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العام الدراسي: 2025

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The Impact of Communication Strategies on the Success of Construction Projects

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Year: 2025

Abstract

Effective communication is the keystone to any project's success, especially in construction projects, where multiple stakeholders, intricate workflows, and firm timelines define project execution. This study investigates the possible relationship between communication effectiveness and project success through analyzing significant factors, such as teamwork, information flow, stakeholder engagement and conflict resolution. To determine the best practices that contribute to the success of projects, this study uses a mixed method approach combining research, case studies and interviews with professionals in the industry. The findings of this study reveal that clear, timely and structured communication dramatically enhances team coordination, reduces delays, minimizes conflicts and elevates overall project performance. The study closes with recommendations for improving communication.

Keywords: Risk Management, Communication, Construction Projects, Stakeholder Engagement, Digital Tools, Collaboration, Project Success.

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Chapter 1: Introduction

1.1 Introduction

Communication is the backbone of coordination, collaboration, and decision-making in any organizational setting, and it is particularly critical in complex, multi-stakeholder environments such as the construction industry. Communication, in its broadest sense, refers to the exchange of information between individuals or groups to convey meaning, coordinate tasks, and facilitate understanding (Shannon & Weaver, 1949). It occurs through multiple channels, verbal communication such as meetings and phone calls, written communication such as reports, and emails, and digital communication such as instant messaging, project management platforms. Each type plays a unique role in ensuring that stakeholders remain informed and aligned throughout the project lifecycle (Kerzner, 2018; PMI, 2017).

The construction industry is one of the most complex and fragmented sectors, characterized by a temporary organizational structure, site-based production, and a high degree of specialization (Egan, 1998; Emmitt & Gorse, 2010). Construction projects often involve a broad range of stakeholders, including clients, architects, engineers, contractors, subcontractors, and regulatory authorities, each bringing their own technical languages, priorities, and work practices (Dainty, Moore, & Murray, 2006). Unlike centralized office environments, construction teams are typically dispersed across multiple sites and phases, making coordination more difficult and increasing reliance on clear, timely communication (Loosemore & Alkilani, 2021).

In this context, communication is more than the mere transmission of information; it encompasses the sharing of design intent, safety protocols, procurement schedules, risk mitigation plans, and daily site updates. Effective communication is vital for minimizing rework, avoiding costly disputes, ensuring safety compliance, and achieving stakeholder satisfaction (Love, Edwards, & Wood, 2011; Emmitt & Gorse, 2010). Miscommunications, whether due to unclear language, delayed reporting, or incompatible technology, have consistently been identified as a major contributor to project delays and cost overruns (Gorse & Emmitt, 2009; Turner & Müller, 2005) as well as legal disputes and compromised safety standards (PMI, 2017).

Recent developments, such as the adoption of digital tools like Building Information Modelling (BIM), cloud-based platforms, and instant messaging systems, offer promising solutions to many communication challenges. However, these tools also introduce new issues related to user adoption, digital literacy, and integration into existing workflows (Alreshidi, Mourshed, & Rezgui, 2018; Walker, 2015). Furthermore, in global construction hubs such as the United Arab Emirates (UAE), communication is complicated by cultural and linguistic

diversity, which can exacerbate misunderstandings and hinder team cohesion (Fellows & Liu, 2015; Loosemore, 1999).

This study investigates the role of communication in determining construction project success, with a particular focus on identifying communication barriers, evaluating the effectiveness of digital communication tools, and proposing practical strategies for improving communication efficiency in large-scale, multicultural construction environments in the UAE.

1.2 Problem statement in Construction Communication

Although the value of communication is well recognized by most stakeholders, several challenges hinder its effectiveness in construction projects including interdisciplinary collaboration, geographical disparities, language and cultural barriers, technological limitations, unstandardized communication protocols, and pressure from time constraints.

Effective communication is essential for aligning stakeholder expectations, ensuring safety, managing schedules, and controlling costs in construction projects. Despite advances in project management practices and the integration of digital tools, communication challenges remain one of the most persistent issues affecting construction project performance worldwide (Love, Edwards, & Wood, 2011; PMI, 2017). This is especially evident in complex, large-scale environments where multiple stakeholders with diverse cultural, professional, and linguistic backgrounds must collaborate under time and resource constraints. Chiefly due to the geographical disparities of the job, which makes instant and fast communication difficult, as construction sites are often remote or spread across multiple locations due to phased construction, zoning, land availability, or the project's scope and scale (Fellows & Liu, 2015; Loosemore & Alkilani, 2021).

In the construction industry, the process involves a dynamic network of architects, engineers, contractors, suppliers, and regulators. Each stage of the project, from design to delivery, requires an accurate and timely information flow across formal and informal channels (Dainty, Moore, & Murray, 2006). However, misalignment in communication practices, unclear reporting lines, delayed updates, or inadequate use of communication technologies can lead to reduced efficiency, rework, stakeholder dissatisfaction, and missed project milestones (Emmitt & Gorse, 2010; Walker, 2015). Importantly, these challenges do not stem from communication being absent, but rather from it being ineffective, inconsistent, or fragmented across teams. Moreover, the absence of standardized communication protocols in construction projects lead to confusion and inconsistency in sharing information among teams (Olaniran, 2015). Time constraints and pressure is common in the construction projects' fast paced and competitive nature, increasing the risk of errors in communication (Kerzner, 2018).

In global hubs such as the United Arab Emirates (UAE), where the construction sector plays a major role in economic development and where multicultural collaboration is the norm, these communication-related challenges become more nuanced (Al-Awadhi et al., 2022). Language diversity, differing professional standards, and varying levels of digital literacy can make coordination more difficult unless proactive communication frameworks are in place (Fellows & Liu, 2015). While many studies have addressed communication as a general factor in project success, there is a limited body of empirical research that focuses specifically on how communication functions within the unique cultural, organizational, and digital context of UAE-based construction projects.

Furthermore, although theoretical models such as Shannon and Weaver's (1949) Communication Model, PMI's Communication Management Framework (2017), and Stakeholder Theory (Freeman, 1984) emphasize the critical importance of communication flow, there is still a need to bridge the gap between theory and practice. Few studies have systematically explored how communication barriers, strategies, and tools impact project outcomes in the field, particularly in high-stakes, multicultural construction environments.

This research aims to address this gap by examining the role of communication in construction project success in the UAE context, identifying key communication-related factors that influence project outcomes, and offering evidence-based strategies for improvement.

1.3 The study's importance

Communication serves as the foundation of successful project delivery, especially in the complex and collaborative landscape of the construction industry. In environments like the UAE—where large-scale construction projects often involve multicultural teams, advanced technologies, and tight deadlines—understanding how communication influences project outcomes is crucial. This study explores the role of communication in construction project success, specifically within the UAE context, where managing diversity, digital communication tools, and stakeholder alignment presents both challenges and opportunities (Fellows & Liu, 2015; Al-Awadhi et al., 2022).

The research findings are expected to have both theoretical and practical relevance. From an academic perspective, this study contributes to the growing body of knowledge on project communication by examining how traditional models—such as Shannon and Weaver's (1949) communication model and Stakeholder Theory (Freeman, 1984)—can be adapted for use in contemporary, technology-driven project environments. It also fills a notable research gap by offering empirical insights into communication strategies within construction projects in the UAE, a setting that is underrepresented in global literature despite its prominence in the sector.

Practically, the study offers guidance to a wide range of industry professionals, including engineers, contractors, project managers, and policymakers. By identifying key communication barriers and assessing the effectiveness of tools and practices, the study aims to deliver actionable recommendations that can help reduce project failures, enhance collaboration, and optimize overall performance. Prior research has shown that structured communication processes improve coordination and decision-making in construction teams (Turner & Müller, 2005; Emmitt & Gorse, 2010).

Addressing communication challenges requires an integrated approach that combines strategic frameworks with applied tools. Effective communication strategies should include formal channels for structured updates (Gibson & Pappas, 2003), digital platforms for real-time collaboration (Walker, 2015), routine meetings and reporting systems for stakeholder alignment (Emmitt & Gorse, 2010), and clearly defined conflict resolution mechanisms (Loosemore & Alkilani, 2021). Additionally, training programs that enhance both interpersonal and technical communication skills are essential for project teams (Henderson, 2004).

By focusing on communication as a core project management function, this research underscores the value of proactive strategies in minimizing risks and ensuring successful project delivery. Ultimately, the study aims to support the advancement of project management practices in the UAE and other fast-evolving construction environments, where success increasingly depends on communication that is inclusive, clear, timely, and technology-enabled.

1.4 Research Objectives

This study's goal is to investigate how communication impacts project success, specifically in construction projects. The objectives of this research include exploring the connection between effective communication and project performance, identifying the typical communication struggles during construction projects, assessing the impact of digital tools on communication efficiency, and recommending the best practices for enhancing communication methods in construction project management.

1.5 Study Questions

This research seeks to answer the following questions:

- 1- What are the primary communication obstacles faced with construction projects?
- 2- How does poor communication affect project schedules, cost and general project outcomes?
- 3- What methods and digital tools can be employed to improve communication effectiveness in construction projects?
- 4- What is the observed effect of communication on the success of construction projects?

1.6 Research Hypotheses

To address these research questions, the study proposes the following hypotheses:

- Hypothesis 1: construction projects are more successful when effective communication is implemented.
- Hypothesis 2: one of the main causes of increased costs and delays is poor communication in construction projects
- Hypothesis 3: the use of digital communication tools in construction projects decreases misunderstandings and enhances collaboration.
- Hypothesis 4: project coordination and efficiency are improved by establishing standardized communication protocols.

1.7 Theoretical Model

This study aims to provide a structured framework for analyzing communication challenges by utilizing the Shannon-Weaver Communication Model, which stresses the importance of clear transmission, coding, decoding, and feedback in the communication process (Shannon & Weaver, 1949). The model emphasizes the potential for communication failures due to noise (e.g., misunderstandings, technological issues, or cultural barriers) as well as the necessity for efficient channels to ensure the message intent is well received. In addition, this study incorporates principles from project management communication theories, such as the Project Management Institute's (PMI) Communication Management Framework, which outlines ideal practices for information distribution, communication planning, and stakeholder engagement (PMI, 2017).

Chapter 2: Literature review

2.1 Introduction

The literature review offers a detailed examination of past research on the role of communication in project success, specifically in construction projects. This section explores major points, including the definition of communication in construction, its effect on project success, and past studies highlighting the importance of effective communication strategies and methods. Furthermore, the review sets up the theoretical foundation for this study by displaying relevant frameworks that explain and clarify the relationship between communication and project outcomes.

2.2 Dependent Variable: Project Success

Usually factors such as quality, time, cost, stakeholder satisfaction determines any project's success. Construction projects success factors are no different than most types of projects, therefore they are assessed similarly based on completing projects on time, sticking to budgets, achieving high quality performance, and ensuring team coordination (Turner & Müller, 2005). Studies identified communication as a key element of project success, as it impacts risk management, problem resolution and decision making (Kerzner, 2018). Lack of proper communication tends to result in grave problems such as setbacks, increased costs, project failures, and disagreements among stakeholders (Emmitt & Gorse, 2010).

2.3 Independent Variable: Effective Communication

Effective communication consists of the accurate and timely exchange of information among project stakeholders. Clarity and precision ensure that project needs, instructions and specifications are precise and thoroughly documented (Loosemore & Alkilani, 2021). Channels of communication share information by utilizing oral, written, and digital devices (Walker, 2015). Coordinating the project with regular updates and rapid responses is critical to avoid conflict (Dainty, Moore, & Murray, 2006). To prevent misunderstandings, promoting all team members to actively participate and provide feedback is a must (Love, Edwards, & Wood, 2011). Proper risk communication ensures that all stakeholders are aware of possible threats to the project and are prepared to take proactive steps to mitigate them (Loosemore & Alkilani,

2021). The use of technological tools, including Building Information Modelling (BIM), project management software, and cloud-based collaboration platforms, amplifies communication by providing real-time updates and boosting ease of access to project data (Walker, 2015). With globalization, diverse teams from different cultural and linguistic backgrounds are involved in construction projects nowadays, all team members should be able to understand project objectives, expectations, and safety procedures using effective cross-cultural communication (Loosemore & Alkilani, 2021). Emergency communication plays a vital role in high-risk industries such as construction, in crisis situations, for example accidents or unexpected project delays, well-established communication protocols aid in decreasing negative impacts and ensuring fast and clear responses (Kerzner, 2018).

2.4 Summary of Past Studies

Various studies have explored the role of communication in project management, with a focus on construction projects. Turner and Müller (2005) carried out a study on leadership and communication in project management, the study emphasized that team performance and project outcomes are directly affected by the manager's communication style. They found when managers communicate clearly and effectively, it helps team members understand goals and work smoothly.

Emmitt and Gorse (2010) focused on the detrimental consequence of poor communication in construction projects, which brought up issues such as rework, misinterpretations, and contractual disputes stopping smooth project execution.

Loosemore and Alkilani (2021) investigated risk communication tactics in the construction industry, they discovered that effective communication improves safety measures and reduces project risks by communicating when identifying potential hazards and following safety protocols.

Walker (2015) researched the use of digital tools in project communication, highlighting that technology improves collaboration and cuts down information loss in construction projects through using technology to avoid misunderstanding and to stay updated on information.

Gorse and Emmitt (2009) examined communication obstacles in construction, pinpointing language differences, hierarchical structures, and insufficient training as major blocks. Their research suggested promoting language support, clearer communication channels and training programs.

Love, Edwards, and Wood (2011) explored how the impact of unsuccessful communication led to rework in construction projects and observed that miscommunications were a primary reason for increased costs and project delays.

Dainty, Moore, and Murray (2006) studied the human elements of communication within construction projects and highlighted the necessity of interpersonal skills in managing project teams. The study showed how emotional intelligence and building strong relationships contribute to project success.

Kerzner (2018) investigated communication during crisis management in construction projects and stressed the relevance of having predefined communication strategies in place. The study noted that having structured communication methods played a role in noticeably reducing the effect of disturbances.

In summary, these studies collectively indicate that advancing communication strategies result in improved project outcomes, fewer conflicts, and increased efficiency in construction management.

2.5 Theoretical Framework of the Study

This research is guided by following multiple theoretical models to ensure a thorough and informative study. These theoretical models include Hannon and Weaver's Communication Model (1949), Project Communication Management Framework (PMI, 2017), Luhmann's Social Systems Theory (1995), and Stakeholder Theory (Freeman, 1984).

2.5.1 Hannon and Weaver's Communication Model (1949)

This model explains the delivery of information from a transmitter to a recipient through a communication channel. It showcases potential blockers that can affect communication effectiveness in construction projects such as noise, misinterpretation, and feedback loops (Shannon & Weaver, 1949).

2.5.2 Project Communication Management Framework (PMI, 2017)

The PMI framework made a great impact on highlighting the significance of planning communication, distributing information, reporting performance, and engaging the

stakeholders. It provides a structured method for communication management in project, making certain important information is conveyed at the right time.

2.5.3 Luhmann's Social Systems Theory (1995)

This theory emphasizes how the social structures of organizations, including construction teams, are shaped by communication. It points out that communication is not just responsible for information exchange, it also affects relationships and system development within projects. In the nature of the complicated construction environments, effective communication promotes teamwork and decision making (Luhmann, 1995).

2.5.4 Stakeholder Theory (Freeman, 1984)

This theory centers around the importance of relationship management between all stakeholders to improve project outcomes by using effective communication for addressing the expectations and interests of various stakeholders.

2.6 Conclusion

The literature review zeros in on the critical role of communication in construction project success. Stakeholder satisfaction, project efficiency, and risk management are extremely influenced by effective communication. Past studies confirm that when communication is clear, timely, and well-organized it strengthens decision-making and keeps projects running smoothly. The argument that structured and organized communication improves project performance is supported by theoretical frameworks such as Shannon and Weaver's Communication Model, the Project Communication Management Framework, and Stakeholder Theory. Tackling common communication barriers, such as language differences and insufficient training, while taking advantage of technological advancements like BIM and project management software, can greatly enhance construction project outcomes.

Chapter 3: Research Methodology

3.1 Introduction

Communication is pivotal to guarantee construction project success, reduce risks, align stakeholders, and improve collaboration. Given the complexity of construction projects, which involve numerous stakeholders with varied roles, communication becomes a crucial factor when assessing project performance and results (Cullen, 2017). Through in-depth case studies, this research investigates how communication strategies affect construction project outcomes. Using qualitative research methods, the study examines real-world construction projects, concentrating on communication approaches and how they affect conflict resolution, stakeholder coordination, project efficiency, and general project success (Jafari & Beikzadeh, 2020).

The case study approach is well suited for this study because it allows for a detailed examination into projects, offering in-depth insights into how communication processes work in real world settings (Yin, 2014). The study will offer a nuanced understanding of communication's purpose in construction project management by observing case studies from large-scale construction projects. This methodology chapter outlines the research design, population of the study, sample characteristics, sample size determination, data collection methods, study determinations, and method of analysis.

3.2 Research Design

The research design uses case studies, which allows studying communication dynamics and capturing the complexities and challenges that arise in construction projects (Stake, 1995). The research aims to explore the impact of communication on project outcomes, particularly in relation to stakeholder coordination, project efficiency, and conflict resolution by analyzing multiple cases.

3.2.1 Case Study Selection

A variety of construction types, including residential, commercial, and mixed-use developments are represented in the chosen projects for the study cases. Each project has

several stakeholders, such as architects, engineers, contractors, subcontractors, and clients observed to achieve a solid grasp of communication practices in the industry.

3.2.2 Data Sources

Semi-structured interviews with key stakeholders, project records (such as meeting minutes and communication logs), and direct observations are used to gather the data for the case studies.

3.2.3 Data Triangulation

In order to ensure validity and reliability, various data sources including interviews, document analysis, and direct observations will be triangulated to provide a broad understanding of communication practices in the case study projects (Creswell, 2014).

The study will concentrate on comprehending how communication tactics are applied in construction projects and their overall influence on the accomplishment success of the project. Additionally, it will provide both descriptive and explanatory insights into the communication process within construction teams through examining the factors that facilitate effective communication and the factors that limit it.

3.3 Population of the Study

The study's population is made up of construction experts working on major construction projects. Project managers, site supervisors, engineers, architects, contractors, subcontractors, and clients are some examples of these experts. The study population represents a wide range of positions, each with different and unique communication needs and responsibilities, making it perfect for comprehending the communication dynamics within construction projects (Ochieng et al., 2014).

The population will be selected from a variety of construction sectors, featuring residential, mixed-use and commercial developments. This diversity will assist in capturing a broad spectrum of communication styles and practices and grant insights that can be applicable across different types of construction projects. Since communication issues are most likely to appear in construction projects involving extensive coordination among many stakeholders, these projects are the focus of this study.

3.4 Sample Characteristics

The sample for the study includes construction projects that meet specific criteria including size, completion, and challenges faced. The projects must be large-scale with complicated coordination requirements, the preferable candidates for this study are projects that involve a large number of stakeholders (Loosemore et al., 2012). To be certain that the data collected reflects contemporary communication methods and practices, selected projects should be completed within the past ten years (Bresnen et al., 2005). The projects selected should have encountered communication challenges or used creative communication strategies that can provide insightful information into how communication affects project outcomes (Ling & Hoi, 2015). Project managers, engineers, contractors, and subcontractors will be chosen based on their knowledge of the communication dynamics in the project and their roles in the communication processes.

3.5 Data Collection

Data for the case studies will be gathered from multiple sources to provide a good understanding of communication practices. The primary methods for data collection in this study include semi-structured interviews and project documentation analysis.

3.5.1 Semi-Structured Interviews

Key stakeholders involved in the selected case study projects will participate in semi-structured interviews. These stakeholders will include those who are directly involved in the communication processes during the lifecycle of the project like project managers, engineers, architects, and contractors. Depending on the participants' availability the interviews will be held either in person or via video conferencing. Semi-structured interviews allow flexibility and open-ended questions ensuring that all important areas of communication are covered (Patton, 2002).

The interview questions will focus on types of methods and tools used in communication throughout the project (e.g., emails, phone calls in person meetings, project management software), communication effectiveness and frequency during project phases (planning, implementation, completion), challenges faced in communication and how these challenges were resolved, communication's effects on the project's end result, (such as conflict resolution, budget overruns, schedule delays), stakeholder coordination perceptions and how they influence project success.

3.5.2 Project Documentation Analysis

Project documentation will be analyzed to complement the interview data. This includes formal communication documentations such as communication logs and meeting minutes. Written communication and emails, which provide insights on the flow of information between stakeholders and into informal communication channels, project reports and status updates, which give an overall picture of project progress and any conflicts that took place during construction. The documentation analysis will aid to contextualize the interview replies, offering proof of communication challenges, practices, and outcomes (Barrett & Sexton, 2006).

3.6 Study Determinations

The study will aim to determine a few crucial factors pertaining the use of communication in construction projects, which includes:

- Various communication methods' effectiveness: How the different communication ways (e.g., technology, face-to-face meetings) can affect task coordination, decision-making, and problem-solving (Cao et al., 2015).
- Communication challenges and barriers: Identifying the frequent communication difficulties faced by project stakeholders, such as technological restrictions, language barriers, cultural differences, and information overload (Akintoye et al., 2016).
- Impact of communication on project outcomes: assessment of how communication affects project success, such as timely completion, budget adherence, and work quality (Love et al., 2016).
- Stakeholder perspectives of communication practices: How different stakeholders view the effectiveness of communication, and whether they think that communication challenges contribute to project delays or successes (Hirunyawipada & LaAr, 2014).

The study intends to offer practical suggestions that will help improve communication techniques in construction projects by addressing the determinants above.

3.7 Method of Analysis

Thematic analysis will be used to analyze the data gathered from observations, project documentation, and interviews. Thematic analysis goal is identifying, analyzing, and reporting patterns or themes observed within the data. The researcher can explore important and significant topics pertaining to communication practices using this method, which is suitable for evaluating qualitative data from interviews and project documentation (Braun & Clarke, 2006).

Thematic analysis will involve the following. First, familiarization with the data by reading interview transcripts and project documents several times to gain a general understanding of the content viewed. Second, generating initial codes for determining and coding relevant key features of the data relevant to the research questions. Third, searching for themes through grouping related codes together to find broader themes about communication practices. Fourth, reviewing themes and making sure the identified themes appropriately represent the data and contribute to comprehending the role of communication in project success. Reviewing and identifying themes to make sure they appropriately represent the data contributing communication success. Last, clearly defining and naming themes identified to relate them to the research objectives and goals.

Triangulation will be used in results comparison from interviews, documentation analysis, and observations to ensure the findings are reliable. This strategy will help validate the conclusions drawn from the data and ensure that the findings are proved by multiple data sources (Denzin, 1978).

3.8 Conclusion

The methodology employed in this study centres on examining the effect of communication in construction projects through detailed case studies. The research aims to uncover how communication practices impact project outcomes by analyzing multiple construction projects, conducting interviews with key stakeholders, and reviewing project documentation. The use of data triangulation and thematic analysis will guarantee that the findings provide a comprehensive understanding of the role of communication in construction project management, offering valuable insights for upgrading communication methods in subsequent projects.

Chapter 4: Practical Study

4.1 Introduction

The practical study investigates how communication affects construction projects through the examination of real-life case studies. Communication in construction projects plays an essential role in ensuring the project is finished on time, not going over the budget, and achieving the required quality standards. Effective communication increases collaboration, openness, and problem-solving, whereas ineffective communication may result in misunderstandings, delays, and cost overruns. This practical study investigates the communication practices and difficulties encountered by construction teams in actual real-world projects, using information from interviews, project documents, and observations to shed light into how communication impacts project outcomes.

Two large-scale construction projects were chosen for this study. Project A, which is a mixed-use residential and commercial development. Project B, which is a large-scale project involving building a highway. These projects were selected because they both went through major communication difficulties and challenges during their execution, so they provide insightful information on communication importance in construction project success. The case study methodology allows a thorough exploration of how communication has affected stakeholder coordination, project processes, and project outcomes.

4.2 Data Analysis

Semi-structured interviews, project documentation analysis, and direct observations on-site were all used to gather data for the practical study. Interviews with project managers, contractors, subcontractors, engineers, and architects, were among the main sources of information, as well as the review of project communication documents.

The qualitative data was analyzed using thematic analysis. Using this method involved identifying important themes and patterns from the data about communication practices and their impact on project success. The following themes surfaced during the analysis:

1. **Communication Methods and Tools:** Both formal and informal communication channels were widely used. For project updates and decision-making formal communication methods, such as emails, reports, and meetings, were used. Informal

communication, especially face-to-face discussions and phone calls, played a significant role in daily coordination, conflict resolution, and rapid decision-making (Cao et al., 2015).

2. **Effective Communication Barriers:** Communication hurdles for both projects including excessive information, linguistic and cultural disparities, and technological limits resulted in delays and misunderstandings. For instance, poor communication between the contractor and architect concerning design modifications led to delays and rework in project A (Akintoye et al., 2016).
3. **Stakeholder Coordination:** It was determined that clear communication is vital for successful coordination of activities among diverse stakeholders. In Project B, for example, regular updates, transparent and clear communication between the contractors, project manager, and governmental bodies contributed to maintaining alignment on project resources and time schedules, which was critical for attaining project deadlines (Loosemore et al., 2012).
4. **Impact of Communication on Project Outcomes:** Positive project outcomes were found to be strongly correlated with efficient communication. Clear communication assisted in improving stakeholder relationships, ensuring swift project execution and reducing conflict in both projects. However, when there was a breakdown in communication, there was greater chance of delays, disagreements, and cost overruns. (Bresnen et al., 2005).

4.3 Research Findings

The research findings from the case studies of Projects A and B uncovered several vital revelations about the job of communication in construction project management.

1. **Effective Communication Channels Strengthen Project Coordination:** Both projects verified that keeping stakeholders coordinated required the use of a variety of communication channels, for example emails, meetings, and project management software. However, in Project A, dependence on informal communication and lack of integration between technological tools resulted in inefficiencies and misunderstandings, particularly during important design phases (Ling & Hoi, 2015). On the other hand, Project B successfully utilized a collaborative digital platform for instant real-time communication amongst all stakeholders, which optimized the process of making decisions and solving problems. (Love et al., 2016).

2. **Communication Barriers Are Common and Affect Project Success:** Both projects detected several communication barriers that obstructed progress. Project B, where the workforce was highly diverse, language barriers produced challenges in confirming that instructions were clearly understood by everyone (Akintoye et al., 2016). On top of that, Project A suffered from poor and inadequate communication of changes in design, which led to severe delays and cost escalations. Project B on the other hand, effectively handled these problems by using bilingual project managers and providing language training for the team, which minimized misunderstandings and improving communication overall (Ochieng et al., 2014).
3. **The Role of Communication in Solving Conflicts:** It was discovered that communication is a critical tool in resolving conflicts that arose during projects. In Project A had significant delays because of poor communication regarding the scheduling of subcontractors resulting in conflicts between the teams. On the other hand, project B experienced fewer conflicts thanks to the project manager's proactive approach in facilitating regular communication among stakeholders, and preventing potential issues before growing into major problems (Hirunyawipada & LaAr, 2014).
4. **The Direct Effect of Communication on Project Results:** In both case studies, communication significantly influenced the ultimate project outcomes. Project B was able to complete the project on schedule and staying within budget due to its transparent and efficient communication channels. In comparison, Project A sometimes failed in communication leading to multiple delays and exceeding the budget. The results show that effective communication aid in diminishing risks, making decisions on time, and keeping stakeholders aligned throughout the project (Jafari & Beikzadeh, 2020).

4.4 Research Recommendations

Based on the findings of this practical study, multiple recommendations are given to improve communication in construction projects

Construction projects should integrate communication strategies that combine both formal and informal communication channels, along with training on how to use the provided tools. The Project management software could be used for communication between stakeholders, it works in providing instant updates making communication easier (Cao et al., 2015).

Construction projects should hire multilingual workers or provide language training to the staff to surpass language and cultural barriers. In addition, to ensure that modifications and instructions are clearly understood by all team members, diagrams and visual aids should be

used to support verbal communication (Akintoye et al., 2016).

Construction teams should create a culture of open and transparent communication where all stakeholders feel at ease voicing concerns and sharing feedback. To discuss the progress of projects, settle disputes, and make sure all parties are on the same page regarding the project goals, formal and informal meetings should be conducted regularly. (Loosemore et al., 2012).

Project managers should adopt a proactive stance to conflict management, addressing issues immediately without hesitation and ensuring open lines of communication channels for solving conflicts. Stakeholder satisfaction and project progress should be regularly monitored to spot possible conflicts and lessen their negative impacts (Ling & Hoi, 2015).

Construction firms should identify areas for improvement by regularly assessing their communication plans. To ensure that communication practices change and adjust to the challenges of contemporary construction projects, teams should record and share lessons learnt from previous projects (Bresnen et al., 2005).

4.5 Conclusion

This practical study has successfully confirmed that communication plays an important and critical role in the success of construction projects. The case studies of Projects A and B demonstrated the value of effective communication channels, the challenges presented by communication barriers and the immediate influence of communication on project outcomes. According to the findings, integrating communication tools, addressing barriers, encouraging open communication, and proactively managing conflicts can all substantially boost project success. By adopting these recommendations, construction teams can upgrade their communication practices, leading to more efficient project execution and achieving better overall outcomes.

Appendixes

Interview questions:

- 1) What communication methods and tools do you use in your work daily for project updates?
- 2) How effective are these tools in sharing information or data accurately and in a timely manner?
- 3) What are the most frequent communication barriers to effective communication faced with this project?
- 4) How do you overcome those communication barriers in your daily operations?
- 5) How did communication or the lack thereof has impacted your project's progress?
- 6) Do you think better communication would have improved the outcome of the project?
- 7) How do you solve conflicts that appear due to miscommunication?
- 8) Can you describe a situation where communication effectively helped resolve a conflict?

Table displaying communication tools used in the projects:

Tools/ Project	Formal Communication Tools	Informal Communication Tools	Technology Used
Project A	Reports, Meetings, Emails	In-person, Phone calls	None
Project B	Reports, Meetings, Emails	In-person, Phone calls	Digital Platform, Project Management Software

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