functioning in a complex environment, have led to a situation where a single organization providing healthcare facilities cannot effectively perform its functions independently (Maghsoudi et al., 2020). Therefore, Pakistani healthcare organizations are always looking for support from non-governmental organizations (NGOs) to augment their functional objectives. For example, to fill the resources problem, different local and international NGOs partner with other organizations in the healthcare sector of Pakistan. Such instances can be found where the World health organization (WHO) and different Currently NGOs are providing their services extensively in other projects, such as Polio Eradication Programs, maternity health improvement, and AIDS programs.

In this regard, inter-organizational communication (ICOM) plays a crucial role in achieving the overall objectives of the QMP. It refers to exchanging information throughout the delivery process of medicines, patient-centered services, and developing positive relationships between the stakeholders and participating organizations (Shumate et al., 2017). According to Lobo et al. (2019), inter-organizational project performance (IPP) is based on effective communication and information sharing among project stakeholders and team members. Frankel et al. (2007) highlighted the importance of effective communication between inter-organizational project teams and organizations. He argued that it is the cornerstone of safe, reliable, and high-quality project outcomes in healthcare. However, during the ICOM and information exchange process amongst project participants, disagreements and inevitable conflicts may also occur (Wu et al., 2017). Those conflicts may even be desirable as they open the door to creating discussions and the opportunity to disclose non-visible solutions (Frankel et al., 2007). On the other hand, sometimes, the results are reversed, and the conflicts can harm the information exchange process and formal and informal relationships among project participants (Susskind & Odom-Reed, 2019). Those expected conflicts can be in the shape of process or relationship conflicts.

Wu et al. (2017) explained that conflict inhibits team cooperation among team members and can be a solid hurdle to employees’ satisfaction and ease of doing their work. They defined relationship conflict as “the mutual interactions among project teams due to different perspectives on project objectives (e.g., quality, time, cost, and safety) as well as poor communication” (Wu et al., 2017, p. 1467). Similarly, Chun and Choi (2014) defined process conflict as team members’ disagreement over “how task accomplishment will proceed” (p. 439).

Prior research indicates that organizational behavior in healthcare is complex because organizations must improve healthcare delivery and organizational performance to ensure ethical behavior among medical practitioners who change in the facilities (Horvat & Filipovic, 2020). As a result, practitioners are constantly looking for contextual boundaries that influence performance (Lu et al., 2019). According to Jimoh et al. (2019), ICOM, relationship, and process conflicts may serve as a performance boundary condition in an inter-organizational project. The importance of these valuable constructs cannot be overstated in the healthcare sector, where new venture programs are being trialed. However, the healthcare literature itself lacks any significant research investigating the extent to which these factors can moderate the effects of QMP on the performance of any project. In this study, we investigate these contextual factors as moderators instead of mediators because the direct relationship of QMP with IPP has already been well established in other sectors (Al Khamisi et al., 2019; Jimoh et al., 2019) because few studies obtained insignificant relationship between QMP and IPP in the construction sector (Tang et al., 2009) and because these contextual factors may moderate the results of QMP on IPP in healthcare.

Until recently, researchers have analyzed QMP with performance with the help of governance mechanisms (trust and contract governance; Lu et al., 2019) and leadership management (Kaynak, 2003) for many decades in other sectors, but little attention has been given to examining these in the field of project management (Lu et al., 2019). In addition, a few studies have shown that QMP significantly improves IPP (Haupt Theo & Whiteman Daniel, 2004; Tang et al., 2009). However, QMP has not considerably affected IPP (Zhao et al., 2004; Zhang et al., 2012). While different studies have measured the performance of an organization with QMP (Lu et al., 2019), researchers are still investigating this relationship due to inconsistent results. The correlation between QMP and performance is not definitive in the literature (Haupt Theo & Whiteman Daniel, 2004).

This study develops and tests a hypothetical model based on contingency theory, precisely the inconsistency of previous results between QMP and IPP that organizations experience and mechanisms that affect the gaps between both of these approaches. We proposed that the boundary conditions (ICOM, relationship, and process conflicts) would be an interesting domain to investigate this persistent problem.
There are two reasons for choosing three contextual boundaries between QMP-IPP. First, prior research on QMP and IPP found inconsistencies, and researchers attempted to make it significant by incorporating contextual factors. For instance, Lu et al. (2019) investigated contract governance and trust as contextual boundaries in the QMP-IPP relationship; their findings show that contract governance positively magnifies the effect of QMP on IPP, but trust is insignificant. They argued that other contextual moderators, such as ICOM, relationship, and process conflicts, should be investigated in the context of QMP and IPP (Lu et al., 2019). Prior research has shown that effective ICOM plays a vital role in implementing QMP (Paulraj et al., 2008). Project participants must communicate effectively and freely to achieve unified norms and quality standards in each project (Pinto et al., 2009). According to Wu et al. (2017), process conflict is positively related to project success, and relationship conflict is negatively associated with project success. Second, according to Zhang et al. (2012), the effect of QMP is context-dependent, and contextual factors may enhance the impact of QMP on performance. However, the context of previous studies was generally the construction industry (McAdam et al., 2019; Zhang et al., 2012). Therefore, this study has taken the healthcare sector, a complex industry that depends on implementing quality standards. It is a sector where high-quality reliance is essential for projects’ success (Horvat & Filipovic, 2020).

We used the “problematization” approach to develop our research model rather than “gap-spotting”. Gergen et al. (1992) developed this approach, and prior scholars suggested it for organizational studies (Sandberg & Alvesson, 2011). We took this approach because we discovered some paths beyond gap-spotting and discussed how these paths are likely to lead to more exciting and significant theories. In this approach, Locke and Golden-Biddle (1997) connect existing studies into a context for theoretical contribution: progressive coherence, synthesized coherence, and non-coherence. This study has the following research objectives:

1. Develop a hypothetical model that gives a thorough knowledge of IPP by incorporating QMP and contextual factors (ICOM, relationship, and process conflicts) as boundary conditions into the contingency theory framework.
2. Explore the moderating role of ICOM, relationship, and process conflicts in healthcare between the QMP and IPP relationships.

This study contributes to our understanding of more influential contextual factors: ICOM, process, and relationship conflicts, on the link between QMP and IPP in a healthcare context. ICOM is the essential theoretical contribution of the research. Another critical academic contribution is that the results may help articulate the underlying process through the contingency theory by which implementation of QMP influences performance in healthcare projects.

**Literature Review and Theoretical Foundation**

**Contingency Theory**

Contingency theory is defined as “organizational results result from fitting organization characteristics to contingencies that reflect the organization’s situations” (Donaldson, 2001, p.1). Prior literature on contingency theory shows that typical contingency factors include strategy and culture (Sousa & Voss, 2008). Organizations seek to improve their performance in this context by improving fit and alignment with organizational defined contingencies factors and, as a result, the changing external environment (Twum et al., 2022). The fit process is viewed as a dynamic and ongoing process, particularly in a fast-paced business environment. Triggering the contingency theory, IPP depends on internal and external settings (Jehn & Bendersky, 2003). Quality management is related to the external environment, and performance is associated with the internal environment. Prior scholars used contingency theory in a range of contexts; for example, Gnizy et al. (2017) used this theory to assess the effects of export dispersion (concentration level of the export decision-making process) on organizational environmental performance, which is based on the internal and external environment, organizational factors (contingencies of the organizations). McAdam et al. (2019) investigated the role of quality management in improving strategic alignment with small and medium-sized businesses (SMEs). Lu et al. (2019) used contingency theory in the construction industry to test the relationship between QMP-IPP and observed significant support.

On the other hand, Zhang et al. (2012) measured moderating contextual factors of QMP and found insignificant results. He suggested that this theory should be tested in other sectors. However, no established framework exists to describe contextual factors (ICOM, relationship, and process conflicts) as contingencies in healthcare. Previous research suggests that contingency theory is more practical in situations where there is a lack of an established theoretical framework (McAdam et al., 2019), focusing on contextually grounded approaches based on contingency rather than a single best way to manage an organization (Donaldson, 2001).

Contingency theory traditionally pays attention to the project characteristics; however, no attention has been paid to the role of contextual factors, such as ICOM and conflicts (Howell et al., 2010; Lu et al., 2019; Zhang et al., 2012). Therefore, this is the limitation of contingency theory. To address this, our research developed a theoretical framework to overcome the limits of the contingency theory.
We suggest that contingency theory is more appropriate in exploring QMP in healthcare that can be used to improve IPP. The relationship of QMP with IPP was recently explored by Puthanveettil et al. (2021) with total quality management theory in Indian hospitals. Moreover, the exact relationship was tested with RBV (Hilman et al., 2019) in SMEs. However, the direct connection of QMP with IPP was rarely discussed with contingency theory, which was recently suggested by Lu et al. (2019). This theory provides the underlying mechanisms by which project characteristics can best fit with project management practices to support the successful completion of projects. This approach to project management investigates the extent of fit or misfit between project characteristics and project management.

**Quality Management Practices (QMP)**

QMP is defined as a philosophy that improves the quality of services, leading to increased patient participation (customers). This philosophy may help organizations improve the quality of their services and products, and it further reduces production costs and time with the help of leadership (Ramzi et al., 2022). In this regard, management is an essential element in the implementation of QMP, as reported by quality gurus (Domingues et al., 2016; Harvey & Green, 1993; Kaynak, 2003; Talib et al., 2019), as it increases efficiency by affecting other QMP activities, such as quality standards, quality targets, SOP formulation, process management, service design, training, project membership relationships (Alkhaldi & Abdallah, 2022; Zimon & Dellana, 2020). Efficient implementation of QMP involves an effective change in an organization (Twum et al., 2022). It is almost difficult to change an organization without a concerted effort by management to develop continuously, reduce disagreements, interact efficiently, and cooperate in the value chain (T. Chen et al., 2019; Kaynak, 2003). According to Twum et al. (2022), the QMP concept is prevalent in developed economies but is not widely used in the public sector of developing economies. Prior quality academics argued that public organizations should adopt practices that will make them more productive, competitive, and ultimately capable of providing high-quality services to the public (Almeida et al., 2014; Talib et al., 2013;Twum et al., 2022; Zimon & Dellana, 2020).

The healthcare literature mainly focuses on total quality management and its effects on perceived service quality (PSQ), patient satisfaction, and behavioral intention (BIs; Puthanveettil et al., 2021); however, the QMP which brings the change in the organization is rarely discussed. A handful of studies conducted in the healthcare sector of the developed countries studied the relationship of QMP with IPP around the globe and found a significant association, such as in the United States (Groves, 2019), Turkey (Gözükara et al., 2019), and Oman (Al Khamisi et al., 2019). In Pakistan, Maqsood (2019) investigated total quality management practices with the non-financial performance of Pakistani hospitals and found a significant impact of total quality management practices on their performance. Furthermore, Tayyab et al. (2020) also evaluated the effects of QMP on Pharmaceutical companies’ performance in their distribution networks. This means that the focus on assessing the relationship between QMP and IPP in NGOs and their inter-organizational projects within the private and public partnerships is lacking in the healthcare literature.

**Inter-Organizational Communication (ICOM)**

Shumate et al. (2017) defined ICOM as the “structures, forms, and processes created by the exchanges of messages and the co-creation of meaning among organizations and their stakeholders” (p. 1). According to Maghsoudi et al. (2020), the ICOM recognizes collaborative healthier practices as sharing information or knowledge. The collective form of communication might facilitate the process of exchanging information, knowledge, experiences, and resources among stakeholders, ultimately enhancing the quality of practices and care services accessible to the healthcare patients (Frankel et al., 2007; Lobo et al., 2019; Wu et al., 2017).

Frankel et al. (2007) highlighted the importance of ICOM in the healthcare sector. Effective communication enhances participation and minimizes misconceptions; For instance, in Polio vaccine eradication projects, the significant barriers are miss-communication of information regarding the Polio vaccine, vaccine refusal, and the killing of Polio workers. In the same vein, researchers investigated the role of ICOM in enhancing team performance in healthcare and found its significant importance in ICOM (Frankel et al., 2007). Therefore, it is evident that ICOM is the most commonly used umbrella term that curtails various entities such as alliances, collaborations, networks, coalitions, consortiums, partnerships, joint ventures, and relationships (Rajput et al., 2020).

**Relationship Conflict**

Relationship conflict is defined as a struggle, disagreement, argument, or any kind of debate which takes place between two people, group members, groups, or any entities who are in any kind of a relationship at the workplace (Boone et al., 2020; Jehn, 1995; Pelled et al., 1999). Clashing thoughts are included in relationship conflicts where irritation, frustration, and anger are caused by negative emotions (Alam et al., 2021; van Woerkom & van Engen, 2009). It has been observed that the relationship conflict limits the information processing ability of the members of the group because the emphasis of the members of the group is spent on their selves as compared to their problems relating to their group tasks in the project of healthcare (De Dreu & Weingart, 2003). Prior studies considered conflict a potential factor in project...
management (Alam et al., 2021; Boone et al., 2020; Lee et al., 2021); this factor has not been undertaken in the context of inter-organizational healthcare in developing countries.

Process Conflict

The most commonly used definition of process conflict is written by, Jehn (1997), “disagreement about assignments of duties and resources, which represents how well groups manage two important types of coordination activities: (a) the discussion about how to manage logistical accomplishment of the stated task (task strategy) (b) and how to coordinate the people in accomplishing the tasks” (Hackman & Morris, 1975, p. 540). Prior research shows that groups frequently have disagreements about task strategies, such as distributing assigned work and handling logistical and temporal scheduling and workflow tensions. For example, suppose a group assigned a task to vaccinate fifty children against Polio within a month; however, the assigned tasks were not completed within time. As a result, organizations experienced process conflict over how to handle people who do not complete their assignments within the time allotted.

In a healthcare context, process conflict is one of the vital elements of organizational life because it gives individuals many opportunities to compete for jobs, and resources of the organization, acquire powers and authority, and contribute to health and safety during their working process (Almost et al., 2016). However, dealing with conflict is hard because emotional responses to conflict usually lead to experiencing bad feelings, anxiety, and anger, fostering aggressive behavior (Hanif et al., 2016).

Inter-Organizational Performance (IPP)

Inter-organizational project performance is defined as accomplishing customer needs and achieving project goals (Jong et al., 2019; Kuo & Kuo, 2010). Healthcare is a value-driven profession, particularly in the patient care fields and NGO-driven charity projects (Mallak et al., 2003). Healthcare-oriented projects are uniquely challenging to execute. They usually involve highly specialized systems, have a high level of project complexity, have little margin for error, and require significant design and management oversight to meet health requirements, code regulations, and accommodate each facility’s specific needs, that is, integrating advanced technologies, accommodating clean rooms. Therefore, timely completion of projects is based on stakeholders’ performance, saving costs, and efforts of human resources (Kuo & Kuo, 2010). In other words, according to Jong et al. (2019), project effectiveness is measured using project quality concepts, and efficiency is measured in terms of project time, cost, and schedule.

Hypotheses Development

QMP and IPP

Jong et al. (2019) explained that one of the major activities during the project front end is settings the goals and objectives of a project. These goals help an organization in measuring its performance against previously set key performance indicators. To effectively achieve these goals, organizations need QMP, enhancing organizational performance by achieving these quality objectives, goals, and standards set previously (Sabet et al., 2016; J. Xiong et al., 2016). The quicker these pre-defined project goals are achieved through effective and efficient use of organizational resources, the better the organizational performance (Lu et al., 2019). Unfortunately, it is difficult for a single organization to achieve all objectives and goals individually (Lu et al., 2019). Hence, an organization makes a temporary association with other organizations; the primary purpose is to achieve the pre-determined objectives and goals of a project (R. Chen et al., 2020). Therefore, with other organizations involved in the process, it becomes imperative to maintain the quality standards which require effective QMP. We propose:

Hypothesis 1. QMP has a significant positive relationship with IPP.

Moderating Role of ICOM

According to Wu et al. (2017), effective communication is crucial in achieving stakeholders’ consent and satisfaction by accomplishing their required results. Furthermore, ICOM plays a vital role in IPP (Lobo et al., 2019). Effective project communication requires substantial attention from stakeholders during the project planning and implementation phases (Aros & Gibbons, 2018). ICOM becomes a critical element as inter-organizational projects are a temporary alliance between two or more organizations to achieve common objectives (Wu et al., 2017).

Prior research has shown that ICOM is an essential component of QMP because it connects employees both inter-and intra-organizationally and allows organizations to function during QMP implementation (Shumate et al., 2017; Talib & Rahman, 2010). Scholars contended that managers use effective communication to enlist the support of other employees to achieve organizational goals and objectives (Talib et al., 2013). Poor ICOM can impede project performance. According to previous research, effective ICOM has a significant influence on the organization’s quality implementation programs to cultivate practices systematically for employee involvement and further improve performance (Lobo et al., 2019). However, it is still crucial to examine how occurring ICOM strengthens or weakens the effect of QMP on IPP. As a result, we expect that ICOM will significantly mitigate the impact of QMP on IPP. Therefore, we suggested:
Hypothesis 2. ICOM positively moderates the impact of QMP on IPP.

Moderating Role of Relationship Conflict

Relationship conflict deals with socio-emotional and interpersonal conflicts, which are commonly related to irritation, tension, and disagreement (Boone et al., 2020; De Dreu & Weingart, 2003). Previous studies and literature provided varied results, as some studies found a significant negative relationship between relationship conflict and IPP (van Woerkom & van Engen, 2009; Wu et al., 2017), while other studies had found insignificant results (Boone et al., 2020; De Dreu & Weingart, 2003). Relationship conflict in a project team represents interpersonal dissonance and antagonism among group members caused by incompatibilities (Boone et al., 2020). On the one hand, when dominating conduct is countered with contrasting submissive behavior to adapt to the new change in a group (Sinha et al., 2021), this conflict causes negative feelings. It can cause disagreement about organizational obligations and colleagues, limiting the group’s capacity and lowering performance (Alam et al., 2021).

On the other hand, quality-oriented managers cultivate a quality management environment by empowering employees and training them in the managerial aspects of their role in QMP (Alkhaldi & Abdallah, 2022). As a result, some employees require specialized skills, put in extra effort, and face increased stress in a QMP-based workplace. For example, HR managers provide employees with the necessary training to meet project demands. However, project managers will be dissatisfied during training because the volume of work output will be reduced. After all, practical skill training will consume a significant portion of the employees’ on-the-job time (Talib et al., 2013). As a result of the employee’s conflicting expectations from HR and their project managers, this situation creates a relationship conflict. This conflict makes it difficult for project managers to effectively implement the QMP for project performance (Yazdani, 2021). However, it is necessary to investigate whether relationship conflict reduces or increases the effect of QMP on performance. Therefore, we propose the following hypothesis (Figure 1).

Hypothesis 3. Relationship conflict significantly moderates the impact of QMP on IPP.

Moderating Role of Process Conflict

Process conflict revolves around controversies about how a task is accomplished or proceeds further by a project team (Hanif et al., 2016; Wu et al., 2017). An inter-organizational project involves two or more organizations working together for a common purpose (Almost et al., 2016). They have their structures, resources, and processes as well. Process conflict is one of the critical phenomena in these kinds of projects as it involves two or more project teams working together. This increases the chances of each team wanting to work in their way, and hence, the occurrence of process conflict increases (Boone et al., 2020; Wu et al., 2017).

Wu et al. (2017) described process conflict as an essential critical factor that will create hurdles in inter-organizational cooperation. They have categorized process conflict as the type of conflict which will lead to a controversial behavior between project teams about how a task needs to be accomplished. Previous research indicates that conflict occurs when two or more of an employee’s role expectations are mutually incompatible (Jehn & Bendersky, 2003; Teh et al., 2009). For example, a request from the manager may demand that the task be completed by violating the procedure while also increasing the quality of service; this can compromise the quality standard and cause conflict, which affects task performance (Boone et al., 2020). QMP is a management approach to continuous improvement planning and implementation in an organization, and it can have a significant impact on performance (Kaynak, 2003). According to a study of QMP performance, conflict is a critical factor in lowering performance (Teh et al., 2009). However, it is necessary to investigate whether process conflict strengthens or weakens the relationship between QMP and performance. As a result, we anticipate that process conflict will significantly affect QMP and performance. Therefore, we propose the following hypothesis (Figure 1).

Hypothesis 4. Process conflict positively moderates the impact of QMP on IPP.

Research Methodology

Population, Sample, Unit of Analysis, and Data Collection

The study population consists of employees from healthcare NGOs and public healthcare organizations in Pakistan. The unit of analysis of this study is the employees of organizations that are part of inter-organizational projects, whether they belong to government organizations or NGOs. The reason for selecting the sampling frame for this study is that the healthcare sector of Pakistan lacks a robust infrastructure. Consequently, the government always welcomes solid organizational support from NGOs. The concept of the inter-organizational project has rich practical implications in the healthcare sector of Pakistan. Therefore, it is the best suitable sector to identify the causal relationships among the study variables (Javed & Liu, 2018). The study was conducted in March-November, 2019.

We used the Roscoe and Bollen method to determine the sample size for this study. The reason for choosing this approach is that the study population is known, but the
sample size is unknown; thus, the sample size should be \( n = 30–500 \). According to Bollen and Stine (1992), structural equation modeling is appropriate if each observed variable has 10 observations. Considering the recommendations of the previous two authors, the convenience sampling technique was used to collect data. Initially, 350 employees from 30 Pakistani healthcare NGOs were asked to participate in a survey. Executives and employees who were involved in collaborative projects make up the project teams formed by NGOs in collaboration with the public sector. To achieve a high response rate, the researcher used the following procedure: (a) researchers contacted the HR departments of targeted organizations via email to obtain official contact information and email addresses of employees; (b) participants were first asked to agree on the survey before being asked to participate, and (c) participants were instructed to relate to any specific project and their overall experience/perception when answering the questions.

A total of 320 responses were received, resulting in a response rate of 84.5%, a higher response rate than the latest study conducted in the healthcare sector of Pakistan (Jamshed & Majeed, 2019). Finally, 296 valid responses were considered for data analysis.

Why PLS-SEM and Not CB-SEM

We used partial least squares structural equation modeling (PLS-SEM) for data analysis, as recommended by previous researchers (Hair Jr et al., 2020; Zeng et al., 2021). This technique is used for multivariate analysis because it demonstrates the ability to estimate theoretically established cause-effect relationship models. This technique has recently surpassed the commonly used covariance-based SEM (CB-SEM) (Zeng et al., 2021). We chose PLS-SEM for many reasons, including (a) A causal modeling approach that focuses on maximizing the explained variance of the latent dependent variables rather than constructing a theoretical covariance matrix (Hair et al., 2011). (b) CB-SEM is suitable for long-term data analysis in construction management (B. Xiong et al., 2015), whereas our data is not suitable for...
long-term data analysis. (c) PLS-SEM is more appropriate in complex models for relationship estimation and prediction without trying to impose high demands on data or needing relationship specification (Chin et al., 2008).

**Measurements of Constructs**

The measurement instruments selected for this study are widely used in the literature. The theoretical framework of this research consists of five constructs, and each construct was measured through various items. A 7-point Likert scale was used for measuring the items ranging from strongly disagree (1) to strongly agree (7). The reason for selecting this scale is that it is easier to understand, more accurate, and provides a more precise reflection of respondents’ actual evaluation. Nunnally (1978) argued that a 7-point Likert scale is slightly superior to a 5-point Likert scale. To improve the accuracy of the results, questionnaires were verified by two academic PhD professors and two practitioners from NGOs and then distributed to a targeted audience.

**QMP (independent variable).** In our study, QMP serves as an independent construct. We adapted a 5-item unidimensional scale from the Ruiz et al. (2018) study. They tested this scale in the services sector and discovered a Cronbach’s alpha of .886. Previously, some researchers used a multidimensional scale (people and process-related) to assess quality management practices, primarily in the construction industry (Lu et al., 2019). The reason for using Ruiz et al. (2018) unidimensional scale is that their items are appropriate for our studied context, which we slightly modified to the healthcare setting. “Employees participate in developing the quality strategy planning.” The construct QMP had a Cronbach’s alpha of .914.

**ICOM (moderator).** At the organizational level, the role of moderators is played by ICOM. Items measuring the variable ICOM were adopted from previous studies (Rajput et al., 2020; Wu et al., 2017). Five items have been adopted most frequently used scales tested in behavioral studies (Paulraj et al., 2008; Rajput et al., 2020). A sample item is “the communication among participants is frequent and effective.” The Cronbach alpha of the communication variable was .876.

**Relationship conflict (moderator).** To measure relationship conflict, a scale including seven Items, which are widely used in literature, was adapted from the study of Wu et al. (2017). A sample item is “there are many personality clashes between the partner organization and us.” The Cronbach alpha value was .896.

**Process conflict (moderator).** The process conflict scale contains five items adapted from Wu et al. (2017). A sample item is “There is much conflict between the partner organization about task responsibilities and us.” The Cronbach alpha of process conflict was .878.

**IPP (dependent variable).** IPP plays the role of the outcome variable in our study. It is pertinent to highlight that quality management scholars sought to explain IPP is generally the main dependent construct. We adopted a 6-item scale for IPP developed by Pinto et al. (2009) and recently validated by was adopted in this study. A sample item is “This project is on schedule.” The Cronbach alpha value was .803.

**Results and Analysis**

**Demographic Profile**

The study respondents were Pakistani nationals, served in different international and national NGOs, like USAID, WHO, and UNO, and served in Pakistan’s public sector. Table 1 presents the gender distribution of 296 respondents, explaining that most respondents, 64.18% (190), were male, and only 106(35.8 %) were female. The maximum number of respondents fell under the 36 to 45 (45.6%) age group. Results indicate that the maximum number of respondents were graduates with a Bachelor’s degree, that is, 178 (60.1%), and had sufficient job experience of 5 years and above 74 (25%) in their organizations.

**Measurement Model Evaluation**

**Convergent validity.** The measurement model explains the relationship between the latent variable and its measures. Latent variables are unobserved variables, with different measurement indicators used to measure the latent variable. To assess the measurement model as per the criteria provided by reliability and validity of each variable and its dimensions are briefly evaluated. Before considering indicators for the structural model, each observed indicator is judged, and indicators with a factor loading above 0.7 are considered for further analysis. Items with factor loadings less than 0.7 were dropped. Subsequently, the final measurement model, reliability, and validity of each construct are briefly examined. To measure internal consistency, the Cronbach Alpha of each variable has been investigated. The Cronbach alpha of each construct is more than .70, which means that each construct covers more than 70% area in the field of study in which they have been examined.

Average variance extract AVE was utilized to evaluate the convergent validity. Convergent validity is the measurement indicator used to measure a latent variable related to each other to establish convergent validity. Each construct has an AVE of more than .50; convergent validity has been established (Figure 2 and Table 2).
Table 1. Demographical Profile.

| Variables       | Frequency (%) |
|-----------------|---------------|
| Gender          |               |
| Male            | 190 (64.18)   |
| Female          | 106 (35.8)    |
| Age (years)     |               |
| 20–25           | 35 (11.8)     |
| 26–35           | 95 (32)       |
| 36–45           | 135 (45.6)    |
| 46–60           | 31 (10.4)     |
| Qualification   |               |
| Bachelor        | 178 (60.1)    |
| Masters         | 106 (35.8)    |
| MPhil/PhD       | 12 (4)        |
| Job experience  |               |
| 1–2 years       | 21 (7)        |
| 2–3 years       | 101 (34.1)    |
| 3–4 years       | 56 (18.9)     |
| 4–5 years       | 44 (14.8)     |
| 5 years and above | 74 (25)      |

Structural Model Assessment

Direct effects. The direct effect of QMP on IPP was investigated. The significance of direct paths and estimated standard errors were determined through the Bootstrap re-sampling method with 5,000 re-sample (Ringle et al., 2015). As exhibited in Table 3, there is a significant positive effect of QMP on IPP ($\beta = .165$, $t = 3.861$, $p = .000$). Therefore, H1 is supported.

Moderation analysis. Lu et al. (2019) proposed that communication and conflict may moderate the impact of QMP on IPP. Hence, moderation analysis was performed to assess the moderation context of communication and conflict between the effects of QMP on IPP. SmartPLS 3.3.9 was used to evaluate the series of moderation analyses.

Results reported in Table 4 acknowledge that ICOM significantly moderates the impact of QMP on IPP ($\beta = -.135$, $t = 4.071$, $p = .000$). These results conclude that if ICOM between projects does not effectively occur, it will minimize the influence of QMP on IPP in healthcare. Hence, H2 is accepted. Further results conclude that the relationship conflict does not significantly moderate the effect of QMP on IPP ($\beta = .002$, $t = 0.049$, $p = .961$). This finding demonstrates that relationship conflict does not moderate the link between QMP and IPP in the inter-organizational collaborations in the healthcare sector of Pakistan. Hence, H3 is rejected. Lastly, the study results revealed that process conflict significantly moderates the impact of QMP on IPP ($\beta = .1$, $t = 5.095$, $p = .000$). Therefore, H4 is accepted. These results indicate the significant moderating effect of process conflict between the QMP and IPP relationship (Figure 3).
Table 2. Convergent Reliability Analysis.

| Constructs                                | Loadings | α    | CR   | AVE |
|-------------------------------------------|----------|------|------|-----|
| Quality management practices              |          |      |      |     |
| QMP1: The different departments of our organization are coordinated and cooperative with the partner organization. | 0.787    | .914 | .936 | .746 |
| QMP2: Organization gives priorities to customers’ needs | 0.905    |      |      |     |
| QMP3: The participation of employees is vital for quality strategy development. | 0.876    |      |      |     |
| QMP4: Employees take part in the programs of quality improvement. | 0.898    |      |      |     |
| QMP5: Our organization develops the process of performance is monitored regularly | 0.848    |      |      |     |
| Inter-organizational communication       |          |      |      |     |
| ICOM1: There is frequent and effective communication among the participants. | 0.713    | .876 | .912 | .675 |
| ICOM3: There is open and frank communication among the participants. | 0.822    |      |      |     |
| ICOM4: The participants willingly share information | 0.876    |      |      |     |
| ICOM5: Participants communicate with each other promptly | 0.882    |      |      |     |
| ICOM6: There is accurate communication among the participants. | 0.803    |      |      |     |
| Process conflict                          |          |      |      |     |
| PC1: The Partner organization always assists us in accomplishing our tasks | 0.824    | .878 | .918 | .737 |
| PC2: Our organization often assists the Partner organization in accomplishing their tasks | 0.914    |      |      |     |
| PC3: There is much cooperation between the Partner organization and us | 0.931    |      |      |     |
| PC5: There is much conflict between the Partner organization about task responsibilities and us | 0.754    |      |      |     |
| Relationship conflict                     |          |      |      |     |
| RC1: The partner organization for us creates problems. | 0.824    | .896 | .919 | .618 |
| RC2: Between the partner organization and us, many personality clashes are found | 0.770    |      |      |     |
| RC3: Many disputes are found between the partner organization and us. | 0.760    |      |      |     |
| RC5: Personal friction exists between use and partner organization | 0.731    |      |      |     |
| RC4: The partner organization often withholds essential information for use. | 0.735    |      |      |     |
| RC6: Significant tension exists between the partner organization and us. | 0.810    |      |      |     |
| RC7: There is much emotional conflict between the Partner organization and us | 0.864    |      |      |     |
| Inter-organizational project performance  |          |      |      |     |
| IPP1: The results and deliverables of the project are found in line with the client. | 0.762    | .803 | .864 | .559 |
| IPP3: This project is on schedule | 0.770    |      |      |     |
| IPP4: The quality of deliverables is found according to the set standards | 0.760    |      |      |     |
| IPP5: The project passed the quality inspection | 0.737    |      |      |     |
| IPP6: The project participants maintain good cooperation | 0.708    |      |      |     |

Discussion

The impact of QMP on IPP in healthcare was empirically investigated in this study. Besides that, the QMP-IPP relationship was investigated for three moderating effects: ICOM, relationship, and process conflicts. Based on contingency theory, we developed a conceptual model (see Figure 1). Overall, our results provided moderate support to our model.

Hypothesis 1 (H1) is accepted, indicating that QMP is positively related to IPP with a small effect ($\beta = .16, p = .000$). These findings support the argument of QMP proponents, implying that implementing the QMP philosophy can lead to improved performance (Lu et al., 2019; Talib et al., 2013). In their study, Lu et al. (2019) investigated how QMP (people and process-related) influence IPP. This study used organizational trust and contract governance mechanisms as contextual moderators in the QMP-IPP relationship; their findings show that contract governance significantly moderates the effect of QMP on performance, whereas trust does not. Talib et al. (2013) conducted a study on the impact of total quality management on quality performance in Indian service firms; their findings indicate that where quality culture was perceived as a dominant total quality management practice, there was a significant and positive relationship with quality performance. Prior scholars support the QMP and performance relationship with contingency theory (Lu et al., 2019), which states that organizations seek to improve their performance by improving fit and alignment with organizational defined contingency factors and, as a result, the changing external environment (Twum et al., 2022). Our findings are similar to Lu et al. (2019) study but contradict those of other studies. For instance, Zhao et al. (2004) investigated the impact of QMP on business performance; their findings show that QMP has a minor or insignificant impact on business performance. They argued that the rejection of this hypothesis was due to the possibility that business performance could be contingent on other contextual factors such as organizational context and market environment.
Hypothesis 2 (H2), which proposed the role of ICOM in moderating the relationship between QMP and IPP in a healthcare setting, is accepted. The results showed that this hypothesis had significant support, with small-size effects and a strong path coefficient ($\beta = -0.13, p = 0.000$). This moderating hypothesis has received little attention in the literature; however, prior research has confirmed that ICOM significantly impacts QMP (Lobo et al., 2019; Talib et al., 2019). On the other hand, some academics argue that ICOM significantly affects performance (Oliveira et al., 2021; Paulraj et al., 2008). According to Paulraj et al. (2008), ICOM is critical in promoting strategic collaboration among firms and improving IPP. Previous studies show that ICOM can increase or decrease the consistency of project participants, see for example (Katz, 1982; Lobo et al., 2019), but the findings of this study show that project efficiency cannot be improved if an organization does not successfully implement communication strategies when incorporating QMP in healthcare projects. Effective communication among project participants, for instance, clarifies tasks while improving performance parameters (Shumate et al., 2017). Furthermore, health projects are time-sensitive, and effective communication aids in timely decision-making, whereas a lack of effective communication will result in task failure (Horvat & Filipovic, 2020). Because hospital projects are always time-sensitive, timely decision-making is critical. Effective communication is vital in this scenario. For instance, a patient is admitted to a hospital’s emergency department, and timely communication among its paramedics almost always results in the early avoidance of a casualty. Healthcare service providers’ tasks are sensitive, and timely communication is critical; however, confusion can lead to task failure. According to contingency theory, the most effective way to manage an organization is to adopt the optimal course of action dictated by internal and external organizational affairs (R. Chen et al., 2020). Every organization has two

Table 3. Direct Path Estimates.

| Relationship path | $R^2$ | $\beta$ | SD  | $T$-statistics | $p$-Value |
|-------------------|-------|---------|-----|---------------|-----------|
| H1. QMP $\rightarrow$ IPP | .680  | .165    | 0.042 | 3.861         | .000      |

Table 4. Moderation Analysis.

| Relationship path | $\beta$ | $M$  | SD  | $T$-statistics | $p$-Value |
|-------------------|---------|------|-----|---------------|-----------|
| H2. ICOM moderator QMP $\rightarrow$ IPP | -.135   | -.134 | 0.033 | 4.071         | .000      |
| H3. RC moderator QMP $\rightarrow$ IPP | .002    | 0.000 | 0.039 | 0.049         | .961      |
| H4. PC moderator QMP $\rightarrow$ IPP | -.208   | 0.205 | 0.041 | 5.095         | .000      |

Figure 3. Structural model.
key factors: communication and conflict. By using effective communication and resolving conflicts quickly, an organization can achieve its ultimate goals (Katz, 1982).

Hypothesis 3 (H3) suggests that relationship conflict significantly moderates the effect of QMP on IPP, was rejected with no effect size and path coefficient ($\beta = .00$, $p = .961$). Results demonstrate that relationship conflict does not moderate the relationship between QMP and IPP. However, it does not mean that relationship conflict does not affect IPP. Results contrast with previous studies (Behfar et al., 2010; Sinha et al., 2021). According to previous research, a relationship conflict is a disagreement between team members about their personal and social perspectives on a phenomenon (Boone (Boone et al., 2020; Hanif et al., 2016; Susskind & Odom-Reed, 2019; Wu et al., 2017). Hanif et al. (2016) investigated the negative effects of relationship conflict on group members’ satisfaction and success in GSM cellular working groups in Pakistan; their findings demonstrate that reducing relationship conflict and providing team members with the environment to effectively manage conflict is a way to improve group performance. Wu et al. (2017) explored the association between relationship conflict-communication and project success in construction project teams. Nonetheless, the potential moderating effects of relationship conflict on the relationship between QMP and IPP were tested for the first time in this study, which was insignificant in Pakistan’s healthcare sector.

This hypothesis’s rejection could be the following: first, projects are run for a short period in the Pakistani healthcare sector and are quickly demolished; second, inter-team relationships were studied rather than intra-team relationships between the same team members. It could also be attributed to the participation of multi-level professionals in inter-organizational projects. Third, given the importance of project objectives, professionals were more concerned with achieving the project KPIs rather than letting personal issues impede them, thus not leading to interpersonal conflict. The rejection may open new avenues for the researchers to explore the role of relationship conflict in regards to QMP and IPP in the healthcare sector in the future; such as by studying it as a moderator or exploring the direct impact of QMP relationship conflict, or the direct impact of relationship conflict on IPP.

Hypothesis 4 (H4) proposed that process conflict significantly moderates the relationship between QMP and IPP. The empirical results show that, with a small effect size and strong path coefficient, process conflict substantially moderates the effect of QMP on IPP ($\beta = -.20$, $p = .000$). This relationship remains unclear in the literature and is rarely discussed in the context of healthcare (Almost et al., 2016). The lack of attention has been paid to process conflict in the literature is that the definitions used in the existing literature on task and process conflicts are inconsistent because studies that exclude process conflict tend to define task conflict as decisions about team or group procedures and resource distribution (Colquitt et al., 2007; De Dreu, 1997). Process conflict studies have separated such procedural decisions from divergent thinking and discussion related to task conflict. However, our research looked at process conflict in conjunction with relationship conflict and discovered significant support. The findings are consistent with previous research (Jehn & Bendersky, 2003; Jehn et al., 1999). Jehn and Bendersky (2003) investigated intra-group conflict in a contingency perspective on relationship outcome; their results indicate that process conflict realized a positive outcome in performance. Prior research test process conflicts direct path to performance and found significant results—however, nil research was undertaken to test the moderating boundary of QMP-performance relationship. Our results demonstrate that, as team members’ disagreements about QMP initiatives escalate, the project’s performance suffers.

On the other hand, some scholars discovered mixed results regarding process conflict and argue that process conflict has both a positive and negative impact on team outcomes, such as performance, low productivity, anger, and a negative attitude toward the group (Greer & Jehn, 2007; Jehn, 1997; Jehn et al., 1999). Aside from that, a few scholars contend that process conflict positively impacts team performance and individual behavior (e.g., Jehn & Bendersky, 2003; Jehn & Mannix, 2001). For example, process conflict may prompt team members to clarify the group’s objectives and goals, maintain quality standards while completing the task, ask for assistance, revisit assumptions about resources, plan for project timelines and deadlines, and allocate work more effectively. However, less attention has been paid in the literature to this question: how does process conflict moderate the effect of QMP on performance (Lu et al., 2019)? Our study attempted to answer the question and discovered significant support for it.

**Theoretical Contributions**

In view of the complexities of the healthcare setting, the relationship between QMP and IPP takes on new dimensions. The first contribution of this study is that we advance knowledge of contingency theory by investigating multiple contextual factors rather than a single factor. We investigated the moderating role of three contextual factors, QMP and IPP conditioning boundaries. The moderating effect of contextual factors (ICOM, relationship, and process conflicts) on QMP-IPP was highlighted. This study addresses the problem in the prior literature and contributes to the ongoing development of contingency theory in the competitive landscape of healthcare (McAdam et al., 2019; Sousa & Voss, 2008; Yazdani, 2021). Second, the findings of this study provide a better understanding of quality management practices in the context of healthcare, a timely issue given the increasingly quality-dependent and collaborative nature of inter-organizational projects. Our findings provide insight into how contextual contingency factors like ICOM and
process conflict can enhance the impact of QMP on IPP. On the other hand, relationship conflict does not moderate the effect of QMP on IPP, indicating that the presence of relationship conflict in a project can weaken the QMP-IPP relationship.

Practical Implications

This study emphasized the significance of QMP in healthcare NGOs. In general, the findings indicated that as health organizations prioritize QMP, the performance of their projects will improve significantly. According to the study findings, a healthcare organization must implement effective communication strategies and resolve process conflicts to benefit from QMP’s positive effects on IPP. Health issues are prevalent in Pakistan’s volatile environment. To a large extent, the Pakistani health care sector’s survival depends on the quality management programs of its organizations, including health NGOs and their QMP, to improve the performance of their ongoing projects. NGOs are distinct due to their small size and extensive local contacts.

Consequently, through effective communication with internal stakeholders and external agencies about the effective quality management practices related to health programs that capitalize on local resources and locally implemented technologies, they can maximize their IPP. NGOs, in general, are ineffective due to external factors such as lack of control over a country’s demographics, economic, or socio-political situation. Therefore, their sustainability and growth largely depend upon how well they communicate and interact with the immediate and broader country environment regarding QMP to enhance the performance of healthcare projects such as the Polio eradication program, maternity health, and AIDS programs. In this regard, practitioners should focus on improving their ICOM strategies and practical implementation to increase its moderating effect on quality management practices for the timely completion of their projects.

Regarding process conflicts, new venture teams should be presented with new projects to benefit from enhanced team functioning at the time of development. This is because, in the beginning, they are eager to get involved with the project activities under the stakeholders’ goals and expectations. In the conception stage, teams can positively affect creative and inventing activities because their mutual interest will diminish process conflicts among the team members. Participating in groups can enhance their team spirit and the need for mutual goal attainment through different brainstorming sessions and activities like energizing and inventing.

This research has policy implications. First, managers should create quality awareness campaigns and increase employee participation in the quality improvement process. Second, managers should devise policies that allow employees to use their decision-making and communication skills to improve business performance. Third, a quality policy is typically communicated through “quality vision” statements; thus, policymakers should develop quality vision statements in order to promote a quality culture. Fourth, policymakers should enact strong policies to control and avoid negative conflict, allowing individuals to compete and improve their performance.

Limitations and Future Research Directions

This study has several limitations. Firstly, this research was conducted in the NGOs operating in the health sector of Pakistan. It is tough to generalize the results of this study to an expanded network in healthcare context. Therefore, there is a need to replicate and study this model in projects being carried out by the expanded healthcare network, such as the pharmaceutical companies and hospitals. Similarly, the model of this study could be replicated in research projects of other project management dominant sectors, such as the construction and manufacturing sectors, to maximize the generalizability of this study. Secondly, in this study, the authors used a cross-sectional research design.

In contrast, longitudinal research design will be more beneficial and yield further insights when the data is collected before the start of the project and after completing the project. Thirdly, analyzing the annual financial reports of the NGOs and their partner organizations in the healthcare sector, including perpetual data, will provide more quantitative measures of the QMP effects on IPP. Finally, this study proposes that future researchers examine the mediation effect of relationship conflict between QMP and IPP compared to our moderation effects. Moreover, it is evident that organizational learning (van Woerkom & van Engen, 2009), knowledge sharing, and intellectual capital (Al Khamisi et al., 2019; Wang et al., 2014) are the enablers of firm performance; therefore, these constructs may be considered as mediators on the relationship between QMP and IPP to evaluate their significance of QMP initiatives.

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ORCID iDs

Muhammad Haroon Shoukat https://orcid.org/0000-0003-1992-6180
Shafique ur rehman https://orcid.org/0000-0002-2392-1289

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