

ASSESSING THE LACK OF PROJECT MANAGEMENT SOFT SKILLS
TOWARD PROJECT COMPLETION RATES

by

Rene O. Aleman

Dissertation

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Business Administration

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Abstract

Project managers have a challenging yet rewarding occupation that directly affects everyone within the community. To overcome their challenges, project managers rely on their training, experience, and the skills they develop throughout their careers. This research aimed to determine if there is a correlation between applying interpersonal skills as a project manager and higher completion rates within the construction industry. Additionally, this research aimed to assess the relationship between interpersonal skills and quality completion rates in the construction industry. The study was conducted within the construction industry, specifically focusing on road and building construction, surveying project managers working for private companies and governmental agencies in Texas. The researcher collected data by interviewing 12 project managers and observing their work environments. There was a significant difference between project managers who understood and effectively applied interpersonal skills in their work environments versus those who did not effectively apply interpersonal skills. Project managers revealed the importance of developing interpersonal skills to manage projects effectively and efficiently. These findings indicate the need for interpersonal skills development, mentorship, and coaching programs.

Keywords: Interpersonal skills, project management, completion rates

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Dedication

I am dedicating this dissertation to the first person who told me I could do anything if I applied myself. The same person told me that many people depend on me to succeed and that no one can hold me back. My mother has no idea that I began my journey to achieve the ultimate academic goal of a doctoral degree. I did it, Mom. I did it for you.

To my wife, who always came into the room to check on me and make sure I stayed motivated, I love you. To my kids, who thought it was cool that I was still in school and trying to be better today than I was yesterday, you are my inspiration and motivation. I want to dedicate this dissertation to all the soldiers and leaders who told me it would be tough, but if I start, I have to finish because a soldier never quits.

Above all, I thank and praise God that I am at this point. Many, many times, I prayed and asked if it would be worth it in the end. I am glad I made it to this point and can not wait to see what is in my future because of this achievement.

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Section 1: Foundation of the Study

Project managers encounter many challenges and problems within their projects. Challenges can hinder the pace of a project or its completion. Successful project managers use soft skills to solve complex and dynamic problems. Successful problem-solvers and critical thinkers use soft skills to make decisions based on their development or experience aided by soft skills (i.e., interpersonal skills).

Identifying the soft skills needed for success is linked to the nature of the problem, environmental considerations, and available resources. Project management within the construction field can be filled with unexpected challenges. Managing these projects requires soft skills. Halou et al. (2019) characterized management in the construction field as insufficient and slow to react to challenges or changing conditions. Successful project managers respond to evolving needs positively. Experience can motivate a project manager's team toward project completion. The nature of the problem is the lack of soft skills among project managers in the construction field, leading to decreased quality project success rates. This research reveals the soft skills used in contemporary settings and environments and their effectiveness.

The goal of this research was to offer a framework for understanding the correlation between soft skills and successful completion rates by project managers in the construction industry. There are several concepts, theories, and actors within the research framework. These concepts involve organizational leadership, the project team, construction management, and the customers. Theories applicable to the research were used to develop an understanding of the correlations between soft skills and project results.

Background of the Problem

The completion of quality projects within the construction field can be credited to the effectiveness of project managers' leadership (Awan et al., 2015). Leaders' soft skills can determine the successful completion of a quality project. Halou et al. (2019) listed many challenges and factors, such as weather, resources, labor, and transportation, that affect project completion. The construction field can be complex and uncertain, and critical decisions can affect project outcomes (Khattak & Mustafa, 2019). Soft skills, such as effective communication, creativity, leadership, and conflict management, are necessary for project managers to be effective.

Project failures can be attributed to poor soft skills (Awan et al., 2015). Soft skills are interpersonal skills developed through experience and other methods, such as mentorship and coaching. Some developmental programs exist to support project management, but few exist within the construction industry (Carstens, 2016). Increasing the number of soft skills developmental programs can improve project quality and lead to higher project completion rates. Project managers who effectively use soft skills consistently complete quality projects (Zuo et al., 2018).

Soft skills are needed to effectively manage projects and project teams and communicate with organizational leadership and stakeholders (Soliman, 2017). Consistent communication between project managers and stakeholders can improve working relationships. Project managers must understand stakeholders' visions and share these visions with the project team to meet project goals. Project managers can apply soft skills like conflict resolution and flexibility to effectively manage their projects and avoid project failures.

Problem Statement

The general problem to be addressed is the lack of soft skills among project managers resulting in decreased project quality and completion. Ravindranath (2016) related the failure of most projects to project managers who lack the necessary soft skills applicable to their field. In a recent study, Zuo et al. (2018) correlated project managers' lack of soft skills competencies to project failures, decreasing the likelihood of quality or timely completion. Gulati et al. (2020) found that a lack of experience in conflict resolution, effective communication, and other soft skills leads to project failures. The specific problem to be addressed is the potential lack of soft skills by project managers in the construction industry, resulting in decreased quality project success rates.

Purpose Statement

The purpose of this flexible design multiple-case study was to address the use of soft skills within the construction field to promote the successful completion of quality projects. The research explored the soft skills construction and project managers use that determine project success. The study also aimed to identify the specific soft skills that increase productivity. Soft skills are non-technical and interpersonal skills used effectively in leadership roles (Hendarman & Cantner, 2018). As soft skills cannot be easily taught, these skills must be developed, leading to the problem of the lack of soft skills developmental programs within the construction industry. This research revealed the importance of soft skills and their development within successful firms.

Research Questions

Project management within the construction field impacts every aspect of a construction project, including cost, quality, and conflict resolution. Researchers have found that soft skills

can be applied to project management within the construction field (Zuo et al., 2018). Challenges can be approached with strategic resolution through experience and soft skills. The following questions focus on why project managers lack soft skills, how soft skills contribute to project completion rates, and how soft skills can be developed within and outside the construction field.

RQ1: How do project leaders lack soft skills?

1a: What soft skills does a leader need to possess?

1b: How can a leader develop soft skills?

Projects failed for many reasons. Ravindranath (2016) found that many project failures were linked to project managers lacking critical soft skills, such as communication, the ability to motivate their teams, and time management. Newly graduated project managers may lack soft skills because of their minimal experience in the field. New project management graduates will rarely be placed immediately into leadership positions, meaning they will have time to develop. Developing their soft skills is important for project managers to become effective team leaders.

RQ2: How do soft skills contribute to project completion rates in construction projects?

2a: Which soft skills apply to greater success rates in construction projects?

2b: Which soft skills are the most important for greater success rates in construction projects?

Soft skills contribute greatly to the successful completion of quality projects. Zuo et al. (2018) found that project managers must develop soft skills for effective leadership. The most important soft skill in Zou et al.'s research was conflict management, which is developed through experience. Other important soft skills included organizational leadership, teamwork, and collaboration.

RQ3: How can soft skills be taught or developed in the construction field?

3a: How can programs within the construction field teach soft skills?

3b: How can programs or initiatives outside of the construction field specifically teach or develop soft skills?

Soft skills development is based on self-development and experience in the construction field. Carstens (2016) determined the need for project managers to develop and use soft skills to become more effective leaders. Carstens found a correlation between successful projects and managers who developed soft skills through knowledge transfer and university programs.

The specific problem investigated during this study was the lack of soft skills among project managers in the construction field and the resulting decrease in project quality and success rates. Not all project managers possess every necessary soft skill as a leader, but identifying and developing the necessary soft skills is critical to project completion and quality. The research problem relates to the project management cognate because it correlates project quality and success to project managers with applicable soft skills.

Nature of the Study

Discussion of Research Paradigms

The nine major research paradigms include social constructivism, transformative, postmodern, pragmatism, feminist theories, critical theory, critical race theory, queer theory, and disabilities theory. The postpositivism research paradigm fits best with the social outlook of project teams and their management. Creswell and Poth (2018) noted that postpositivism addresses cause-and-effect and logic that facilitates an understanding of the effectiveness of soft skills amongst project managers through observation. Social constructivism offers the worldview perspective for research but may not sufficiently narrow the focus to the project manager and their team. This worldview would focus on a general outlook on project management. The

transformative research paradigm could have fit the research, but it is more of a societal research paradigm. The postmodern research paradigm fits the purpose of the research as it is set within current practices within project management. However, it does not apply to the interaction between management and the project team.

Though the focus of a research design based on pragmatism can reveal *what works*, the research purpose was not to determine the effectiveness of soft skills and soft skills development. Pragmatism leaves too many questions unanswered. The remaining research paradigms do not apply directly to this research, as the study does not exclude anyone from the research phenomenon. Thus, the most appropriate research paradigm was postpositivism, which employed a social science theoretical lens, as described by Creswell and Poth (2018). The interaction between the team and the project manager is structured and involves social interaction that may be observed. According to Brannick and Coghian (2016), postpositivism is the most popular paradigm when studying management.

Walker and Llyod-Walker (2019) determined that the top-down effect of development and mentorship is effective for mid-level managers. Data gathered from this research paradigm used a top-to-bottom analysis and a measured observation approach. Project managers using soft skills are effective in completing quality projects. Using positivism as the research paradigm enabled the researcher to understand constructive knowledge by gathering and building from different sources to establish the themes in this study.

In this research, interviews determine the successful completion rates before and after using developed soft skills. Geithner and Menzel (2016) found that soft skills used to solve problems or improve processes can be identified through interviews, shared knowledge, and

experience. These soft skills can be used to mentor others who seek to improve their leadership and management capabilities.

Discussion of Design

The study focused on soft skills used to complete quality projects, so the research design must allow the researcher to apply a qualitative approach. According to Creswell and Poth (2018), a fixed research design is set before the research takes place, and a mixed research design works best to bridge the flexible and fixed research designs. Setting a fixed environment to observe soft skills use may not reveal realistic applications of their effectiveness in the work environment. Observations should not be announced or known to see the project manager's instinctive use of soft skills. The mixed-methods research design could prove useful if combining a fixed and flexible research design, but there was not a fixed design. This study was conducted using a flexible design and qualitative methods. Specifically, a multiple-case study design was used. A multiple-case study approach can be used to study and evaluate an organization or specific program.

Case studies are used to research a person, group, organization, or community. Creswell and Poth (2018) described a collective case study as a case study focused on multiple cases. The researcher accounted for multiple perspectives and used multiple data collection and analysis methods. Interviews were used to collect enough data from the construction field. Yin (2018) asserted that proven data collection processes like interviews and research from reliable, peer-reviewed sources must be used. The researcher must understand the subject thoroughly and possess the desire to find more information to further the scholarly understanding of the research phenomenon. The research must also be conducted ethically and without bias.

Discussion of Methodology

Of the five research designs (i.e., narrative, phenomenology, grounded theory, ethnography, and case study), the case study design enabled the researcher to gather data from other sources and studies. The narrative design helps tell the stories of the subjects within the research. Narrative researchers must collect extensive information and data about the people they intend to question through interviews or surveys (Creswell & Poth, 2018). Gathering personal information on the subjects beyond their prior experience in management, their development as project managers, and their educational credentials may not be necessary.

Phenomenological designs help researchers relate to the mutual understanding of the subjects' experiences (Creswell & Poth, 2018). Compared to the narrative research design, the phenomenological research design would identify commonalities between several project managers from different companies within the construction field. Even though the phenomenology research design can help identify specific soft skills used in different experiences, it would not relate to the effectiveness of soft skills, in a general sense, to project management in the construction field (Tufford & Newman, 2011). The aim of this research was not to identify a phenomenon within project management.

Ethnographic research designs consider the subjects' cultural differences and examine large participant groups (Creswell & Poth, 2018). The ethnographic research design did not fit this research as the focus was not to discover the cultural effects of soft skills applied by project managers in the construction industry. Using ethnography in a qualitative research design can uncover shared values, behaviors, and beliefs (Creswell & Poth, 2018). Soft skills application within project management does not require a common definition of values, behaviors, or beliefs.

Grounded theory considers data collected over time and analyzed to generate a theory describing a process (Creswell & Poth, 2018). A grounded theory research design requires each participant to have experienced the same process. The researcher then develops a theory to explain the process and guide future research (Creswell & Poth, 2018). This research did not develop a new theory on the application of soft skills towards project management rates within the construction industry but instead determined their effectiveness. Thus, a grounded theory research design was inappropriate.

The research methodology involved gathering evidence on the effectiveness of soft skills in the construction field to understand project completion rates. Data from previously conducted surveys can be found and used in this research. This study used a multiple-case study research design to discover the soft skills needed to ensure optimal quality project completion.

A multiple-case study research design focuses on an entity, such as an organization or person in a contemporary setting (Creswell & Poth, 2018). The multiple-case study research design enabled the researcher to examine how project managers working at construction companies apply soft skills. The researcher, through observations and interviews, recorded the use of soft skills and determined their effectiveness. The multiple-case study research design allowed the researcher to use existing data from other research that measured or explored the same subject area, such as interviews, surveys, and other qualitative data (Creswell & Poth, 2018).

Focus group interviews can effectively gather information and the perspectives of the interviewees about their work environments and interactions with their teams and stakeholders (Hamilton & Finley, 2019). According to Yin (2018), triangulation can be effective when using multiple sources. This research concentrated on the soft skills used by successful project

managers to complete construction projects. When there are multiple sources of evidence, triangulation is highly valued as a method to collect and generate data (Harrison et al., 2017).

This process was important for ensuring the quality of data and evidence gathering.

Discussion of Triangulation

The researcher's use of the multiple-case study design allowed the sampling of several cases with applicable data. In line with Harrison et al. (2017), the goal of postpositivism research is to use science to understand the nature of reality with the understanding that not all measurements or experiences are perfect. Triangulation of data sources can prevent errors in the data and establish credibility. According to Carstens (2016), triangulation is effective when interviews are used throughout a research process. In this research, triangulation allowed the researcher to find the effective and practical soft skills commonly used in the construction field. As construction can involve dynamic factors outside a project manager's control, applying soft skills becomes critical to keeping projects on time and completing them to the organization's standards.

To validate the findings through triangulation, the researcher incorporated observations and drew data from verified studies within the construction field focused on the connection between soft skills and completion rates. Descriptive statistics within these studies established a connection between successful project managers and soft skills application. Using several confirmation methods for triangulation allows researchers to validate the research findings (Creswell & Poth, 2018). As the research method used a flexible design, triangulation occurred through multiple sources and data-gathering methods across domestic and international sources. Testing data gathered from one source and comparing it to data from another source assisted the researcher in validating the findings.

Conceptual Framework

The research framework incorporates several concepts, theories, and actors. These concepts involve organizational leadership, the project team, construction management, and customers. Customers are not major actors regarding soft skills, but a construction team's ultimate goal is their customer's approval. Several theories were potentially applicable to the research and understanding of using soft skills to improve project outcomes. Aligning theory elements and research questions resulted in the study's conceptual framework and justified the framework for trustworthiness and credibility (Harrison et al., 2017). Figure 1 presents the possible cause and effect of a lack of soft skills.

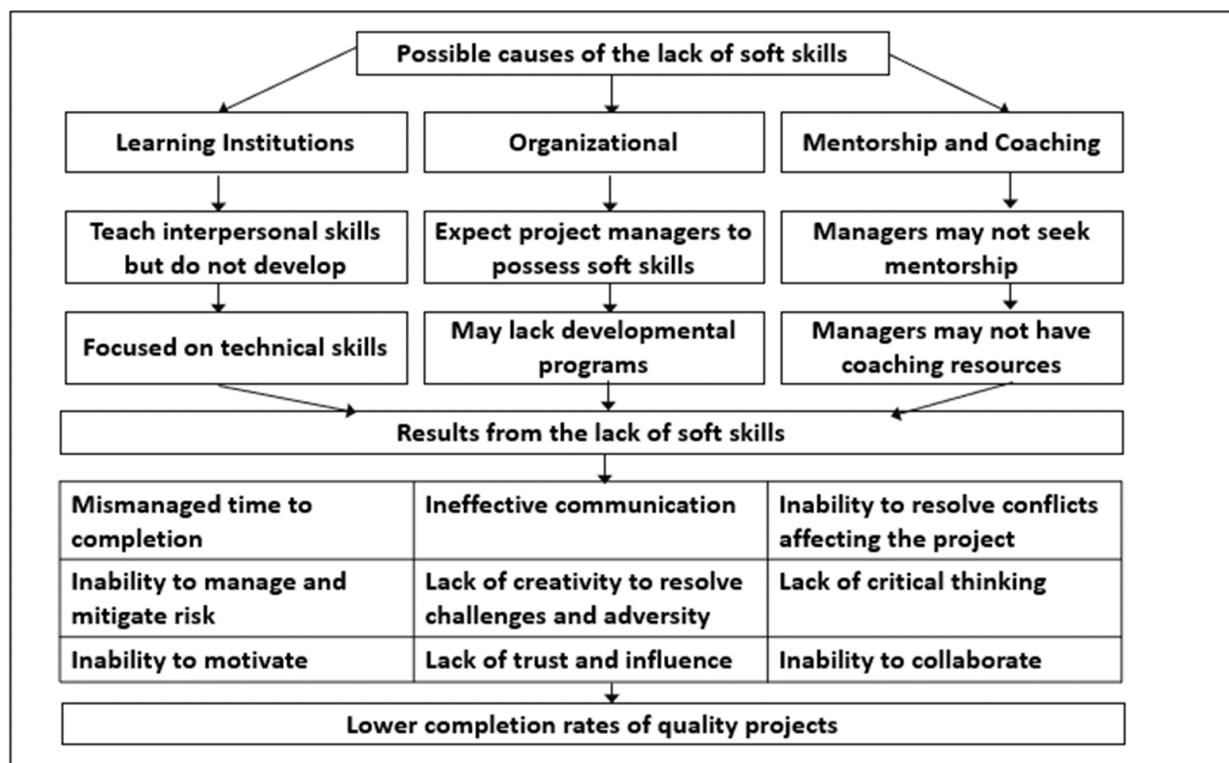


Figure 1. Lack of soft skills—possible cause and effect

Concepts

Concepts form in all qualitative research through a systematic process of setting definitions (Creswell & Poth, 2018). Definitions enable concepts to emerge from the research. The researcher examined project managers' use of soft skills in the context of project completion. Soft skills enable project managers to manage interpersonal relationships and interactions with project team members. As qualitative data can be recorded through observations and interviews, following the conceptual boundaries of the research assisted the researcher in maintaining their focus.

Case study research explores contemporary and real-life experiences via multiple sources and in-depth data collection (Creswell & Poth, 2018). Project managers with varying experience levels and work environments use soft skills. The flexible research design and case study approach revealed common themes and concepts explaining how a lack of soft skills affects project quality and completion. Data uncovered in the research determine whether concepts related to soft skills application in the work environment were consistent throughout participants' work environments. The research focused on commonalities, such as team management, that may not directly relate to the construction field but is relevant to the conceptual framework.

Quality project completion in the construction field is linked to the effectiveness of project managers and their teams. Project teams contribute to success rates by using effective tools and skills, including soft skills. Turner (2019) correlated the lack of soft skills in project management in the construction field to project success and failure rates. Soft skills can be taught and developed within the construction field with encouragement from management through developmental programs.

Lack of Soft Skills

Soft skills are developed through internal and external institutions or on-the-job training. Most soft skills are developed through experience within a specific industry. Soft skills are taught through lifetime learning and experience, but a project manager's development and use of soft skills is emphasized during the preliminary stages of their career. Turner (2019) noted that identifying important soft skills can assist novice project managers in stressful situations. Developing soft skills helps project managers grow into effective leaders. According to Zuo et al. (2018), organizational leadership must encourage soft skill development among project managers.

Soft skills contribute to higher project completion rates. Ravindranath (2016) noted that soft skills contribute to higher project success rates in the construction field. Specifically, soft skills, such as effective communication and conflict resolution, are attributed to effective leadership qualities. According to Geithner and Menzel (2016), project managers who lack soft skills, such as effective communication, have lower project completion rates. Soft skills development encouraged by organizational leadership is important to achieve and maintain a high project success rate. Carstens (2016) stated that soft skills development programs in the construction field have improved project managers' effectiveness and completion rates.

Theories

Several theories were used to guide the present study: the Bayesian theory, social exchange theory, and the theory of constraints. Enhassi et al. (2020) observed that the Bayesian theory follows a format where estimates of an initial assessment are captured, then continual improvement is recorded and compared to outcomes. This theory enabled the researcher to record the presence and knowledge of soft skills within a construction company before assessing

their performance. Observing soft skills use forms the basis of data collection using the Bayesian theory in this study. Observations were critical to the research and recorded without bias or subjectivity. Observations must be conducted in compliance with the definition of soft skills to recognize their application and effectiveness.

The social exchange theory can be used to determine the relationship between two parties. According to Khattak and Mustafa (2019), this theory can determine the effectiveness of the relationship between project managers and their teams. The theory can account for communication, continuous improvement, and behaviors. The interpersonal relationships between project managers and project teams are vital to organizational success. The organization is dependent on the success of the project team. The effectiveness of the project team is determined by the project manager's effectiveness at building trust, resolving conflicts, and communicating (Bausell et al., 2020). Project managers must also communicate and build relationships with others outside their project teams (e.g., stakeholders and organizational leaders).

The theory of constraints structures a problem to create solutions. According to Sarkar et al. (2018), the theory of constraints can be used to develop critical chain project management, a process that is widely used in highway construction. Identifying and anticipating constraints, especially highway construction, can prevent project delays. Logistical constraints can also cause delays in project completion. Lack of materials, personnel, and other logistical needs slow project progress significantly (Sarkar et al., 2018). Applying soft skills like adaptability, creativity, and critical thinking can often solve logistical problems like supply chain issues.

Actors

The actors involved in the research included project managers, construction managers, and project teams. These actors were divided into two categories: team leadership and team members. Organizational leadership, such as chief executive officers, can be involved in developing project managers. Project managers' use of soft skills was the focus of the research.

Project managers lead their teams using tools and soft skills. However, some project managers lack the specific soft skills needed to influence their teams. According to Khattak et al. (2020), project managers that can influence a team effectively promote desired attitudes and behaviors. Effective leaders are instrumental in developing and managing teams. In consonance with Sarkar et al. (2018), influence can bring adaptability, goal accomplishment, and the inspiration to work harder and towards the successful completion of the project.

Construction managers specifically manage the day-to-day operations at construction sites. Their scope of duties can be small, focused on a specific scale, or cover large areas with multiple construction sites. According to Sarkar et al. (2018), construction managers are critical in identifying possible constraints or bottlenecks. Identifying possible constraints can avoid delays in project completion. Enhassi et al. (2020) noted that construction managers are instrumental in constraint and risk assessment. Construction managers supervise construction work first-hand. Construction managers report problems and anticipate possible bottlenecks. According to Zuo (2016), construction managers must possess soft skills and knowledge to be effective leaders.

Project teams consist of members with specific skill sets that contribute to project success. Carstens (2016) noted that knowledge sharing is essential to build an effective project team. Project teams are usually responsible for specific project areas. The relationship between

the project manager and their team is critical to meet project requirements and ensure timely completion. According to Zuo (2016), project teams must have mutual trust, understanding, and cohesiveness to be effective.

Organizational leadership may involve many actors. Generally, organizational leadership comprises top-level management officials who span the entire organization. Within this research, the role of the organizational leadership was limited to their involvement in the development of the project managers. Ravindranath (2016) stated that organizational leadership plays a significant role in developing soft skills, such as effective communication, teamwork, and ethical decision-making.

Constructs

Constructs are abstract ideas or themes that can be measured using research tools like surveys. Constructs can be complex and bound together using validity and reliability scores (Creswell & Poth, 2018). Constructs are especially important in case study research because of researchers' subjectivity or preconceived notions. Researchers must conduct studies without bias toward their desired outcomes.

Establishing construct validity is a critical process for qualitative research. Construct validity identifies the correct operational measures for the concepts being studied (Creswell & Poth, 2018). To establish construct validity in this study, the researcher compared the research questions to specific concepts and research objectives. For example, the researcher defined soft skills and compared the definition to participants' interview responses. The next step was to identify measures to match the concepts using empirical data and peer-reviewed data that support the definition. Open-ended questions were important so the researcher could derive a comprehensive answer from the interviewees to compare to cited data sets.

This study encompassed multiple constructs. Construction projects include roads, buildings, and structural and special construction, so common constructs must be identified. According to Zuo (2016), constructs are commonly theoretical. Constructs represent how communication, procedures, and resources are used to complete quality projects. According to Geithner and Menzel (2016), effective team development contributes to the successful completion rates of quality projects.

Relationship Between Concepts, Theories, Actors, and Constructs

Project management soft skills are important when managing team members, who are the key denominators in projects (Gulati et al., 2020). A project team executes tasks to complete a project. Relationships throughout the organization and a project's procedural structure directly affect project effectiveness. Each member of the organization relies on others' production and input to complete quality projects. The result of a successful project is overall customer satisfaction. According to Walker and Llyod-Walker (2019), customer satisfaction resulting from the quality completion of projects leads to customer retention and competitive advantage. In the construction field, the customers include the general public and private entities.

Soft skills can be taught through awareness, but most are developed through experience. Karna and Junnonen (2016) argued that project managers developed within the organization understand the expectations and strive to meet the organization's goals. Furthermore, project manager development can be measured through benchmarks determined by organizational leadership. Zulkiffi and Latiffi (2019) noted that project and construction managers lead their teams to meet deadlines. Soft skills must be developed and encouraged by organizational leaders as these skills support project management techniques and procedures.

Project and construction managers share the same need for soft skills. According to Khattak and Mustafa (2019), trust mediates the social exchange between project managers and their teams. Open and effective communication, a soft skill, is built on trust between the project manager and the team. Soft skills can be enabled through procedures that encourage project managers to assess situations and make decisions. Sufficient resources must be available to support project managers and their teams. Project management in the construction field can be defined by site descriptions and locations, but all construction projects have a deadline and desired outcome.

According to Harrison et al. (2017), researchers employ multiple theories to evaluate soft skills used in construction and, in some cases, internationally in different environments. The constraint theory can be used to identify problems using the critical chain project management framework. Critical chain project management is used for construction scheduling constraints, such as resource scarcity and duration uncertainty (Sarkar et al., 2018). The theories can demonstrate the absence of effective soft skills and the consequences of a project manager who cannot meet these challenges. The Bayesian theory assisted the researcher in recognizing soft skills used in the construction field. In contrast, the social exchange theory revealed the relationship exchange between the project manager and their team.

The actors share a relationship with the same goal of completing their quality project on time. These actors vary in responsibility and focus within the project and depend on each other to achieve their goals. Their efforts through their work are also dependent on their roles. For example, organizational leadership must provide resources for the project teams to achieve the expected quality of project completion. These resources include the skill sets needed to contribute to the project. The interaction and flow of information between the elements of the

research framework are continuously vacillating. Information flows from the ground of the construction field to the top of the organizational leadership through the chain of leadership. The chain of leadership provides oversight and guidance to the lowest level. Karna and Junnonen (2016) noted that feedback depicts performance measures, monitors progress, and relays problems that must be resolved at the appropriate level of leadership.

Soft skills apply to all projects, but many are unnecessary in some industries. Construction field environments include roads, buildings, and structural infrastructure (e.g., bridges and special construction). According to Zuo (2016), common constructs describe how communication, procedures, and resources can be used to complete quality projects. Latent constructs can include soft skills like the ability to influence and effective leadership techniques.

Conceptual Framework Based on the Findings

Based on the findings in the research, the social exchange theory played a significant role in what the researcher observed during field observations. Project managers must interact with many people involved in the project, internally and externally. Project managers were also observed tailoring their demeanor and approach to the specific person with whom they interacted. The actors did not change, but the researcher found that trust between the project team and the project manager was important. The project managers (10) who visited the project sites often did so because they trusted their teams.

Summary of the Conceptual Framework

Relationships exist between the concepts, theories, actors, and constructs. Constructs include many soft skills that can be applied to any critical leadership role, including project management. Organizational leaders encourage soft skills development to achieve project completion. Actors understand that soft skills are achieved through various developmental

methods. These soft skills are developed through experience and can be researched with theories, such as the theory of constraints. The theory of constraints highlights the importance of flexibility, time management, conflict management, and critical thinking. The constraints may impact project completion, so project managers must make critical decisions to avoid lost time.

The interaction and flow of information and action between the research elements depict the research problem and outcome. Constructs reveal a relationship between each actor, such as effective communication or conflict resolution. Information flow and action between the actors relate to the three theories, most notably the social exchange theory. The dynamic environment of the construction industry has bottlenecks and obstacles that require project managers to apply soft skills to solve problems. According to Sarkar et al. (2018), problem-solving and critical thinking help avoid bottlenecks. In this case, the bottleneck addresses the need for flexibility and time management. The outcome of the process is the identification of constructs that can be used to develop project managers' soft skills.

Definition of Terms

Competencies refer to the possession of sufficient knowledge or skills (Magano et al., 2020). Competencies are applicable in many situations and used to create solutions. Competencies cannot be plainly seen but can be measured through evaluations and observations of the work environment (Geithner & Menzel, 2016).

Construction is the manner or art of constructing (Ma et al., 2018). Construction in this research covered many types of construction, such as road and building construction.

A construction manager manages the day-to-day operations within a construction site. Their scope of duties can be at a small, specific scale or cover a large area with multiple construction sites (Ma et al., 2014).

Development is a process designed to provide growth for leaders and other employees (Carstens, 2016). Development must be embraced and promoted by the organizational leadership to ensure successful growth. Development promotes retention and a positive outlook among managers.

An *organization* refers to many forms, such as a business, governmental group, or framework. An organization is responsible for managing all resources and the development of its employees (Rui et al., 2015). This research defined an organization as a business with members at multiple levels (e.g., management, laborers, planners, etc.).

Organizational leadership encompasses organization members who can influence or lead projects (Khattak & Mustafa, 2019). Leadership is a quality that demands attention and respect. Leadership is important within project management teams in construction as it contributes to success or failure. Leadership is developed through experience combined with the individual's competencies.

A *project* is a temporary endeavor to create a unique product, service, or result (Project Management Institute, 2017). Projects are diverse, can be applied within many environments, and vary in complexity and magnitude.

Project managers are leaders who manage a project team working toward completing a project. Managers oversee or supervise a group of people involved in shared goals (Moradi et al., 2020).

Soft skills involve using knowledge to execute tasks (Ravindranath, 2016). Soft skills like effective communication, creativity, leadership, and conflict management are necessary for project managers to be effective. Soft skills are generally defined as interpersonal or behavioral

skills that can be applied to technical competencies and skills in different situations in the workplace (Ravindranath, 2016).

Assumptions, Limitations, Delimitations

Assumptions are critical ideas or propositions needed to conduct the research. Limitations are constraints outside the researcher's control. One constraint included using historical data explicitly targeting the construction industry. Few researchers have recorded observations of soft skills applied in the construction field (Awan et al., 2015). The research delimitations include intentional decisions made by the researcher to limit the scope of the study (e.g., focusing exclusively on the construction industry).

Assumptions

Assumptions can be considered truthful based on evidence but not substantiated by a study's outcome (Creswell & Poth, 2018). The assumptions in this study included the idea that soft skills are critical to the successful completion of quality projects. It was assumed that soft skills amplify project managers' effectiveness. Soft skills are commonly known as people skills and effective social skills used to influence others to achieve a common goal. An effective project manager effectively communicates, motivates, and influences their team to work together toward an objective. Gulati et al. (2020) found that most soft skills are needed to manage project team members. A project manager who lacks critical soft skills risks leading the project to failure or missing its projected completion date.

It was also assumed that most project managers in construction lack soft skills. As soft skills are generally developed through experience, a new project manager may lack the soft skills needed to lead their team effectively. Ma et al. (2014) found that project managers who lacked experience or skills frequently lost control of their projects. Inexperience is a risk the

organization assumes if it does not have suitable project managers with ample experience.

Experience can vary and is difficult to quantify as a new project manager may have extensive construction experience but little experience leading a project team. Conversely, a new project manager can be a freshly graduated college student with no real-world experience but leadership experience from sports or an academic club. The risks associated with inexperience can be mitigated through effective developmental programs within the organization.

Another assumption was the lack of developmental programs for project managers in the construction industry. Organizations expect project managers to develop their teams to be effective. Developmental programs exist in many industries to help potential and current managers. Investing time and effort into project manager development results in improved retention, increased soft skill application, and promotion (Rui et al., 2015). Tahir (2019) found that most institutions focus on hard or technical skills. Developing soft skills early in the careers of project managers may lead to better communication, problem-solving, and other effective leadership traits that contribute to successful project completion.

Limitations

There were several limitations in this research. The research was limited to the construction industry. Taherdoost (2017) found that larger sample sizes had smaller risks of sampling errors. Therefore, the research involved as many project managers in the construction industry as possible. Observing many project managers led to a better understanding of the use and effectiveness of their soft skills. Few construction companies were located within a reasonable travel radius to allow the researcher to personally observe project managers. The companies operating in the area consisted of large firms that control most of the area's

construction projects. These companies were researched to identify their developmental programs.

Another limitation was that no observations were made of international companies. Traveling internationally was limited to essential travel. Therefore, the researcher relied on local data and published research on international companies. Observations in the field were more effective in determining the practical use of soft skills. The multiple case study approach relied on data from proven qualitative and quantitative research rather than opinions from the field. Awan et al. (2015) gathered observations from 178 project managers and concluded that poor communication led to slow progress and missed deadlines in the construction industry. The research did not use any surveys and depended on focus group interviews.

Delimitations

Delimitations are boundaries set within the research by the researcher. These boundaries were set to project managers in the construction industry. The researcher did not consider project managers working in any other industries. All types of construction (e.g., governmental, private, or public) were considered for this research. Multiple case studies that contain quantifiable and qualitative data that involve international projects, and their practice of soft skills were used in this research. The research focused on the application of soft skills and not the application of hard or technical skills.

Significance of the Study

The outcome of this research provided information on the effectiveness of soft skills leading to better project management completion rates. Soft skills are becoming more important to project management and effective leadership. Organizational leaders in the construction industry recognize the need for on-time completion of projects (Project Management Institute,

2017). Progressing through each project ensures that a company remains in business and profitable. The rationale for conducting this study was to provide insight into the importance of soft skills from a leadership perspective in project management.

Reduction of Gaps in the Literature

Soft skills are essential in project management (Awan et al., 2015). Most institutions teach the technical skills needed to perform as a project manager in different capacities. Many organizations seek out candidates with experience and soft skills and often hire individuals with soft skills to benefit the organization. A significant gap is the lack of soft skills among recently graduated project managers. Sharvari and Kulkarni (2019) found that nearly all new graduates were well-equipped with technical skills but fell short in their understanding of soft skills. Sharvari and Kulkarni found that almost 59% of hiring managers found soft skills challenging to find in job applicants, mainly due to inexperience.

This research filled a literature gap on how project managers gain competence in soft skills. Mentorship and experience develop soft skills. Bausell et al. (2020) found that project managers who participated in developmental and mentorship programs expanded their soft skills, benefitting their teams and organizations. Some project managers and organizations who mention these programs prove that soft skills are needed for success. Few recorded and verified developmental programs exist in the construction industry (Rui et al., 2015). Construction organizations can develop soft skills internally or externally. Organizations use online training programs like eLearning Industry and virtualspeech.com. These sites specifically focus on recognizing and developing soft skills for managers but do not specify the soft skills needed in the construction industry. Good Firm offers soft skills trainers who share the results of their research with project management teams in the construction industry. More information on the

importance of soft skills can significantly impact project success and reduce the gap in the literature.

As more construction project management teams recognize the importance of soft skills and their application, their production also increases. Applying soft skills, such as motivation and effective communication, to construction projects has increased productivity (Zulkiffi & Latiffi, 2019). Increasing a project team's productivity within the construction industry leads to faster completion rates without sacrificing quality. If more companies look for and hire project managers who have demonstrated practical soft skills, then soft skills become valuable to the construction industry.

Implications for Biblical Integration

From a biblical perspective, problem-solving, decision-making, and creativity are skills to assist communities and other people. James 1:5 says, "But if any of you lack wisdom, let him ask of God, who gives to all generously and without reproach, and it will be given to him."

Project teams look to managers for answers to problems, and project managers provide leadership and guidance. By providing solutions based on experience and insight, project managers become effective leaders. Applying the biblical perspective further develops other soft skills, such as compassion and understanding, benefiting project teams. These interactions must be built on trust and respect.

Successful businesses follow a set of values and principles enforced by organizational leaders. Leaders build off these principles and practice these values in front of their teams and workers. Biblical applications to business practices have successfully created corporations and other large businesses such as Hobby Lobby and Tyson Foods. Ecclesiastes 10:10 states, "If the axe is dull and its edge unsharpened, more strength is needed, but skill will bring success."

Leaders develop their teams and other leaders. These social interactions benefit their organizations and develop soft skills and competencies. Team members must understand their leader's intent and the end state of the project. They must also possess the skill sets to meet the demands of the project. Conducting business research from a biblical perspective involves identifying these principles and their contemporary use in these organizations.

Using soft skills to motivate a team to work harder and cooperatively rather than forcing them to participate can result in the timely completion of projects. Motivated teams work harder when they have established goals and trust their teammates. Psalm 32:8 states, "I will instruct you and teach you in the way you should go; I will counsel you with my loving eye on you." The Bible teaches principles that support teamwork and leadership and benefit organizations. Integrating biblical values into business solutions through soft skills can enhance communication and collaboration.

As mentioned before, soft skills are developed through experience and used by effective leaders. Soft skills can be seen as the application of biblical perspectives in how to effectively lead a team. The leader also creates a positive environment built on trust and respect. This research fulfills this requirement by identifying biblical values of leadership project managers can apply by using soft skills.

Benefit to Business Practice and Relationship to Cognate

Soft skills are personable skills, different from hard skills that are taught and evaluated later. According to Thompson (2019), soft skills are personal skills involved in problem-solving, decision-making, and creativity. These skills can be taught but are much more effective when developed through experience.

This research benefitted businesses in the construction industry through a better understanding of soft skills development. Businesses that improve their employees see higher retention rates, more motivated employees, and improved efficiency (Project Management Institute, 2017). These organizational benefits extend to customers through improved customer service. Ravindranath (2016) claimed that soft skills are the art of managing people toward satisfying customers by delivering the best products on time and exceeding stakeholders' expectations. In other words, leaders guide their teams toward a common goal, ensuring the firm's future through customer satisfaction and retention.

Summary of the Significance of the Study

The absence or lack of project managers' soft skills in the construction industry can lead to missed deadlines and poor-quality projects. Soft skills are important as they help project managers overcome unexpected delays and challenges. Technical skills lead project managers to develop resolutions for these challenges but may not be as effective as soft skills. Soft skills are not easily taught and applied from an institution but are developed through experience and mentorship.

A Review of the Professional and Academic Literature

Completing quality construction projects relies on a project manager's effectiveness and leadership. Construction project managers face many challenges when completing their projects. Projects can be affected by weather, resources, and abilities. Soft skills also determine the successful completion of a quality project. Soft skills enable project managers to make decisions that can affect the outcome of their projects (Tang et al., 2020). Effective communication, creativity, leadership, and conflict management are necessary for project managers to be effective. This research project added new knowledge and filled a gap in the current literature.

Business Practices

Soft skills, including negotiation and conflict resolution, are needed to be an effective project manager. The best business practices found within the literature share a common use of soft skills. Individual soft skills can differ based on company and region, but the overall skill group remains similar (Soliman, 2017). Using effective soft skills in the construction field has proven beneficial in many situations. The Project Management Institute (2017) recognized three main soft skills called the *talent triangle*: technical, strategic/business management, and leadership.

Benchmarking.

Benchmarking is an effective tool of measurement. It is a goal-centric design enabling a developing individual to achieve attainable goals that build confidence. “Benchmarking is the comparison of actual or planned products, processes, and practices to those of comparable organizations to identify best practices, generate ideas for improvement, and provide a basis for measuring performance” (Project Management Institute, 2017). Feedback is an essential aspect of benchmarking as it assists in development by evaluating the manager’s performance. An evaluation of the project is a benchmark that determines the team’s effectiveness. Innovation-related hard and soft skills are positively related to workers’ job performance (Hendarman & Cantner, 2018). Management teams using benchmarking can determine specific areas of development needed. Benchmarking can also create a systematic approach to developing project managers at multiple levels.

New project managers often lack experience in conflict management, so this skill set may be a priority, whereas risk management may be a priority for a seasoned project manager. Even seasoned project managers should be aware of risk. Years on the job may lead to complacency,

reinvigorating the importance of risk management for experienced project managers. Karna and Junnonen (2016) found that benchmarking increased production by setting attainable desired outcomes. These outcomes would increase a project's scope and difficulty over time, leading to project managers' development and promotions to higher managerial positions. Benchmarking can be applied within all levels of the organization to include any contractors, sub-contractors, and entry-level employees. Contractors can significantly impact an organization, so their development can also enhance its performance (Karna & Junnonen, 2016). Applying the benchmarking business practice with contractors and subcontractors can lead to developing their soft skills and subsequent quality improvements.

Benchmarking has many advantages for project managers. As benchmarking sets achievable goals for project managers to attain, it encourages their development of leadership skills. Some advantages of benchmarking are promoting a culture of continuous improvement, allowing new ideas for proven practices, and improving problem-solving approaches for old problems (Tereso et al., 2019). Continuous improvement within the organization leads to better business practices, directly benefiting customers.

Benchmarking can be used to measure performance and evaluate soft skills effectiveness. Project managers encounter many situations where decisions are critical. Leaders who support the project managers' development provide sustainability within their operations. The building information modeling benchmarking business practice is a business practice used in Hong Kong. Building information modeling integrates the organization, the project manager, the building design team, and stakeholders within an effective communication platform (Olawumi & Chan, 2019). Through effective communication and collaboration, construction projects remain on

track, with each completion phase as a benchmark, keeping stakeholders and organizational leaders informed.

Building Resiliency.

Resiliency is essential to developing the project manager's effectiveness as a leader. The construction industry has structured timetables for project completion yet is subject to circumstances that can prevent a project's timely completion. Severe weather and labor disputes are challenging for any project manager. A successful project manager must be resilient in these situations, so their teams do not hesitate or waver. Project managers and their teams must be resilient under these circumstances as it is a team effort, and each member is dependent on other teammates. Turner (2019) attributed building resiliency to developing other soft skills such as effective communication, leadership, emotional intelligence, influencing others, conflict management, and negotiation.

Developing resiliency involves mentorship from experienced project managers. Sharing experiences and strategies provides useful insight. Turner (2019) supported sharing experiences with new project managers as it helps maintain perspective and acknowledge that projects routinely become challenging. Project managers must keep a positive mentality and be focused on their projects. Project managers can develop resiliency by achieving milestones within their organization; work tasks are achievable milestones. Work tasks tend to be non-routine, specialized, complex, and require system integration capabilities characterized by collaborative and resilient behaviors (Walker & Llyod-Walker, 2019).

Managing projects within a complex, dynamic environment can be stressful. Stress can distract project managers from accomplishing their tasks and managing their teams. Developing resiliency involves discovering the root causes of workplace stress. Mental well-being and sleep

can contribute to resiliency (Turner, 2019). Project managers must be able to manage stressful situations, maintain focus, and prioritize their health. Resiliency is a critical soft skill used to transition from an institutional learning environment such as college to professional life (Turner, 2019). Developing resiliency within project managers can reduce stress for the project team. Ignoring stressors can lead to project managers experiencing burnout or exhaustion.

Being resilient contributes to the overall development of the project manager. Behaviors such as authenticity and resilience contribute positively to the process of development (Borg & Scott-Young, 2020). Developing a project manager to recognize and address stressors in their work environment promotes adaptability and resiliency. Borg and Scott-Young (2020) identified 24 required work-ready attributes contributing to a successful project manager, revealing more soft than hard skills in the top 10. Resiliency enables the project manager to develop and use other soft skills, such as critical thinking and conflict resolution. Magano et al. (2020) defined resilience within project management as the ability to adapt or deal with the adverse effects of stressful challenges and recover from them. Resiliency enables an individual's emotional intelligence to understand stressful conditions and how to deal with them.

Resiliency Planning.

Building resiliency includes planning and sustaining a project manager's skills throughout employment. Resiliency planning is a strategic developmental approach (Sellberg et al., 2018). As with any developmental program, resiliency planning must be supported by the organization and emphasized throughout the development of their management teams. The development program must also be adequately resourced and staffed with planners committed to long-term improvement. Sellberg et al. (2018) found that resiliency planning had four lessons for resiliency practice:

1. Connect internal entrepreneurs.
2. Assess the opportunity context for resilience practice.
3. Ensure resilience practice is a learning process that engages internal and external actors.
4. Develop reflective strategies for managing complexity and uncertainty.

Resiliency planning involves engaging mentors, coaches, and staff who guide the developmental program. Throughout the organization, project managers may experience different types of adversities and challenges. Including internal and external actors can bridge the differences between experiences.

Identifying and Building Competencies.

Identifying and building project managers' competencies is essential to organizational improvement. Competence is the use of knowledge, understanding, and expertise to be successful in a role (Khattak & Mustafa, 2019). One method of identifying and building competencies is through integration management. Integration management supports sharing knowledge and integrating organizational processes and supply chains (Demirkesen & Ozorhon, 2017). Teams perform based on the effectiveness of their organizational leaders. Organizational integration promotes positive aspects within the project management team (Demirkesen & Ozorhon, 2017). Project construction factors are directly affected by the lack of organizational coordination (e.g., time management, quality assurance, and cost-effectiveness). Integrating the organization's operations with the project manager's activities and team goals can prevent project delays.

Identifying and building competencies is a continuous process supporting the development of the project manager. Leadership competencies are soft skills. Novo et al. (2017)

found that many successful project managers shared and valued the same competencies.

Successful project managers focus on efficiency and openness, while highly successful project managers value teamwork, customer service, and social awareness (Novo et al., 2017).

Successful completion of a quality project can be affected by the leadership styles of project managers who adapt to challenges in their environment.

Strong, resilient leadership styles emphasizing teamwork and collaboration can lead to more effective project teams. Project managers who possessed high emotional competence were more successful than those who did not (Novo et al., 2017). High emotional competence includes soft skills like sensitivity and effective communication. Identifying these soft skills proved critical to project managers' development as these competencies determined project success. Novo et al. (2017) noted that merely possessing these leadership competencies did not guarantee effectiveness; applying these competencies proved their effectiveness.

International projects are as complex and dynamic as projects in the United States. International projects have generated approximately 24.5 billion dollars since 2019 (World Bank, 2021). Foreign projects are governed by their host country and subject to different environmental regulations. Stakeholders can include a variety of domestic and foreign interests. Today, challenges with international projects include global initiatives like climate change and COVID-19 (Ika et al., 2020). A competent and confident project manager must be ready to meet the challenges of a complex international project.

Ika et al. (2020) determined that the cross-fertilization of competency development and sharing practices benefits the project management community. Sharing and developing critical soft skills increases project completion rates. Because international projects can be more complex, project managers must understand the multicultural working environment. Challenges

domestically and internationally can be similar in complexity; the challenges lie within the capacity of the project manager's abilities to manage their team through adversity (Ika et al., 2020). Effective communication between the organization, the host country, and the project manager are critical. Other competencies like conflict resolution, flexibility, and social awareness are essential for project success in the international environment.

Sustaining Development Programs.

Developmental programs must be sustainable. There are few developmental programs within the construction industry. Most project managers start from a specific technical field and eventually become a part of a construction management team (Ma et al., 2014). One approach to the sustainability of developmental programs is project facilitation. Project facilitation provides a means to bridge the gap between project delivery and organizational strategy (Lannon & Walsh, 2020). With this program structure, organizational leaders and stakeholders collaborate and drive the program to meet the changing needs of the project based on past challenges of other projects. By recording the project manager's needs on each project, the program is changed and updated, meeting the objective of sustainability.

Leadership development can include many priorities or processes to develop project managers successfully. The most successful programs emphasize coaching and mentoring. Action learning is a growing method to develop project managers. Action learning involves applying lessons in daily work routines to build interpersonal skills (Roupnel et al., 2019). Applying lessons from an effective mentorship program benefits the entire project team and promotes a positive working environment.

Action Learning.

Action learning is a concept where project managers apply lessons to real-world problems or challenges while continuing to train within their academic profession (Beech et al., 2021). This process allows project managers to study and work in their field simultaneously. This learning model benefits the organization and the project team as the project manager navigates the developmental process. The action learning process can be applied for the entire duration of higher professional learning.

Critical skills like effective communication, group cohesion, and conflict resolution were discussed and applied within this study. The Leeds Business School uses this process for project managers and military service members who complete education beyond the level of a bachelor's degree (Beech et al., 2021). Participants in this development process can potentially develop connections between resolving conflict and communication to active engagement. These skills also promote team cohesion, potentially increasing project team efficiency.

Coaching.

Coaching is an important facet of a development program. Coaching is a method of guiding a coachee to improve their interpersonal skills, qualities, and competencies (Roupnel et al., 2019). The coach's relationship with the coachee is critical. Coaching is only as effective as the interaction between the coach and the coachee. The coaching relationship helps project managers think critically to create solutions to their challenges (Roupnel et al., 2019). A dedicated coach who is readily available can reinforce the project manager's confidence and boost their performance, benefiting their team and organization.

Coaching is not as formal as mentorship. Informal relationships can lead to more interactions with open communication (Roupnel et al., 2019). Coaches rely on feedback from their coachee to manage their development. Coaches use challenges and problems from the

working environment to help shape change. As coaching is more informal than mentorship, it can be applied personally and professionally. Coaching can also be designed to be a short-term commitment addressing a single or set of problems (Roupnel et al., 2019). Depending on the organization's dedication to development, coaching can be a sustainable program that pays dividends to the organization via employee retention and satisfaction.

Mentorship.

Mentoring is another important facet of a development program. Organizations benefit from effective mentorship programs focused on developing leadership skills (Iverson, 2019). Successful mentorship programs have positive outcomes and provide valuable returns for the organization. Outcomes from successful mentorship programs include increased job satisfaction, higher employee retention, and the projection of a positive employer brand (Iverson, 2019). Retaining satisfied employees promotes a great working environment for the organization. The employees involved in the mentorship program are an investment in the sustainability of the development program. Organizational leaders should establish mentorship programs as most employees seek mentorship. Iverson (2019) found that over half of the current workforce seek mentorship opportunities and are more likely to remain with their employer if such opportunities are provided.

Project Management Skill Sets

Project management requires hard (e.g., technical) and soft skills to meet organizational obligations. Hard skills are often taught and developed in an institutional environment, while soft skills are developed over time through experience. Soft and hard skills are significantly and positively associated with individual innovativeness (Hendarman & Cantner, 2018). These skill sets are vital to the success of project managers and their teams. These skill sets are vital to

project managers' success but can differ in importance depending on the type of project and work environment.

Hard Skills.

Hard skills include technical knowledge, administrative processes, financial procedures, licenses and certifications, and risk management. Each of these skills is learned in a higher education institution, most commonly, colleges and universities. Technical skills form the base of a project manager's ability to achieve project goals. Hard skills complement soft skills in project management. The effectiveness and application of hard skills can be measured and evaluated more easily than soft skills. In the construction industry, progress can be measured by cost, customer satisfaction, time, and profit.

Technical Knowledge.

Project managers must have a base of technical knowledge to perform their jobs and manage their teams. These technical skills can include basic skills like typing and computer skills and specialized skills associated with project management systems. Key performance indicators are widely used internationally and domestically in project management (Mesároš et al., 2019). Key performance indicators are any measurement that the organization determines. Key performance indicators include cost, safety, productivity, and profitability (Mesároš et al., 2019). Technical knowledge of effective project management produces favorable results within these indicators.

Technical knowledge includes knowledge and efficiency in digital systems that track changes, manage project efficiency, and establish communication within the project. Information technology systems support collaboration, open communication, and technical processes. Project managers use these systems to keep their teams on track to project completion. Information

systems are heavily used for international projects with stakeholders or managers in different regions. Exploiting information systems to support decision-makers is one of two general functionalities that help users analyze situations and make decisions (Mesároš et al., 2019). Technical knowledge of these systems and capabilities enables project managers to collaborate with their project team and organization.

Administrative Processes.

Administrative processes involve knowledge of all aspects of human resources, environmental considerations, and other administrative requirements. The construction industry is one of the biggest contributors to the economy. All types of construction are regulated for safety, environmental compliance, and permission to operate. Martens and Carvalho (2017) found that management of environmental policies and standards was a priority for project managers because these policies and standers could constrain the completion of quality projects. Administrative compliance with environmental regulations prevents violations that may lead to negative consequences. The economic performance of construction projects is dependent on environmental compliance (Chowdhury et al., 2020). Project managers must be familiar with all administrative processes and requirements to perform their duties in the construction industry. Failure to comply with a regulation or follow a required administrative procedure can be detrimental to the progress of the project.

One of the most critical administrative processes a project manager must be familiar with is operational planning (Smith, 2021). Operational planning ensures that the intent of the organization's project matches the customer's requirements and vision. The operational planning process includes administrative measures needed to operate and manage the project. The project

manager must know the associated administrative costs of the project, like personnel, supply, and indirect costs.

Financial Procedures.

Financial procedures are an important aspect of project management. Knowing the administrative procedures within the project's budget can prevent backlogs and constraints from hindering progress. Not understanding the budget can lead to adversity in a dynamic environment like project management (Blythe et al., 2019). Other considerations with budget knowledge are personnel, consultant, permit, and material costs. Failure to understand how much money is available to manage and operate a project can lead to delays in the timely completion.

Licenses and Certifications.

Project management requires certifications and licenses when operating in dynamic environments like construction. Project management organizations provide guidance on standards and offer certification possibilities (Lutas et al., 2020). Project managers may not require certifications to perform organizational duties, but they reinforce their knowledge of project management through licenses and certifications. Project managers must know what licenses are needed to manage a project. In construction, licenses to operate machinery and specialized equipment are essential to prevent delays and constraints. Project managers have a vested interest in factors that may influence an organization's view of their competence, training, and needed development (Lutas et al., 2020). Certifications can assist and guide an organization in identifying and creating a developmental program for their project managers and teams.

Risk Management.

Risk management is an essential hard skill for all aspects of project management. Effective risk management prevents project failures through integrated risk response strategies

(Dandage et al., 2019). Identifying and mitigating risks can prevent project delays and time and cost constraints. Identifying and mitigating risks are technical skills that complement soft skills. Calculating risks associated with project management increases the chance of completing quality projects (Dandage et al., 2019). Risk management enables the project to progress toward each milestone without delay. Dandage et al. (2019) broke down the following eight essential risks associated with most international projects:

1. Financial and economic risks, such as exchange rates and taxes
2. Contractual and legal risks, such as international legal requirements
3. Design risks, such as specifications and building codes
4. Political risks like regional instability
5. Cultural risks like language barriers and religious differences
6. Technical risks, such as technical misinterpretations
7. Fraud-related risks, such as corruption and bribes
8. Health-related risks, such as environmental considerations

Project managers cannot eliminate all risks. Risk must be mitigated to keep the project from falling behind schedule or failing (Dandage et al., 2019). Risk management is a tool that should be applied in all projects. The size and scope of all projects do not eliminate the need for risk management. Project managers should practice active risk management in their work environments.

Soft Skills.

Soft skills are interpersonal and behavioral skills needed to apply technical skills and knowledge within the working environment (Hendarman & Cantner, 2018). Soft skills are developed through experience, and most successful project managers in this research applied soft

skills when managing their project teams. Soft skills apply the social factor to problem-solving. This research identified 13 common soft skills used by successful project managers.

Conflict Resolution.

Project managers must resolve conflicts within their teams if they arise. Conflicts result when two or more team members disagree about a project or task. Conflict is unavoidable within a team regardless of a leader's effectiveness (Griffith & Dunham, 2015). Conflict can arise from differences of opinion or personal biases. Conflict resolution is an important developmental opportunity to create a more cohesive team by respecting all team members' thoughts and differences. Team leaders must have an authoritative presence, stand from a neutral position, and examine all facets of a conflict (Griffith & Dunham, 2015). Establishing ground rules when resolving conflicts is essential to maintain a professional posture. Some ground rules include being on time for resolution meetings, putting away electronic devices, sharing fundamental ideas, participating, appreciating different opinions, and being professional (Griffith & Dunham, 2015). Resolving the conflict is essential for productivity and project completion. Most teams who operate without cooperation and seem dysfunctional are experiencing unresolved conflict.

Levels of assertiveness and cooperativeness result in different management styles (Griffith & Dunham, 2015). Management styles determine how project managers address conflict and are developed based on a project manager's experience and soft skills. The soft skill of conflict resolution deals heavily with the interpersonal relationship between a project manager and their team. Knowing the expected reaction of the team when resolving the conflict can lead to the anticipated outcome after the conflict (Ravindranath, 2016). Moving from conflict to production requires the team to become more cohesive. Conflicts must be resolved with the entire team openly and fairly.

Effective Communication.

Effective communication is critical to project completion. Zuo (2017) found that the poor performance of Vietnamese project teams resulted from a lack of communication and slow decision-making. International projects can be subject to communication barriers like cultural and language differences. Communicating clearly and effectively in international projects often involves many different platforms. Effective communication positively impacts the structural and social aspects of the project working environment (Soliman, 2017). Timely communication enables information sharing and reduces project delays and constraints. Effective communication is one of the most important soft skills for project managers. Communication also involves all levels of an organization, from the project team to the stakeholders.

Selecting the right communication method can be critical to project completion. Successful and effective methods include video teleconferencing, phone conferencing, and in-person meetings (Galli, 2020). Choosing the right communication platform must accommodate everyone involved in the project. Stakeholders must be able to communicate with the project manager and organizational leadership to ensure there are no misunderstandings and to build confidence in the project team (Galli, 2020). Open communication regarding the project scope identifies constraints and challenges before they occur.

The target audience must also be identified when information must be shared. Minimizing the audience promotes clear communication without wasting team members' time. Galli (2020) divided audience members into four categories: sponsors, project team members, clients, and collaboration partners. Collaboration tools provide up-to-date information, directing the project team toward project completion. Effective communication leads to further collaboration, job satisfaction, and increased efficiency.

Leadership.

Leadership encompasses many soft skills and is a foundation for effective project management. Critical dimensions of leadership include resource management, self-awareness, and sensitivity (Zuo et al., 2018). Effective leaders take credit for success and failure. Leaders do not control the project or team; they provide guidance. Dynamic projects require dynamic project managers who are influential leaders (Zuo et al., 2018). Project team members follow an effective leader who displays selfless traits and prioritizes project success. Leadership is a skill competency classified as soft skills for project managers (Mufaricha et al., 2020).

Humility is a trait among adaptive leaders (Ali et al., 2021). Humble leaders rely on the strengths of their teams and improve their weaknesses. Project team members identify with a humble leader through their social interactions and relationships. Humble leaders create working environments open to new ideas and collaboration. Humble project managers are receptive to their team members using the traits of cooperation, confidence, and creativity (Ali et al., 2021). Positive workplaces are associated with the successful accomplishment of quality projects. Humility promotes team development with positive attitudes. Another benefit of positive workplaces is open communication within project teams. Openly communication also promotes team building, collaboration, and respect (Ali et al., 2021).

Transactional leadership is another leadership style used in project management. Transactional leadership is a process of exchanging rewards resulting from work performance and accomplishment (Mufaricha et al., 2020). Within this leadership style, leaders do not motivate teams to collaborate. Instead, transactional leaders provide resources, and the project team is motivated with a reward at project completion. Rewards vary but are primarily promotions, bonuses, or opportunities to work on other projects. Project teams are not

encouraged to perform at their best or work vigorously because transactional leadership is passive management (Mufaricha et al., 2020). Transactional leaders sometimes cause project team members to move to other organizations as their motivation is purely based on monetary needs and self-interest. In contrast, motivational leaders encourage project team members to remain at their organizations because they have a sense of job satisfaction and a positive work environment.

Time Management.

Managing time is a crucial soft skill for any project manager. Time is one of the best measures of project success. A project completed on time without delays or constraints is the ultimate goal of the project team. Crispim et al. (2019) found that projects have moved away from performance measures like the cost-time-quality triangle toward time and cost targets. Project managers use estimated times of completion for projects as goals. All projects are run on a schedule where milestones are assumed to be completed in phases toward completion. Other factors that affect time management are regularly scheduled activities like meetings that must be factored into the work schedule. Effective time management does not mean being on time for every project activity; it means effectively using the time given.

Nasir et al. (2016) used three parameters (i.e., time, cost, and quality) to determine the effectiveness of soft skills in projects in Malaysia. Nasir et al. found that project managers who managed their time met the other time and quality requirements at a higher rate. The project manager is crucial to keeping construction projects on time and on the right track. Effective time management has a direct effect on cost and quality. Projects that go beyond the estimated time of completion cost more in materials and personnel (Nasir et al., 2016). Consequently, poor time management and scheduling adversely affect project quality.

Rushing to finish a project may lead to substandard or unwanted changes to finish a project on time. Nasir et al. (2016) surveyed over 20 project management firms in the South Pacific Region and found that time management was a minor concern for construction firms. Project managers who do not manage their construction phases affect more than their organization. Ineffective time management within construction can lead to delays in critical infrastructure. People are dependent on critical infrastructure to commute and provide for their livelihood.

Trustworthiness.

Effective leadership often results in earned trust from the project team. Trust within the team builds confidence in the team's abilities and opens communication with the project manager. Trust encourages teamwork, collaboration, and innovation (Novo et al., 2017). Project teams who collaborate and innovate within their organization benefit stakeholders and customers. Project teams who work well together often engage in continuous improvement. Trust is social capital (Zia, 2020). A project team that trusts each member of the team shares information effectively. Project team members are not considered internal competition when trust is established (Zia, 2020). Trust within the team means the team shares the same vision. The project team's goals become each member's goals.

Khattak and Mustafa (2019) found that transformational leadership behaviors improved team members' relationships through earned trust, leading to an organizational association and continuous improvement. Trust is the strong connection between a project manager and their team and the knowledge that both sides share an understanding of the project's goals. Trust ensures that the entire team understands the organization's vision and desired outcomes. Trust in the project manager equates to trust in the organization. Trust in a leader develops a nurturing

environment that promotes innovation and workplace autonomy, resulting in higher job performance (Khattak & Mustafa, 2019). Trust in the project manager can lead to trust in the organizational leaders and result in improved retention of productive project team members.

Trustworthiness holds other important attributes vital to an effective project team. Ravindranath (2016) found that when individuals who communicated to the rest of their organization, despite their status as a senior, peer, or subordinate, were perceived as trustworthy, their opinions and communications were accepted as truthful. Project managers with trustworthy reputations increase effective communication between the project team and the organization. Trustworthiness supports other soft skills like social awareness, motivation, and influence. The project team's motivation can be connected to their trust in the project manager's influence. The project manager's social awareness is their connection to the project team.

Flexibility and Creativity.

Managing construction industry projects can present challenges associated with dynamic and complex environments. Flexibility and creativity are critical soft skills most project managers must develop. Borg and Scott-Young (2020) defined flexibility as a critical behavior necessary for an individual's successful transition to work. Zia (2020) defined creativity as a prerequisite to problem-solving and innovative performance. Flexibility and creativity have been characterized throughout the literature as complementary or combined as one soft skill. Developing flexibility and creativity occurs by experiencing the limits of the project manager's abilities and reflecting on past failures and successes.

Jena and Satpathy (2017) claimed flexibility and creativity are two sides of the same coin. Flexibility and creativity are linked in many complex problems. Borg and Scott-Young (2020) determined that project managers developed flexibility and creativity by navigating

adverse and complicated situations. These situations require creative problem-solving techniques and critical thinking. As project managers must be flexible, project teams must practice flexibility and creativity to meet expected outcomes.

To encourage flexibility and creativity, project teams must adapt quickly. Project teams cannot have emotional attachments to project parameters, as organizations and stakeholders can change project designs (Khozravi et al., 2020). Project managers must ensure that project teams are flexible and able to meet unexpected changes with creativity. Jena and Satpathy (2017) discovered that flexible project teams were easier to manage as long as the teams openly communicated anticipated changes. Communicating anticipated changes within a project team leads to the development of alternative solutions.

Fostering creativity encourages innovation. Innovation is a critical soft skill as long as innovation failures are accepted along with successful attempts to innovate. Project managers benefit from working environments that empower people and create a learning climate to foster innovation (Zaman et al., 2020). An environment conducive to creativity and innovation drives an organization's competitiveness. Investing in a creative working environment requires tools and a framework from the organization (Zaman et al., 2020). Project teams should be encouraged to find innovative ways to manage projects.

Motivation.

Motivation can drive a team to perform at its peak. Project managers create a cooperative environment conducive to success (Novo et al., 2017). Project managers who motivate their teams can benefit from increased engagement and productivity. Motivation produces a working environment receptive to other aspects of an effective project team, such as collaboration and

teamwork. Motivated team members rely on each other and work harder to ensure the project team is successful.

Motivated project team members can drive initiatives that prove successful within the organization. Project activities like planning, organizing, and decision-making can be catalyzed through effective leaders who motivate their teams (Awan et al., 2015). Project teams that take the initiative to perform project activities before the project manager asks benefit the organization. Project teams must be aware of implied project tasks to take initiative. Taking initiative reduces lead times and improves scheduling. Jena and Satpathy (2017) discovered that employees who took the initiative were self-motivated and lacked the need for constant oversight. Project team members who are self-motivated increase team efficiency.

Motivation is not always driven by leadership. Project team members can motivate each other to accomplish specific critical tasks and milestones. Motivated team members work hard for the interests of the project team, strengthening their teamwork and engaging them in the project (Awan et al., 2015). Motivated team members often stay with their organizations to stay with their project teams.

Social Awareness.

Social awareness is a broad term for a soft skill that involves perceiving other people's emotions. Project managers who invest time to build rapport can detect emotional differences that hinder project performance. Project managers with high emotional competency were effective leaders and successful managers (Novo et al., 2017). Project teams focused on not being emotionally distracted are more effective than teams with members who cannot focus on their work due to outside influences. Project managers who practice social awareness are sensitive to the emotions of their teams.

Social awareness identifies emotional indicators within project teams and allows managers to assist their teams through emotional distractions. Effective project managers who are motivated to assist their team members through emotional situations are often the most successful (Sharvari & Kulkarni, 2019). Social awareness constitutes emotional intelligence. Effective project teams use emotional intelligence to reduce tensions and increase cooperation by identifying, assessing, and controlling the sentiments of team members and anticipating their actions, acknowledging their concerns, and following up on their issues (Project Management Institute, 2017). Cohesive project teams who hold sentimental value for the project work effectively.

Research on soft skill development in project management found that project managers with high emotional intelligence generate high social returns and improve private enterprise activity and recruitment (Khozravi et al., 2020). Project managers who have a reputation for caring for their teams can expect to recruit potential candidates to their organizations. Motivated people desire to stay within their organizations (Khozravi et al., 2020). Retaining motivated project team members is essential to building effective teams and maintaining continuity between projects.

Influencing.

Influence is similar to motivation. Influence can range away from the project team and into other levels inside and outside the organization to meet the project's needs. The scope and size of influence can vary depending on the size of the project or organization. A leader's influence is more prominent in smaller rather than larger organizations (Zia, 2020). However, influence is neither limited to the size of the organization nor the size of the project team. Project managers can influence the outcome of their projects in all aspects, from teamwork and

collaboration to communication. Projects that may need additional resources can be achieved through the influence of project managers (Zia, 2020). Influence can produce innovation through the encouragement of team collaboration.

A strategy management tool known as TOWS (threats, opportunities, weaknesses, and strengths) can be used to assess project requirements. According to Dandage et al. (2019), project managers can use TOWS to identify project requirements and assess risks within their projects. Knowing the possible risks associated with a project can determine the direction of the project team. The project manager's influence guides the project away from possible constraints and challenges. Influence is a critical soft skill a project manager must understand and use when assessing risk categories and acceptability (Dandage et al., 2019). Project managers can mitigate the risks associated with their projects through their influence.

Internationally, influence can relate to regional and political factors. Influence at this level must be communicated to organizational leaders to prevent project delays. Project managers must identify and communicate any possible threats from foreign political parties or groups like unions with differing appropriate human resource policies (Dandage et al., 2019). Failure to understand these constraints can hinder progress and must be identified early in the project to prevent stoppages.

Negotiation.

Project managers use negotiation in different aspects of their projects. Negotiation can involve all project aspects, from costs to tasks (Tang et al., 2020). Negotiating costs affects supply chain management and overall project cost. Costs influence the availability of resources and risks associated with material quality. Zuo (2016) identified negotiation as one of the critical

skills influencing construction project success. Negotiating details of the project site and required materials can affect project costs, organizational goals, and stakeholder satisfaction.

Project failures in the construction industry can be attributed to many factors. Eighty percent of project failures result from poor leadership (e.g., ineffective communication, lack of teamwork, and poor negotiation skills; Zulkiffi & Latiffi, 2019). Negotiating allows project managers to obtain needed resources. Project managers can negotiate project deadlines, scope, and team structure (Zulkiffi & Latiffi, 2019). Projects without the needed resources and interest from stakeholders have a greater potential to fail. Effective negotiation involves clear and effective communication between all parties, especially stakeholders and organizational leaders.

Successful project managers review business strategies, support new agreements, and promote sustainable practices (Martens & Carvalho, 2017). Sustainable projects are focused on the preservation of the community and the environment. Normal factors still apply to sustainable projects, such as cost, economic impact, and social behavior (Martens & Carvalho, 2017). However, sustainable projects have become more desirable because they focus on social-economic values that emphasize resource conservation. Organizations that emphasize resource conservation and sustainability are driven by their mission statement and strategy (Martens & Carvalho, 2017). Sustainability projects are potentially driven by continuous improvement methods where waste is limited to meet sustainable project standards.

Cognitive Skills.

Cognitive skills include critical thinking and problem-solving. Within the construction industry, work environments are complex, and traditional project management methods may not address contemporary issues. Project managers use critical thinking to solve problems daily. Decisions significantly impact many stakeholders, so critical-thinking skills are important (Turan

et al., 2018). Some situations may not require extensive critical thinking based on the decision's impact, but each decision's residual effects should be considered. Project managers can use team collaboration to gather the details of the problem before considering solutions by gathering, analyzing, and evaluating as much information as possible before deciding on a solution (Turan et al., 2018). This process can take significant time to develop an optimal solution.

Experienced project managers often solve problems using proven systems. Elia et al. (2021) found that a systems thinking framework satisfies project and stakeholder needs. A systems thinking framework examines problems holistically to determine underlying issues so that comprehensive solutions can be implemented. Elia et al. determined that project management problems derive from three key facts: (a) projects are not deterministic, (b) stakeholders' needs can change during the project, and (c) project outputs change, creating challenges. Project managers can apply the systems thinking framework in all situations. Project managers develop problem-solving methods using the systems thinking framework, which is conducive to various critical thinking techniques. The systems thinking framework encompasses many problem-solving methods project managers employ.

Adaptability.

Project managers must be adaptable to complex environments in the construction industry. Outside influences can affect construction projects. Recently, the Coronavirus pandemic (COVID-19) caused global problems. Project managers must mitigate COVID-19-related risks to prevent project delays. COVID-19 has increased digital communications use for project-based frameworks (Kudyba, 2020). Effective communication is critical in project management, as all parties must understand the project's direction and parameters. However,

construction projects still require physical work and cannot be completed solely through digital means.

Virtual capabilities have been developed and used in project management because of COVID-19 (Kudyba, 2020). Adapting to these changes causes some difficulties for project managers. COVID-19 drove the need for more innovation and flexibility as rapid changes increased project difficulty. Interacting with project teams, organizational leadership, and stakeholders can be achieved through digital communication platforms (Kudyba, 2020). Future project managers can use these methods to manage their projects and increase communication.

Traditionally, project managers had to adapt to adverse situations like environmental considerations and material availability. Environmental adaptations include changes in regulatory guidance (Chowdhury et al., 2020). Infrastructure projects face these challenges associated with regulatory guidance more than other projects. Adapting to the complex working environment of the construction industry is a critical soft skill for project managers. Compliance with environmental regulations is a project team's responsibility. Project managers must be aware of environmental factors and proactively guide the team toward regulatory compliance (Chowdhury et al., 2020). Teamwork and collaboration can supplement adaptability when dealing with the complexities of construction projects.

Technology has evolved over the last 10 years to improve project management. Project managers now must manage projects using technology-based systems. Project management methods and best practices are being merged with market and technology trends to meet everchanging customers' needs (Zaman et al., 2020). As projects increase in complexity, technologies evolve to meet efficiency needs. Technology can decrease the complexity of

projects. (Zaman et al., 2020). Project managers familiar with the technological advances in construction can succeed through innovation.

Teamwork and Collaboration.

The importance of teamwork and collaboration is mentioned throughout the project management literature. Project teams can be dynamic and excel in different areas. Team members contribute to the overall team performance by sharing their strengths. Project managers are responsible for coordination between project team members (Radujković & Sjekavica, 2017). Project team structures account for the strengths and weaknesses of each team member. Collaboration allows project managers to manage a project's pace and completion (Radujković & Sjekavica, 2017). Project managers should facilitate collaboration and team building to improve team effectiveness.

Project teams include members with many specialties. Differences among members can increase a project team's diversity. Collaboration involves soft skills like negotiation, time management, and adaptability (Noguera et al., 2018). Project managers should facilitate collaboration within project teams to maximize effectiveness. Collaboration includes face-to-face meetings and video teleconferencing. Scheduling conflicts and team dynamics can present challenges for collaboration. Project team meetings can effectively mediate team diversity. Project managers develop a cohesive team by respecting team members' areas of expertise (Noguera et al., 2018).

The Problem

The general problem to be addressed by this study was the lack of soft skills among some project managers, resulting in decreased rates of quality project completion. In a recent study, Zuo et al. (2018) correlated project managers' lack of soft skills competencies to project failures.

The specific problem to be addressed was the lack of soft skills among project managers within the construction field, resulting in decreased quality project success rates. Dionisio (2017) correlated soft skills with strategic thinking leading to a better understanding of project concepts. Ravindranath (2016) related the failure of most projects to project managers who lack soft skills applicable to their field. Hard skills may not be sufficient for all challenges or adverse situations in the construction field. Soft skills can bridge the gap between technical challenges and challenges requiring critical thinking and creativity. Not all situations in the construction industry are capable of being solved exclusively through technical abilities. Soft skills such as flexibility and adaptability can guide the project team to the successful completion of their project.

Concepts

Quality project completion in construction is attributed to project managers' and teams' effectiveness. The team contributes to project success through effective tools and skills, especially soft skills. According to Turner (2019), the lack of soft skills in project management correlated to project success and failure rates. Soft skills can be taught and developed within the construction field with encouragement from management.

Soft skills are developed through internal and external institutions or on-the-job training. Most soft skills are developed through experience within an industry. Soft skills are taught throughout a project manager's lifetime, but these skills are typically emphasized during the early stages of their career. Further developing these soft skills helps project managers grow into effective leaders. Turner (2019) noted that identifying soft skills important to young project managers can help resolve stressful situations.

According to Zuo et al. (2018), organizational leaders must encourage project managers' soft skills development. Organizational leaders who invest in developmental programs benefit from increased collaboration and teamwork. Project teams who train and develop together increase their efficiency and collaboration. Ravindranath (2016) noted that soft skills contribute to higher successful completion rates within the construction field, as soft skills complement project managers' technical skills, making them more effective leaders.

Soft skills like effective communication and conflict resolution are considered effective leadership qualities. Geithner and Menzel (2016) found that project managers who lacked soft skills had lower project completion rates. Encouraging soft skills development is important in organizations that want to maintain high project completion and success rates. Carstens (2016) concluded that development programs in the construction field produce more effective project managers and result in higher project completion rates.

Theories

Researchers have used several theories to link soft skills with general management. As mentioned earlier, theories such as the Bayesian theory, social exchange theory, and the theory of constraints enabled the researcher to record the presence, knowledge, and use of soft skills in a construction company before assessing their project performance. The researcher reassessed project managers after they developed soft skills. Soft skills can be recorded like other metrics (e.g., systems, costs, communication, and quality). Enhassi et al. (2020) noted that researchers used the Bayesian theory to measure the performance of modular construction companies.

According to Enhassi et al. (2020), the Bayesian theory follows a format where estimates of an initial assessment are captured. Then continual improvement is recorded and compared to the final outcomes. Thus, a project's progress can be measured from start to finish. As challenges

arise during a project, project managers can record their actions regarding decision-making and problem-solving. The social exchange theory determines the relationship between two parties. This theory can account for communication, continuous improvement, and behaviors. This theory accounts for total quality management and continuous improvement.

The social exchange theory measures the organizational relationship between leaders and their teams. The social exchange between leaders and their teams determines team effectiveness (Khattak & Mustafa, 2019). Team members must understand the leader's intent and the project's end goal. Examining the interpersonal relationships between project managers and their teams assisted the researcher in understanding their rapport.

The theory of constraints structures a problem to create solutions. Effective scheduling facilitates accurate forecasts and minimizes delays by identifying potential bottlenecks. In keeping with Khattak and Mustafa (2019), this theory was used to determine the effectiveness of the relationships between project managers and their teams. According to Sarkar et al. (2018), the theory of constraints can be used to develop critical chain project management, which is widely used in highway construction.

Construction projects are susceptible to expected and unexpected constraints in different operational areas. Critical chain scheduling aggregates provisions into a project buffer where a total contingency reserve can reduce the project's duration (Sarkar et al., 2018). Scheduling and forecasting supplies throughout the project is a supply chain initiative to prevent material shortfalls.

Constructs

Construction fields include road, building, structural, and special construction, so common constructs must be identified. Observations illustrate how communication, procedures,

and resources can be used to complete quality projects. Gulati et al. (2020) asserted that soft skills contribute to project success, making them necessary skills for effective project managers.

Latent constructs can include soft skills like the ability to influence and effective leadership techniques in reaction to situations. Soft skills provide a set of guiding principles that are used to resolve conflicts, build teams, and motivate project teams. Project managers who possess soft skills and are knowledgeable in their application can potentially increase the efficiency of their project teams. A project team can be determined as successful within the construction industry depending on their ability to communicate, knowledge of the project's challenges, and problem-solving skills.

Project teams must be able to trust each member to be productive (Geithner & Menzel, 2016). A project manager's knowledge and effectiveness in construction are buffered by trust and communication. According to Moradi et al. (2020), open and effective communication is built on trust between the project manager and their team. Sufficient resources must be available to the project manager and their team. Site descriptions and locations result in extensive project variance, but all construction projects have a deadline and desired outcome.

Related Studies

Studies on the lack of soft skills in the construction field are limited. Studies related to soft skills in project management have been conducted with documented results determining the positive significance of soft skills. Specific skills refer to hard (i.e., technical) skills needed to perform a job, while general (i.e., soft) skills encompass effective communication and leadership. From this perspective, soft skills were assumed to contribute to the successful completion of construction projects. Zuo (2016) determined a project manager's skill sets can be divided into specific and general skills.

Livesey (2016) also distinguished between hard skills and soft skills. Livesey specifically addressed project management, explaining that hard skills are traditional project management skills, whereas soft skills are team management skills. Within Livesey's research, a survey of over 100 project management teams determined that team management skills (i.e., soft skills) were critical to successful project completion. Furthermore, the study examined project budgets, and the findings indicated that higher-cost projects required more crucial team management skills.

More organizations are using established standards and frameworks described in the *Project Management Body of Knowledge* (Project Management Institute, 2017) to manage projects. Gulati et al. (2020) found that project management has become more of a social interaction than an objective-driven process. Project managers must be aware of soft skills and their applications within their scope of responsibility to successfully complete projects. Gulati et al. conducted an in-depth review of the framework of project management and the framework of the comprehensive literature review technique. They found that the most successful project managers improved their work attitudes and focused on flexibility. Gulati et al. identified common soft skills that improved the performance of project managers, including active listening, effective communication, and conflict resolution. Furthermore, the research proved that organizations emphasizing soft skills development among project managers had higher project completion rates (Galli, 2020).

Anticipated and Discovered Themes

Analyzing the literature highlighted several themes related to the lack of soft skills in the construction field. Discovered themes include the need for soft skill development within project management, learning through experience, motivation, and top-level management support. Soft

skills may change depending on a project's nature and size. Advancing technologies can replace some hard skills but not soft skills as these are behaviorally influenced skill sets. Newly trained project managers often lack a contextual understanding of their projects.

Walker and Llyod-Walker (2019) noted that project management continuously changes and adapts, increasing the need for soft skills. Geithner and Menzel (2016) found that most newly trained project managers lack critical leadership skills like the ability to inspire and motivate project teams. The participants in the study learned effective communication and leadership roles through trial and error, becoming more effective as project managers as they gained experience. The participants also developed other critical soft skills like critical thinking, which led to a deeper understanding of project complexity.

Mentorship is an anticipated theme not found in many sources. Mentorship can be time-consuming. Mentor-mentee relationships must be matched appropriately, and both parties must commit to the process. Some companies actively match newly trained project managers with experienced project managers for mentorship and guidance, but few companies have mentorship programs.

Bausell et al. (2020) introduced the concept of experienced project managers mentoring college students studying project management. Turner (2019) suggested that mentorship programs bridging from universities to industry would benefit newly trained project managers. Through these concepts, students can anticipate or avoid potential problems once they enter the workplace. Mentorship opportunities also allow students also become familiar with potential problem-solving techniques that can be used in the field.

Another anticipated theme is the need to build resiliency. Project managers and their teams work in complex, dynamic environments where they are expected to use critical thinking

and problem-solving. These environments are stressful, testing a project manager's resilience as a leader. Emotionally, resiliency can drive a project team to successfully manage through adversity using emotional intelligence (Novo et al., 2017). Resiliency is built through adversity and experience.

Project managers and their teams can build resiliency through developmental programs that share information from other past experiences. Some organizations expect resiliency as a work-ready attribute from newly hired project managers (Borg & Scott-Young, 2020). Project managers may not be resilient to the rigors of the dynamic work environment of project management, so developing resiliency is in the best interest of their organization.

A discovered theme found in the literature was the need to build competencies. Competencies were often related to hard (i.e., technical) skills rather than soft skills. The literature highlighted that soft skills are now a significant part of effective leadership and managing projects. Project managers with a higher understanding of technical skills coupled and strong soft skills were much more successful than project managers who lacked soft skill experiences in effective communication, innovation, and time management (Ma et al., 2014). Developing soft skills is increasingly becoming a people investment.

As organizations increase standards for performance, their development programs must meet or exceed performance expectations. Ma et al. (2014) listed three project management standards areas: projects, organizations, and people. Concentrating on these three areas is an investment in the organization's performance, with people development making the most impact. Specifically, construction project managers usually begin their careers in specific construction areas and become project managers. That process involves knowing all aspects of a project

beyond their personal experience (Ma et al., 2014). Developing a project manager specialized in one area of the construction industry is critical to an organization's success in that area.

Discovered Themes

This research revealed common themes from the interviews and observations. Discovered themes include listening skills, effective communication (e.g., verbal and non-verbal), leadership, building trust, resiliency, understanding interpersonal skills, and developmental programs. Each participant revealed an understanding of the discovered themes. Compared to the literature on interpersonal skills in project management, the discovered themes reflected the significance of interpersonal skills in project management. The literature also highlighted the effectiveness of interpersonal skills in project management but not in the construction industry. This research focused on the construction industry to provide insight into this subject and potentially reveal a link similar to the one found in other areas of project management.

Summary of the Literature Review

Business practices like benchmarking and building resiliency improve and encourage soft skills development. Other business practices like identifying and building competencies improve developmental programs focused on project managers' strengths and weaknesses. Developmental programs must be sustained to keep project managers effective in their responsibilities. Hard (i.e., technical) skills are learned from institutions, but project managers still need soft skills to complement their proficiency in the technical aspects of project management.

The concepts, theories, and constructs highlighted in this section show the need for developing soft skills in the construction field. Related studies have also shown this need. Project managers depend on teamwork to achieve project completion. Some companies have shown

initiative by developing programs to support their project managers' soft skills development. The literature reviewed for this research provided a foundation of information on the effects of soft skills in project management.

Studies have shown that soft skills are critical to completing quality projects on time. Hard skills remain important and are taught at institutions and workplaces via instruction and work promotions. Soft skills are intangible skills developed through experience and mentorship. Developing soft skills remains a priority among young project managers who can use these skill sets to benefit their teams and organizations. Soft skills can be developed through mentorship and institutional and organizational programs.

Summary of Section 1 and Transition

Project managers encounter many challenges and problems within their projects. Challenges can hinder the pace of the project or its completion. Successful project managers use soft skills to solve complex and dynamic problems. Successful problem-solvers and critical thinkers use soft skills to make decisions based on their development or experience. Identifying the soft skills needed for success is based on the nature of the problem, environmental considerations, and available resources.

Project management in the construction field can be dynamic and complex, filled with unexpected challenges. Managing these projects requires soft skills. The next section describes the role of the researcher and the actions taken to conduct the study.

Section 2: The Project

Project managers in any industry face challenges that affect the completion of their projects. Interpersonal skills complement technical skills to effectively manage projects to stay on track to completion (Hendarman & Cantner, 2018). Interpersonal skills (e.g., soft skills) can guide and aid project managers in developing solutions within the dynamic work environment of the construction industry. Finding what soft skills increase quality project completion benefits the construction industry and aids the development of project managers.

The role of the researcher was to collect data on the link between soft skills and successful project completion (Awan et al., 2015). This qualitative study began with the assumption that soft skills led to higher completion rates of quality construction projects using a theoretical framework based on three theories. The researcher, through interviews and observations, contributed to reducing knowledge gaps in the literature (Creswell & Poth, 2018). The qualitative research design corresponded to the interpersonal skills of the project managers. Observing the project managers in their daily work environments allowed the researcher to collect data naturally.

Purpose Statement

The purpose of this flexible design multiple-case study was to examine soft skills use in the construction field and understand how soft skills effect the completion of quality projects. The research explored the effectiveness of soft skills and sought to determine how soft skills lead to increased productivity. Soft skills are non-technical and interpersonal skills used in leadership roles (Hendarman & Cantner, 2018). As soft skills cannot be easily taught, these skills must be developed, leading to the problem of the lack of developmental programs in the construction

industry. This research revealed the importance of soft skills and their development within successful construction firms.

Role of the Researcher

The researcher used a flexible research design to find applicable data on soft skills and project management. Considerable data exist on soft skills in project management (Moradi et al., 2020). However, there is minimal research on soft skills in project management in the construction industry. Internationally, project management conferences and journals have published research on construction industries in other countries but not the United States (Vaux & Dority, 2020). The lack of U.S. data constituted a gap in the literature.

Within a qualitative research design, the researcher attempted to focus on the research subjects by connecting project managers' thoughts and emotions regarding soft skills. Research suggests that project managers who use soft skills effectively can improve quality completion rates (Moradi et al., 2020). These findings may help the researcher identify which soft skills project managers apply. The role of the researcher was to connect soft skills application to project duration and determine the effectiveness of soft skills use in the U.S. construction industry.

Actions the Researcher Took to Conduct the Study

Researchers must ensure that their research data is drawn from credible sources. Research data is available through many sources, but not all are valid. Peer-reviewed journal articles are the most trusted sources of information and can be regarded as the gold standard for data collection (Hjørland, 2012). Trusted sources provide validity to research. Data collection can include field observations and interviews to gather information. To ensure the data are credible and valid, researchers must not be biased toward a desired position or outcome. The researcher

used bracketing to avoid personal bias and misconceptions about the subject prior to data collection and research (Creswell & Poth, 2018).

Discussion on Bracketing to Avoid Personal Bias

Soft skills are interpersonal skills used by leaders (e.g., project managers) to direct a team toward a common goal. Bracketing assisted the researcher in avoiding personal bias by removing any perceptions of the effectiveness or ineffectiveness of soft skills within project management. Bracketing involves the suspension of the researcher's personal beliefs, feelings, and perceptions to be more open to the research (Creswell & Poth, 2018).

Bracketing is a central element of phenomenological research (Creswell & Poth, 2018). In this research, observations from the field revealed interpersonal relationships between project managers and their teams. Personalities, traits, and attributes were recorded based on project team interactions. Interviewing is a method that can be used to record personal experiences and feelings from a project manager's perspective. If the researcher enters the observations or interviews with a preconceived determination, the research method is flawed and should be dismissed as biased research.

Personal and interpersonal reflexivity are two stages of bracketing (Dorfler & Stierand, 2021). Each stage can be sequential and repeated to determine the validity of the information found during observations and interviews. Personal reflexivity is the first stage, where the researcher gathers notes through observations and interviews, followed by interpersonal reflexivity, where the researcher analyzes the information with another researcher (Dorfler & Stierand, 2021). Bracketing assisted the researcher in avoiding bias when conducting observations and interviews addressing soft skills use in project management in the construction field.

The researcher understood their role within the research design and used methods to find applicable data and information about soft skills use in project management. The role of the researcher in this qualitative research was to learn the thoughts and feelings of the project managers using soft skills in the construction industry. Credible sources were critical to validate the research and data. Peer-review journal articles served as the best possible sources of information. Bracketing enabled the researcher to gather data without bias within the research (Creswell & Poth, 2018).

Research Methodology

According to Mohajan (2018), every study involves a systematic approach to answer a research question. Qualitative research can employ a cognitive approach to interpersonal relationships and feelings in a subject-focused area. Social interactions and perceptions can be observed in a natural setting or working environment. This research used a flexible, multiple case-study design and triangulation to understand the link between soft skills and project completion rates.

The Appropriateness of a Flexible Design for the Research Study

Researchers use qualitative methods to demonstrate the interpersonal aspects of phenomena. A flexible design enables a researcher to capture the personal stories, relationships, and experiences of the participants in the study (Creswell & Poth, 2018). Soft skills are the cognitive and interpersonal skills leaders use to motivate and direct their teams (Moradi et al., 2020). Using a flexible research design was appropriate to record and link the experiences and feelings of project teams to project managers' application of soft skills.

A flexible research design allows researchers to use data to identify theories, trends, and associations (Yin, 2018). Flexible qualitative designs can address research problems that fixed

designs (e.g., those that rely on statistics) cannot solve (Yin, 2018). Flexible designs give researchers more freedom of movement when gathering data as they provide many ways to gather and use evidence. The construction field can be dynamic and constantly changing, so a flexible design was appropriate to match the complex working environment.

Appropriateness of the Chosen Method for the Research Study

The qualitative research approach may be the most beneficial method for this study as it involves observations and interviews (Yin, 2018). The researcher observed the application of soft skills in the construction environment to determine if there was a positive interpersonal relationship between the project managers and their teams. Observations and interviews can capture these relationships in the field (Busetto et al., 2020). Researchers can prepare before conducting observations and interviews by studying and reviewing data from other researchers.

Researchers must be prepared to conduct interviews when using a qualitative research approach. Interviews conducted for qualitative research enable researchers to understand the subjective perspectives of interviewees (McGrath et al., 2019). The interviewees' subjective perspectives were critical to determining the effectiveness of soft skills used by project managers in this research. The role of the researcher as an interviewer includes creating the interview guide, understanding the interviewees' environments, building rapport with the interviewees, and ensuring that the interviews are recorded (McGrath et al., 2019). Actively listening and keeping the interviews focused on the topic also effectively elicit the interviewees' perspectives and shared experiences.

Data from other studies provided additional perspectives to this research and validated data and findings derived from this research (Creswell & Poth, 2018). A qualitative research methodology was appropriate because this study benefited from using applicable and

quantifiable data. This study examined data from multiple case studies related to the application of soft skills in management and then applied that data to the narrowed focus on project managers' use of soft skills in the construction industry.

Triangulation

Researchers use triangulation to validate their findings. This research triangulated data from interviews and observations to establish credibility (Carstens, 2016). Triangulation allows researchers to use multiple data sources, theories, and methods by recognizing commonalities and synergies rather than following a single theory or method (Creswell & Poth, 2018). The flexible research design facilitates open research, while triangulation adds flexibility to the research design. Triangulation is appropriate when considering the construction industry's dynamic and complex working environment, where directions can change based on environmental factors. All flexible designs should use some form of triangulation (Creswell & Poth, 2018).

Participants

The type of individuals eligible for this research were project managers working in construction. The main objective of the research was to explore the links between project managers' use of soft skills in the construction industry and project quality and completion rates. As construction covers many areas, specifying construction types limited the study's results to that one specific area. Project managers who work on road, building, and environmental construction projects were included in the research. Project managers work in more complex environments than functional managers (Anantatmula, 2010). Therefore, managers who do not work as project managers were excluded from the research.

Participants considered for inclusion in this research were employed as project managers during the study for observational purposes. Most projects are complex and require considerable talent and coordination (Anantatmula, 2010). Observing project managers in their work environments was important for this study to reveal the outcomes of interactions between project managers and their teams.

In this study, project managers were required to have 1-5 years of experience in project management. Project managers with experience in multiple types of projects can provide insightful perspectives regarding the importance of soft skills (Ravindranath, 2016). Project managers with experience in different project types can potentially reveal how soft skills apply to different situations. Currently employed project managers with diverse backgrounds and experience in different fields were included in this research.

Population and Sampling

To draw conclusions from project managers in the construction industry, the population and sampling for the research came from construction areas in Texas. Considering the size of Texas, it was easier to concentrate efforts for this research nearby in El Paso and the surrounding areas. Large population sizes mitigate the risk of sampling errors and bias (Taherdoost, 2017). By increasing the number of participants and including many areas within the construction industry, the population was as large as possible, reducing the risks or errors.

Discussion of Population

Characteristics of eligible participants included the following:

- They worked in their organization as a project manager.
- They had an acceptable experience level to participate.
- They possessed an institutional certification or diploma in project management.

The characteristics above describe a large population and are appropriate for the research study as job descriptions of a project manager (Project Management Institute, 2017). Project managers' knowledge of soft skills and how to apply them in their working environment can be revealed through observations (Anantatmula, 2010). Observing large numbers of project managers posed a significant challenge as the researcher was geographically limited to one major and two small cities.

Discussion of Sampling

Researchers use two distinct types of sampling techniques: probability and non-probability techniques (Taherdoost, 2016). This research used non-probability sampling, specifically a quota sampling method. Quota sampling is a non-random sampling of participants chosen based on prerequisites so that the total sample has the same distribution of characteristics as the rest of the population (Taherdoost, 2016).

Carefully sampling a population is important to establishing credibility, but determining the sample size can be difficult to calculate (Yin, 2018). Taherdoost (2017) provided a formula to calculate sampling size based on precision estimates and a researcher's willingness to accept risk. Taherdoost's sampling method was appropriate for this research because it accounts for variance in project managers' experience and knowledge of soft skills. Observing their application in the construction field raised the level of precision and lowered the risk of error.

The eligible target population in Texas included over 130,000 project managers with diverse demographic characteristics (i.e., age, gender, and experience; Obondi, 2021). Over 2,000 project managers work near El Paso, Texas, with 45 of these project managers overseeing 46 quality-of-life projects for the El Paso city government (City of El Paso, 2022). Projects within El Paso include installing free Wi-Fi at bus terminals, renovating the airport, and

constructing recreational centers. These projects represent a large range of sampling opportunities within a small travel distance for field observations and interviews.

To determine the sampling frame, the researcher composed a list of descriptors to define the sample. The sample descriptors were consistent with project managers' duties, expectations, and responsibilities. The duties and responsibilities were divided into two broad categories: performance and personal competencies (Project Management Institute, 2017). From there, the competencies of the project manager were further divided into more complex categories that described soft skills. These soft skills then informed the sampling frame creation. The sampling frame consisted of project managers' competencies in the following soft skills:

- | | |
|-----------------------------|-------------------------------|
| 1. Teamwork and cooperation | 8. Trustworthiness |
| 2. Leadership | 9. Flexibility and creativity |
| 3. Time management | 10. Motivation |
| 4. Problem-solving | 11. Social awareness |
| 5. Conflict resolution | 12. Influencing |
| 6. Effective communication | 13. Negotiation |
| 7. Cognitive skills | 14. Adaptability |

Discussion of Desired Sample and Sample Size

Determining the sample size was important for this qualitative study. Qualitative studies normally include 10 to 35 participants (Mocănașu, 2020). This research aimed to include as many diverse types of projects in as many fields as possible to provide a broad perspective on the effectiveness of soft skills. Sample size in qualitative research can be affected by many factors, such as the research design, questions, methods, and framework (Creswell & Poth, 2018). Researchers also can determine sample size (Mocănașu, 2020). Taherdoost's (2017) formula

determined the study's sample size to ensure that the sample was large enough to avoid bias and sampling error.

Thirty-two project managers constituted a suitable sample size, but observations are time-consuming, so this number served as an upper limit of the anticipated sample size. The researcher considered many different construction project managers to increase the sample's diversity. The researcher gained access to participants after obtaining permission from nearby project management offices in El Paso and other nearby locations. Miles of highway were under construction at the time of the study as well as many different construction projects that provided diverse opportunities for observations.

Sampling more than 32 project managers was expected to saturate the data collection when themes repeat consistently from interviews and observations in the same field. Saturation is a point in data collection and analysis when new interviews and observations provide no new insights to address the research question (Guest et al., 2020). Thirty-two project managers was a large sample according to Mocănașu's (2020) standards, so saturation was evaluated at a lower number than first anticipated. The researcher can determine saturation if the interviews continuously reveal the same answers to the research questions or if observations show the same themes repeated continually.

The researcher met saturation after interviewing 12 participants. The participants shared a general understanding of interpersonal skills within project management with no objection. The sample of 12 participants covered two large cities, two large corporations, two construction companies, and two governmental agencies. The participants mostly came from West Texas (10), while the remaining two worked in the South Texas construction industry.

Summary of Population and Sampling

Individuals eligible for this research were project managers working in the construction industry with 1-5 years of experience. Participants were employed and able to demonstrate the application of soft skills in their working environment. Sampling occurred in El Paso, Texas, and the surrounding area, where project managers were available for interviews and observations. Quota sampling was used because it is a non-random sampling of participants chosen based on prerequisite characteristics and consistent with qualitative research. The sampling frame identified 14 soft skills and consisted of at least 32 potential participants to ensure the study met the desired confidence level and allowable sampling error. The researcher determined that saturation occurred after interviewing and observing 12 participants, and no new information was found.

Data Collection and Organization

Collecting data and organizing the findings is a critical task in qualitative research. The researcher used a close personal approach to data collection to determine what soft skills are frequently used in project management. The researcher sought to describe the relationship between the project managers and their teams and how the application of soft skills affects the quality and timeliness of their work.

Data Collection Plan

Collecting and organizing data helps researchers eliminate irrelevant data and increases research efficiency (Creswell & Poth, 2018). Using the flexible research approach enabled the researcher to determine themes in the data and reach a conclusion. Data can be collected via interviews, observations, and the review of secondary data. The researcher's flexible research approach included these types. The primary data collection method comprised interviews,

followed by observations and analyzing existing data from previous research. Triangulating data sources helped establish the study's validity.

Verifying the data's validity was accomplished through member checking and follow-up interviews. These methods determined that the data collected from interviews and observations supported findings from previous data collected earlier in the process. Data collected from interviews and observations were also compared to data analyzed from previous research conducted in the same field.

Member Checking.

Collecting and analyzing data is critical to qualitative research. Member checking is a verification method used to validate the information from interviewees to determine the trustworthiness of participants' shared experiences (Ji et al., 2019). Confirming the data with interviewees validates the data's trustworthiness and ensures that answers do not differ after the first interview.

Researchers often provide a full transcript of the interview to the interviewees to confirm that their stance is consistent with the information initially provided (Busetto et al., 2020). Once the interviewees verify their shared information, the data can be further analyzed. The interviewees can also provide further explanations of their initial responses. Member checking is a proven method to validate the quality of the information shared with the researcher (Ji et al., 2019).

Member checking may interfere with the study's progress. One drawback is that questioning the meaning of the information can highlight differing views on interpreting the data (McGrath et al., 2019). Some interviewees may not verify information or remember their initial

responses. Thus, providing participants with an accurate transcript of their answers is important for data validation.

Follow-up Interviews.

Interviews are widely used in qualitative research. Not all researchers are confident or experienced in conducting an effective interview for data collection. Mistakes could be made, even by experienced interviewers. Preventing mistakes helps validate the information gathered. Follow-up interviews effectively correct mistakes and clarify unclear or undefined data (Bano et al., 2019).

As the interview process continues, emergent themes may require further clarification or additional questions to be asked. Follow-up interviews effectively reaffirm information and build novice interviewers' confidence (Bano et al., 2019). New interview questions can arise based on participants' statements regarding business practices, developmental program initiatives, or stakeholder views.

Instruments

Interview Guides.

Three types of interviews can be used to collect data in a qualitative research design: structured, semi-structured, and unstructured (Alam, 2021). Interviews can be facilitated online or telephonically. The researcher gathered multiple themes relating to the interviewees. Using multiple themes increases the validity of the findings when comparing interviewees who share commonalities, like the role of the project manager (McGrath et al., 2019). These commonalities and themes enabled the researcher to compare the interviewees' subjective experiences during the research.

The interview guides followed qualitative research principles. The researcher gathered as much information as possible by using open-ended interview questions. Open-ended questions allow participants to share more individual experiences than closed questions. Interview questions should start broad and then narrow to specific research questions designed to relate to data in other studies. The researcher avoided leading questions, seeking specific answers, and asking multipart questions (Alam, 2021).

The semi-structured interview guide in Appendix A was used to facilitate the interview process with the interviewees. The first set of open-ended questions determined an interviewee's understanding of soft skills. The interview guide also determined if project managers were aware of soft skills development and asked them to share experiences where soft skills were applied effectively.

Participants' experiences revealed whether the application of soft skills was effective at improving project completion rates. The researcher noted when interviewees mentioned using specific soft skills. The interview guide ends with questions about soft skills development programs and opportunities for coaching, mentoring, and developing soft skills within the project management discipline.

Surveys.

This research did not include the collection of survey data. Existing surveys with relevant data on soft skills development were used. The surveys had proven reliability and validity from peer-reviewed sources. Deloitte Access Economics surveyed over 10,000 companies worldwide in several aspects of business. One area was the application of soft skills. Their survey data is open-sourced and available for data collection. The survey is presented in Appendix B. Their soft skills survey was a comprehensive document that included development, attributes, and

differences between recent graduates and experienced managers (Deloitte Access Economics, 2017).

The surveys addressed the present study's research questions as they covered the application of soft skills and development. The surveys within the Deloitte Access Economics comprehensive document connected their data to real-world effects that impact most businesses. The data found within the surveys were compared to data gathered since 2000. The data compared and analyzed since 2000 showed increased demand for soft skills within management in general and increased awareness within project management (Deloitte Access Economics, 2017).

Archived Data.

Many sources contain archived data made up of surveys and interviews concentrated on the subject area of soft skills used in project management. Few archived data sources specifically address project managers' soft skills in the construction industry (Carstens, 2016). Thompson (2019) utilized archived data on coaching and mentorship, with empirical values and pragmatic implications proving the need to develop soft skills within project management.

Archival data came from previously conducted interviews, surveys, journal articles, and other archival sources like the Project Management Institute. Findings from the archival data were cross-referenced with observations and interviews. The archival data addressed the research questions by correlating soft skills definitions, applications, and development. The research questions ranged from establishing a basic understanding of soft skills to applying soft skills to developing a deeper understanding of their importance and need for development. The questions were open-ended to elicit personal experiences during interviews and observations.

Databases like Google Scholar and the Jerry Falwell Online Library offered archived data related to soft skills in the construction industry. These databases were available to the researcher for information gathering and data collection. The database data were compared to interview and observation data from the researcher. Some databases contained data gathered through observations, but most information was from surveys and interviews.

Data Organization Plan

A substantial amount of data was gathered for this research, requiring thorough organization. Data management was accomplished with data collection and organization software and organization methods like coding. Coding data into related categories is an effective form of data management (Moser & Korstjens, 2018). Coding helped identify common themes during the data analysis. Identifying important phrases and words within each dataset increased the effectiveness of data coding during collection and organization (Creswell & Poth, 2018). Coding results in flow charts and organizational matrices that benefit the research and data organization (Moser & Korstjens, 2018). The researcher became immersed in the data and familiar with each data point and how it related to the study.

Qualitative data analysis software can be used to manage data collected for research (Creswell & Poth, 2018). Data collection and organization platforms like NVivo help researchers organize their data, ensuring accurate information for presentation. This study used NVivo to organize data. NVivo enables researchers to analyze data in a central location using other software such as Microsoft Word and Excel. NVivo software was appropriate for this research as the researcher analyzed data from observations, interviews, and online open sources like surveys.

Summary of Data Collection and Organization

The researcher collected data and organized the findings through a qualitative research design. Interviews, surveys, and archival data were used for data collection. The researcher conducted interviews and observations to provide a close personal approach to collecting the data. These research methods ensured that the researcher was gathering valid and relevant information. Interview guides ensured the researcher did not stray from the focus of the research. NVivo kept all data organized for collaboration and sharing.

Data Analysis

Coding data and other types of information are important when organizing data. Lester et al. (2020) compared the data analysis processes used in most research and found that constant comparative analysis was the most popular and discourse analysis was the least popular. Constant comparative analysis is also known as a grounded theory approach. This research used a flexible approach associated with qualitative research methods (Creswell & Poth, 2018). A flexible research approach allowed the researcher to adapt to interactions with participants using open-ended questions (Creswell & Poth, 2018).

Open-ended questions facilitate an environment where interviewees are comfortable sharing their experiences and perspectives. Recording the shared data from their subjective experiences requires coding. Triangulating the collected data with empirical data from quantitative research validates the research findings (Creswell & Poth, 2018).

Emergent Ideas

Once the data was collected and analyzed, the researcher formed an understanding of the participants' experiences. The researcher reviewed recorded interviews and other data during the

analysis process to identify emergent ideas and themes. Memoing was important to capture the researcher's thoughts while exploring emergent ideas in the data.

Reading substantial amounts of data can be time-consuming. Scanning allows researchers to look for keywords and specific data without getting hung up on intricate details that can slow down the research process (Creswell & Poth, 2018). Electronic databases enable researchers to look for specific data and keywords through search engines. Search engines and online library search engines rapidly find these keywords to provide relevant information for researchers.

Rapid reading is another method researchers use to read data. Rapid reading is a method that involves approaching the collected data sets with the mindset of never seeing the data before and using a different lens to analyze the data (Creswell & Poth, 2018). Reading the collected data several times can reveal new ideas and emergent themes. The researcher can keep track of new ideas by memoing the information as it is revealed.

Memoing enables researchers to use short phrases or make small notes within the dataset to revisit later in the research or synthesize the data at that moment (Creswell & Poth, 2018). Memoing must be a priority for the researcher during the data collection and organization process to record their thoughts. Memos can overwhelm a researcher if overused, so researchers must check the memos for relevancy. Therefore, the researcher must organize their method of memoing during the data collection.

Segment memos capture ideas while reading phrases in the data sets (Creswell & Poth, 2018). Combined with scanning and rapid reading, segment memos facilitate effective documentation of emergent ideas. Segment memos also help researchers track the development of emergent ideas into emergent themes (Creswell & Poth, 2018). Once the researcher reads the

collected data and memos emergent ideas, the process of describing and classifying themes into codes follows.

Coding Themes

Coding themes involves placing pieces of data into categories. Once the researcher collects enough data, they create categories to organize relevant data. A brief list of 25 to 30 categories or codes could be used, regardless of the size of the collected data (Creswell & Poth, 2018). The list is further reduced to a precise collection of relevant data that include only a few codes. The researcher anticipated the final list to include eight to 10 codes based on previous reading and data collection.

The researcher can use common descriptions of emergent ideas to develop codes that relate to common ideas expressed by interviewees. Establishing a list of codes after the data collection facilitates the organization of the data into a codebook (Creswell & Poth, 2018). Initially, emergent ideas were grouped into codes that share the same general concept, but these codes were further expanded into more specifically descriptive categories. The codes were organized into final categories leading to descriptive themes.

Interpretations

Developing and assessing interpretations makes sense of the data (Creswell & Poth, 2018). The researcher evaluated the data for relevancy and discarded information that did not contribute meaningfully to the research. Interpretations determined valid and relevant connections between codes and themes. Interpretations also lead to differences in anticipated themes versus emergent themes.

The research process involved a peer review of the information to ensure the researcher's views aligned with the data (Creswell & Poth, 2018). The researcher used visual aids to keep

data organized during the research. Social constructs offered differing views for the researcher to analyze (Creswell & Poth, 2018). Visualizing the data during the research aided the researcher in tracking and maintaining awareness of the differing views and adding information as it developed.

Data Representation

Within this research, data were kept in the form of a matrix. Matrices are excellent ways of tracking information. A matrix aids researchers in cross-referencing themes (Creswell & Poth, 2018). A matrix can be constructed to represent data types (e.g., observations interviews) as the columns while the rows represent the information (e.g., interpersonal skills, other information revealed). A matrix helps convey the depth of the information found during a study (Creswell & Poth, 2018). The data represented in the matrix connects common themes during data interpretation and after theme determination.

Matrices serve three purposes in qualitative research: organize and condense data, allow scholars to analyze data from multiple perspectives, and help display data and supporting evidence (Cloutier & Ravasi, 2021). Developing a matrix benefited this study by organizing the data for analysis. Displaying the data in a matrix enabled the researcher to cross-reference data items with supporting evidence. Matrices were used to cross-reference data from interviews and observations. Research with large amounts of data can benefit from the reliability of a case database or data inventory (Yin, 2018). Case databases enable researchers to easily retrieve and analyze data. Data inventories facilitated the record-keeping of memos produced during the study.

Analysis for Triangulation

Data collected for the research includes interviews and observations, allowing the researcher to draw from various sources of information. Triangulating the data from multiple sources facilitates data validation and credibility. Triangulation assists researchers in determining the credibility of their collected data (Yin, 2018). Using many data sources is more reliable than research that draws information from a lone source (Creswell & Poth, 2018).

Triangulation is achieved by comparing data from each interview or observation and looking for similarities. Similar information was recorded and analyzed for likeness to determine common themes. Recoding similar information into categories within matrices shows how specific interpersonal skills were noted in interviews and observations.

Using multiple data sources enabled the researcher to conduct in-depth and contextual research (Yin, 2018). Data triangulation guides researchers to collect information from various sources to confirm their findings. Interviews and observations can converge on the same finding and validate the research. Data triangulation can also assist in determining a phenomenon of interest, like a behavior (Yin, 2018). Interpersonal skills relate to the behavior of the project manager, who uses social interactions to guide teams to complete projects.

NVivo facilitated the analysis and management of the qualitative data in this study. Files were secured by storing the database to allow easier access and searchability (Yin, 2018). NVivo also provided graphic representations of the data, illustrating data triangulation and convergence. The research reached saturation with 12 participants.

Summary of Data Analysis

This research used a flexible research approach to foster interaction between the researcher and the subject group by utilizing open-ended questions. This approach allowed

interviewees to freely share their experiences. Data were compiled into a database to capture an understanding of emergent ideas and themes. Memoing documented the researcher's thoughts throughout the data collection.

The researcher used scanning and rapid reading to quickly move through the data to find and record emergent ideas and themes for the coding process. Coding themes into categories using matrices connected related themes. The matrices enabled the researcher to triangulate related data to confirm the findings.

Reliability and Validity

The research design employed a logical approach to data collection and analysis using the external validity test to show how the study's findings relate to the research. Reliability was proven by demonstrating that data collection procedures produced similar results throughout the research. Reliability and validity facilitate a general understanding of data collected within a study.

If the research is repeated or another researcher uses the same approach, they may obtain the same conclusions, reflecting high reliability and validity (Creswell & Poth, 2018). Therefore, it is important to minimize errors and link the study's findings to diverse sources of verified information, establishing validity and reliability. Developing a database within the research established validity and reliability with proven data analyzed by an outside source (Creswell & Poth, 2018). To achieve reliability and validity, the researcher must conduct the research without bias.

Reliability

Bias can undermine a study's credibility. To achieve credible results, researchers must be clear on their procedures and data collection methods. Interviews and observations must be

structured and focused on gathering relevant information. The research must be conducted within the original design and not changed if found unworkable or less promising to the researcher (Creswell & Poth, 2018). Any data discarded for irrelevancy cannot be reused in other means to skew the information or draw favorable conclusions. Resources such as datasets must relate to a project manager's use of interpersonal skills within the construction field to ensure validity.

Transferability is the degree that information can be transferred to other contexts or settings (Korstjens & Moser, 2018). Data collected must be applicable to other research processes to ensure transferability. The judgment of transferability lies with the researcher who draws data from another study (Korstjens & Moser, 2018). Providing a detailed description of the participants from interviews and observations increases this study's degree of transferability (Korstjens & Moser, 2018).

Dependability is directly related to the consistency of the research process. Analysis of the research must be grounded in the data. An audit trail can ensure that the research meets dependability standards (Korstjens & Moser, 2018). Maintaining the matrices, memos, data collection records, and database make creating and keeping an audit trail easy. Data collected from the participants through interviews and observations is subject to interpretation by the researcher and should be recorded to preserve that interpretation.

Confirmability is the degree to which outside sources and other researchers can confirm the findings of a research study (Korstjens & Moser, 2018). Data must be conclusive through thorough analysis and not made up. The audit trail can prove the reliability and validity of the research process following the standards of the research approach.

Validity

The researcher ensures the tools, processes, and data are appropriate for the research process ensuring research validity. Bracketing, triangulation, and saturation provided validity in this research by analyzing the data and finding connections and correlations within the information (Creswell & Poth, 2018). This research used all three methods to ensure a high degree of validity.

Bracketing is used to set aside one's beliefs, feelings, and perceptions to be more open to the research phenomenon (Creswell & Poth, 2018). The researcher must remove all bias and look at the data and relevant information openly. Staying within the standards of validity enabled the researcher to achieve an acceptable degree of bracketing. The open-ended questions supporting the interview process facilitated an environment free of bias rather than using leading questions that pointed to a direction or outcome desired by the researcher (McGrath et al., 2019).

The researcher used triangulation to draw upon information and data from various sources like theoretical schemes and construct validation. Construct validation enabled the researcher to recognize constructs that exist rather than imposing theories or constructs on participants (Creswell & Poth, 2018). This research primarily focused on the recognition of constructs versus variables. The researcher was responsible for corroborating all the collected data to ensure research validity. The primary sources of information used for triangulation were the interviews and observations performed during the research.

Saturation was determined by the researcher (Guest et al., 2020). If enough information was consistently repeated and if the database reflected common themes, saturation was achieved. Saturation is one of the methods to demonstrate validity (Creswell & Poth, 2018). Memoing and matrices can indicate the point of saturation for the researcher. Gathering a substantial amount of

data from interviews and observations can aid the researcher in reaching saturation (Creswell & Poth, 2018).

Bracketing

Bracketing mitigates potential detrimental effects of unidentified preconceptions relevant to the research (Tufford & Newman, 2011). The topic of the research may be of great personal interest to the researcher, and removing preconceived outcomes is critical to validity. Analyzing the collected data without a personal interest or preconceived result ensures that bias does not influence conclusions. The researcher remained unbiased throughout the research. Remaining unbiased is challenging, and researchers sometimes encounter areas where they are emotionally tied to information or discard relevant information based on personal preference.

Researchers must choose appropriate topics and ask open-ended interview questions to reduce bias in qualitative research. Monitoring the data collection and memoing throughout the study supports validity and is a basis for bracketing. Memos enable reflection a researcher can use to remember what they thought and felt at that point of the research (Tufford & Newman, 2011). Referring to memos can remind the researcher to remain unbiased and avoid preconceptions.

Conducting the interviews with an outside source aware of possible preconceptions aids in achieving bracketing (Tufford & Newman, 2011). The outside source is a neutral party with no connection to the study other than ensuring the researcher does not assume preconceptions. An outside source can be a fellow non-managerial researcher or provided by a service for a fee and serve as an interface between the researcher and the research data (Tufford & Newman, 2011). The outside source can benefit the researcher through their service to increase clarity and participation in the research. Interviews must be continuously bracketed to uncover anticipated

themes in the collected data. Bracketing interviews before, during, and after data collection can hinder a researcher's ability to listen and interpret the interviewees' responses (Tufford & Newman, 2011). Identifying possible emotional responses to questions is critical to preventing the researcher from stopping short during the data collection.

Summary of Reliability and Validity

Reliability and validity can be ensured through research standards such as credibility, transferability, dependability, and confirmability. Each standard ensures that the research was thoroughly analyzed and free of bias. This research used bracketing, triangulation, and saturation to ensure a high degree of validity. The researcher used bracketing techniques like open-ended questions, memoing for reflection, and conducting the interviews with an outside source to ensure the researcher did not assume preconceptions.

Summary of Section 2 and Transition

Soft skills are important to the relationships between project managers and their teams. Qualitative research enables researchers to understand personal relationships and experiences (Creswell & Poth, 2018). Using a flexible research methodology validated through triangulation enabled the researcher to examine these relationships and determine the effectiveness of soft skills used by project managers in the construction industry.

Participants eligible for this research were project managers working in construction with substantial experience (i.e., 1-5 years). Sampling occurred in El Paso, Texas, where there were enough project managers to meet saturation. Quota sampling was used to meet the prerequisites and characteristics consistent with qualitative research.

The researcher ensured reliability and validity by using research practices that supported credibility, transferability, dependability, and confirmability. The researcher used bracketing and

triangulation to ensure validity. The researcher also used bracketing techniques like open-ended questions, memoing, and conducting interviews with an outside source to prevent preconceptions. Section 3 relates the research to multiple professional practice applications, discusses the research results, analyzes the themes, and recommends future research relevant to interpersonal skills in project management in the construction industry.

Section 3: Application to Professional Practice

The research examined construction industry project managers' use of soft skills in relation to project quality and completion rates. Interviewing 12 project managers in the construction industry illustrated that while project managers do not lack soft (i.e., interpersonal) skills, most do not know how to apply these skills in the workplace. Furthermore, the research showed that project managers who possessed and applied soft skills achieved higher productivity with their teams, leading to better completion rates.

Overview of the Study

The research aimed to determine if project managers in the construction industry lacked soft skills and if project quality and completion rates were affected. Interviewing 12 project managers demonstrated that project managers do not lack soft skills. However, project managers are not always applying soft skills effectively in the workplace. The findings indicated that project managers who understood the importance of soft skills managed their teams more effectively and attained higher completion rates.

The researcher found correlations in the literature between project managers' use of interpersonal (i.e., soft) skills and increased productivity. A postpositivist research design was used to account for social interactions (Creswell & Poth, 2018). Using the postpositivist approach, the researcher recorded and analyzed social exchanges between the project managers and their teams in the field.

A multiple-case study research design enabled the researcher to use interviews and observations to understand participants' experiences and workplace relationships (Creswell & Poth, 2018). Triangulation enabled the researcher to avoid errors in the data by establishing data credibility by comparing the literature with observations and interviews. Case study research

explores contemporary and real-life experiences from multiple sources using in-depth data collection (Creswell & Poth, 2018). The researcher used a flexible research design with a case study approach to reveal common themes found in the construction field. The social exchange theory identified relationships between project managers, stakeholders, project teams, and other actors.

Themes revealed that soft (i.e., interpersonal) skills are critical for project managers, with leadership and effective communication being the most effective in the construction industry. Project managers who prioritized these skills achieved higher productivity with their project teams. Interpersonal skills realize the human aspect of the workplace and utilize empathy in all social interactions. Project managers who use interpersonal skills prioritize their peers and workers, promoting team productivity (Khozravi et al., 2020). Interpersonal skills enable project managers to be leaders rather than managers.

The research suggested that organizational development programs placed the responsibility for development on project managers rather than the organization. Two organizations shared literature with their project managers as encouragement for self-development. The remaining project managers sought mentorship or coaching internally, with two seeking mentorship outside the organization. No formal developmental programs were found in the research when interviewing the participants or touring the organizations.

The literature supports using internal and external developmental programs. Organizations that supported workforce development programs experienced higher productivity levels (Borg & Scott-Young, 2020). Project managers who understood and applied interpersonal skills in the construction field were ahead of schedule on projects.

Presentation of the Results

The research employed qualitative research methods to collect and analyze data from the participants from multiple firms employing project managers. The researcher interviewed project managers and conducted field observations in varied settings, such as meetings and on-site inspections. The researcher included questions in the interviews to gauge the project managers' understanding and experiences with soft skills, then narrowed down their importance and application in the construction field. The researcher then investigated soft skills development via company development programs or self-directed efforts.

The questions ended with the project managers connecting the importance of interpersonal skills to successful project completion rates. Field observations identified instances where the project managers applied interpersonal skills like negotiation, effective communication, and leadership with their project teams or construction crews. Notable distinctions existed between project managers' interactions with their teams versus with their supervisors and organizational leaders. The researcher also found significant differences in interactions between project managers and stakeholders. Project stakeholders are the people or groups with something to gain from the project's outcome (Moradi et al., 2020).

The research examined the experiences of 12 participants from three companies and one governmental agency. Participants ranged from 33 to 56 years old, and the average age was 41. The participants were primarily males (86%). Most participants were of Hispanic/Latino background (83%). All the participants held at least a bachelor's degree in business or project management and/or a certification in project management (e.g., the Project Management Professional Certification). Participants possessed an average of 15.8 years of experience as project managers in the construction industry. The construction areas included major road

construction and renovation of city-owned facilities, parks, and buildings. Figure 2 illustrates the participants' ages and years of experience.

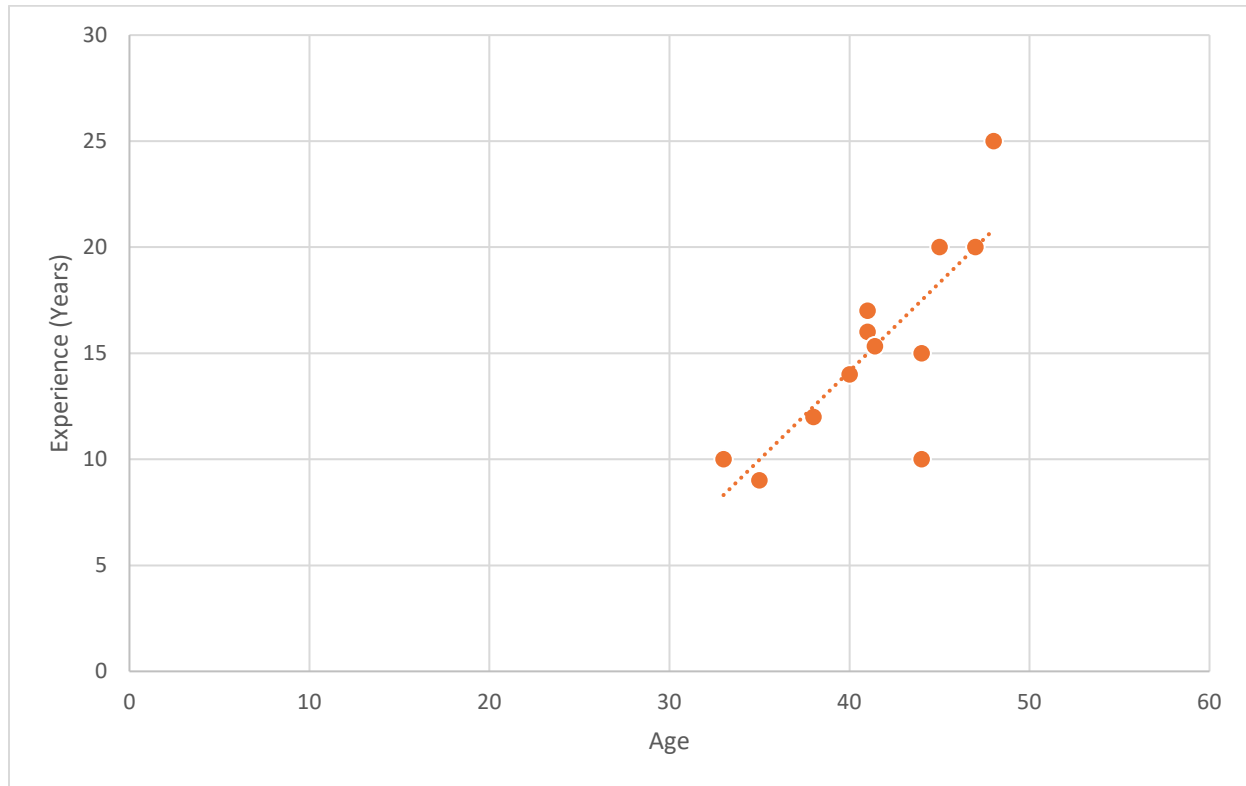


Figure 2. Age and years of experience of project managers.

Themes Discovered

The research found commonalities and shared beliefs among all project managers. Some anticipated themes did not come to fruition, while others were more common. Unanticipated themes include the application of development programs and what soft skills were most important or used most often in project management.

Theme 1: Effective Communication.

Common themes were found in three general areas central to the communication between the project manager and their teams. Communication between the project manager and other company team members was equally important. There were many instances where the project managers needed details from the safety supervisor/coordinator or the equipment manager. These company team members provided valuable information for the project manager to anticipate future problems before they occur.

Communication between the project manager and the stakeholders was critical to understanding the desired progress at every milestone. Knowing what the stakeholders expected enabled the project manager to gauge the project's progress. All participants agree with Soliman's (2017) finding that effective communication is critical to ensuring the project stays on track. Within the research, project managers who paid more attention to the scheduling of materials and the budget were usually ahead of their projects. This involved interpersonal skills such as negotiation, problem-solving, and relationship management.

Project managers used communication platforms such as PERT charts and Critical Path Method (CPM) Scheduling to ensure progress was tracked throughout the project duration. Knowing how to use each communication platform is critical to share a common picture of the project. For example, many project managers used images to explain friction points or the successful progress of the project to stakeholders who may not know about road or building construction. Providing pictures to stakeholders meant the project manager was present and firmly understood each aspect of the project.

Project managers commonly use email when communicating with stakeholders outside the local area. Stakeholders and other upper-level management were located two states away

from the construction areas covered by their project managers. Emails detailing progress and images of the progression communicate the project's status to the stakeholders.

The experience of each project manager was critical to the project team's success. Project managers who possessed experience in road and building construction knew how to reach milestones and could identify possible friction points when present in the field. Project managers who cannot communicate effectively often lack experience (Soliman, 2017). P1-4, P7-10, and P12 agree with Soliman's (2017) finding that effective management comes with time and experience. Walking through work sites proves beneficial to the project manager as they can see potential issues such as traffic patterns, underutilized equipment, or safety concerns. Each potential issue could result in project delays affecting completion rates.

Project managers shared these potential issues with their project team and other company team members to avoid delays. The researcher found the project managers, P1-4, P7-12, who frequently visited the work sites (3) averaged 22-26 days ahead of schedule versus project managers who did not visit their work sites (2) often were either on schedule or slightly behind schedule. Project managers who share the expected project timeline and milestones set by the organization are critical for everyone on the project. The researcher found that effective communication at every level is critical to project success, but it also requires different methods for project teams, company team members, and stakeholders.

Theme 2: Developmental Programs.

The researcher found many types of developmental programs different companies used to develop the interpersonal skills of their project managers. The developmental programs are categorized into two categories, self-development, and organizational development. Most of the

project managers (83%), except for P5 and P6, participated in either a self-developmental or organizational-driven program.

The programs mainly consisted of recommended readings but no structured programs. The assigned readings are loosely tracked or measured by the construction organizations. The researcher found that the project managers prioritized their development independently but relied on the organization's guidance, such as the recommended literature. Three project managers did not feel they needed any literature or outside development mainly for two reasons: (1) Their organization did not require development, or (2) the project managers relied on technical skills over interpersonal skills.

The recommended literature included books that encouraged assertive management skills and interpersonal skills. The literature read by the project managers provided advice and guidance on managing people instead of managing work. The literature explained how interpersonal skills such as honesty and openness help build trust between managers and their teams. Teams who trust their managers potentially communicate more openly and are free to share perspectives and provide feedback on their project's progress. Outside of the organization's recommended literature and self-development initiatives from the project managers, there were no structured or institutional-like developmental programs to develop interpersonal skills.

Nine, P1 through P4 and P7, P9-P12, project managers in this research relied on mentorship and coaching as the preferred development method. The road construction work sites and companies used in this research employed multiple levels of project management that primarily focused on critical areas of the project. For example, C1 had a senior project manager who supervised three other project managers who each managed the budget and transportation,

the progress of the project, and the equipment, and another who focused on the materials/supplies and personnel.

The senior project manager discussed the stakeholders' expectations with each project manager, their teams, including interns, and the rest of the company members. He would consistently check on the other project managers and accompany them on their work site visits, asking about progress and assisting in identifying possible friction points or issues. The senior project manager also suggested and followed up on the recommended literature he assigned to each project manager to improve their awareness of project management and how to manage people.

Mentorship and coaching were much more prevalent in the other companies instead in a structured developmental program. As anticipated, project managers relied more on internal mentorship to develop their technical and interpersonal skills. Project managers were observed demonstrating interpersonal skills such as effective communication, active listening, and receptiveness to feedback often throughout the day, despite knowing what skill set they were using at the time of observation. Discussing the importance of interpersonal skills, the senior project managers of three work sites agreed that interpersonal skills were often why many projects are completed successfully on time because technical skills will guide a project manager so far. It takes stepping out of the office, away from the computer, to measure what the project needs for successful completion.

Theme 3: Understanding of Interpersonal Skills.

Most of the project managers (93%), except for P5, believed interpersonal skills centered on how to communicate. As other types of interpersonal skills were discussed, all project managers realized there was more to interpersonal skills in their daily routine or duties. Other

soft skills such as relationship management, leadership, building trust, and problem-solving skills were just as or more important than effective communication.

Critical thinking was often combined with problem-solving by most project managers. Critical thinking involves actively conceptualizing and applying actions through observations and experience (Ravindranath, 2016). Many project managers (75%), except for P5, P6, and P11, relied on their experience to solve problems.

As most project managers averaged over 10 years of experience, they have seen common construction issues. During the last 2 years, newer problems hindered the progress of projects, primarily due to supply chain issues for materials (Raj et al., 2022). These issues caused many project managers to find creative ways to schedule work according to the arrival of materials at the work sites.

Many project managers (83%), P1-4 and P7-12, also found themselves thinking of different ways to run equipment efficiently to avoid higher fuel costs. As fuel costs rose, equipment usage was checked daily, and standard practices such as leaving equipment off instead of running improved fuel costs saving the project money. Many project managers also mentioned forecasting the fuel needed to complete the project or run equipment for a specific time. This led to many project managers purchasing the required amount of fuel and then storing the fuel for the project.

Few project managers (17%), P5 and P11, agreed that feedback was critical to project success. For example, if a work site supervisor finds a problem in the project's progress, this problem must be conveyed to the project manager so that they can consider possible solutions. Receptiveness to feedback did not score well among the participants because they felt their experience could lead them through the project. According to the work site supervisor, the

possible solutions may not be the best course of action for the issues. Hence, the project manager should be open and receptive to feedback, but it is not as crucial of interpersonal skill as effectively communicating the project plan. This is another reason project managers must walk the work sites and look for friction points if they are not open to feedback.

Most project managers attributed their understanding and development of interpersonal skills to previous project managers who took them under their wing early in their careers. Two project managers mentioned how their project manager “trainer” mandated they attend every meeting for the first six months so they understood anything could affect project progress. The two project managers were to meet each team member contributing to the project within the office and the work site. Meeting each team member provided an opportunity to understand the project team at a personal level so that communication could occur openly and freely.

None of the project managers attributed their understanding of interpersonal skills to the learning institutions they received their bachelor’s degrees. Most project managers (75%), except for P5-P7, did not expect to use interpersonal skills when they began their careers, mainly because they expected people to come to work no matter the situation. All participants agreed with Awan et al.’s (2015) findings that interpersonal skills are developed through experience and practice each day on how to manage better.

Also, they expected work to be completed as anticipated due to the schedule and experience of those around the work site. The researcher anticipated a few project managers who were at least introduced to some interpersonal skills training from institutional organizations but did not find any project managers who credited any university. Most of the project managers (93%), except for P5, believed that interpersonal skills play a significant role in the project manager’s effectiveness since beginning their careers in project management.

Theme 4: Resiliency.

The researcher found that despite the project's scheduling of activities, there are occurrences that may require creativity, as construction can be a dynamic working environment. Project managers used CPM to help determine costs within construction projects. Environmental factors such as wildlife and heavy construction traffic have caused project delays. Project managers in this research had to make critical equipment decisions based on availability and personnel to continue the project's progress. One example observed in the field was restricting equipment on the road due to the curb weight. The equipment was later scheduled to move onto the work site later in the evening once traffic cleared out of the roadway.

Some project managers (58%), P1-P5 and P11-12, mentioned their job could be stressful. Project managers acknowledge the source of the stress is usually out of their personal control. Project managers will look to creatively think of solutions to the problems or alternate actions to prevent delays in the project, which leads to a reduction in stress (Robles, 2013). Most project managers (67%), P1-4, P7-9, and P12, relied on the schedule and would question the construction supervisors and other company team members regarding details of upcoming milestones to anticipate delays or other potential problems.

Reviewing the schedule offered comfort for the project managers and prevented stressful situations. Binsaeed et al. (2017) found that more employers were looking for candidates with demonstrated soft-skill experience. Soft skills enable the manager's attributes who understands how to manage people to increase their productivity.

Setting expectations are critical to the success of the project. The researcher found project managers who communicate the expectations of stakeholders and organizational leadership to the project team will find fewer stressful situations during the project's life. Project managers

who share the expectations also mentioned and demonstrated daily checks on the project, ensuring the expectations, such as deadlines and milestones, are met.

Project managers who shared their expectations and communicated often with their project teams and other company members fostered a less stressful work environment. Most work sites showed people comfortable communicating confidently with the project managers and work supervisors. Three project managers mentioned they would spend more time understanding people on a personal level initially and then professionally. The three project managers were three weeks ahead of schedule on their road construction project, with the potential to move up to four to five weeks.

Theme 5: Building Trust.

Building trust is a theme among all the project managers in this research. Each project manager stated the importance of building trust within the project team through transparency and relationships. The researcher found that project managers managed relationships effectively when they established and maintained high trust and confidence within their project team. Project managers also mentioned they work as hard as possible to gain and keep the trust of the organization and the stakeholders.

Trust is a critical component of relationship management, according to most of this research's project managers (83%). P1-P5, P7-P10, and P12 agreed with Walker and Llyod-Walker's (2019) findings that healthy working relationships foster a conducive work environment. A conducive work environment potentially contributes to the project team's effectiveness, leading to higher quality completion rates of projects.

Building trust has an advantage within the workplace for the project manager. Khattak and Mustafa (2019) found that organizations benefit from established trust between project

managers and their teams, resulting in workplace environments that promote continuous improvement. Continuous improvement enhances workplaces and encourages employees to improve their environment, processes, and other aspects, such as feedback and communication. Trust between project managers and their team enhances the workplace environment to encourage innovation, potentially leading to improved processes and cost savings. Project managers can influence the trust between the project team and the organization (Khattak et al., 2020).

Theme 6: Leadership.

Leadership was the most mentioned interpersonal skill. All project managers said leadership attributes include decision-making and presence as the most critical interpersonal skill a project manager must possess to be effective in their duties. Awan et al. (2015) defined leadership within project management as the conduct of an individual to guide and influence a team to achieve a shared goal, such as attaining project milestones or completion. Most project managers (83%), except for P5, P8, and P1, agree with Awan et al.'s (2015) definition of leadership but further explain there is a difference between management and leadership. Most defined management as the day-to-day operations of the project, while leadership was the intangible aspect of management that exclusively involved the people of the project.

Awan et al. (2015) discovered that a project manager's leadership skills could be a pivotal factor in their project's successful management and completion. Most participants (83%) agree with Moradi et al.'s (2020) claim that interpersonal skills are critical to project success and stress management is one essential skill to possess. Project managers must know how to manage people collectively to achieve a common goal. Leadership combined with effective

communication and resiliency within a stressful construction environment can increase the project manager's effectiveness, potentially leading to faster completion rates.

Theme 7: Verbal and Non-Verbal Communication.

Verbal and non-verbal communication are combined into effective communication. Many participants (67%) in this research, P1-4, and P7-10, thought there was a difference between verbal and non-verbal communication; therefore, it was separated into two categories of interpersonal skills. Verbally communicating the project's direction and addressing any issues or problems hindering the project's progress is essential for most of the project managers in this research. A few project managers (25%), P6, P9, and P12, also considered non-verbal communication, such as being present at work sites, having a good attitude, and showing interest in all aspects of the project, which were essential to project success.

Effective communication was clearly identified in all field observations except for C2. P5 found himself within the field primarily to clarify directions and ensure people were performing their duties. P5 blamed the scheduling versus progress at the interview for his consistent presence in the field. Budget constraints were another factor P5 mentioned as a reason for constant field visits.

Effective communication is critical to project success as it directly affects project performance and time (Soliman, 2017). Specifically, within the construction industry, effective communication can help prevent delays and identify potential problems. Participants mostly agreed (67%) project managers who communicate effectively use verbal and non-verbal techniques to convey the essential aspects of the project, such as milestones and progress. P5, P7, and P10-P11 commonly agreed that verbal communication is critical but not non-verbal communication. Communication is an essential interpersonal skill for project management

because it is the most important contributor to project success and is the best type of social interaction for sharing knowledge (Soliman, 2017).

Theme 8: Listening Skills.

Most project managers (92%) in this research mentioned or demonstrated effective listening skills. P1 through P5, P7 through P12 clearly demonstrated effective listening skills through responsive feedback, respectfully engaging in the conversation, and showing genuine interest in their interaction. It may seem simple, but it is critical to understand the information from the field to make crucial decisions that will affect the project's progress. Actively listening to feedback from the field gives the project manager the necessary information to make decisions that may affect the project's progress. Actively listening to feedback also shows a level of respect between the project manager and the team members, including the workers on the ground performing the construction.

According to the *Project Management Body of Knowledge* (Project Management Institute, 2017), active listening helps reduce misunderstandings and improves communication between the project manager and their teams. It also enables knowledge sharing, which is important for teams to learn from their environment for future projects. Demonstrating active listening conveys to team members that you, as the project manager, care about their input. Demonstrating active listening also enables the project manager to practice their influence to their teams to guide them in the right direction for project success.

Interpretation of the Themes

Interpreting the themes helps the researcher find the main idea of the research. The themes discovered in this research potentially determine the effectiveness of interpersonal skills within project management as critical to quality completion rates. Despite the apparent lack of

interpersonal skills training at the institutional and organizational level, coaching and mentoring were found throughout the research because interpersonal skills serve a critical purpose in project management.

Interpreting the themes within the research is a method of analyzing the qualitative data from the interviews and field observations (Creswell & Poth, 2018). The researcher will take an inductive approach to analyze the data. An inductive approach enables the researcher to allow the data to determine the themes without preconceived themes (Creswell & Poth, 2018).

There are five companies used in this research. Each company is designated by number. For example, the first company visited was C1, and so on to C5 was the last company that participated in this research. The companies ranged from a private companies (1) to governmental agencies (2) and construction corporations (2). Four of the five companies are within the West Texas region, with the remaining company located in South Texas.

C1 has the largest construction project spanning over 22 miles on a heavily used highway, C2 is the local city agency charged with the construction of improvements within the City of El Paso, and C3 is a private company that works through government contracts to construct roads and bridges through West Texas. C4 is a highway construction company located in Corpus Christi, TX, and is charged with the highest visible project currently in the city, the bridge connecting downtown to the highway following the coast, and C5 is a governmental agency charged with construction improvements on Fort Bliss.

The participants came from each of these companies as follows: C1, four participants; C2, one participant; C3, three participants; C4, two participants; and C5, two participants. The participants were coded according to the sequence in which their interviews and field observations occurred. All the participants were observed and interviewed on the same day and

only conducted three short follow-up interviews with the participants in C1. The purpose of the follow-up interviews was to clarify one response from each participant.

The day started as I arrived at their construction site at an agreed-upon time to participate in their safety brief and pick up their safety gear which consisted of a hard hat, safety vest, gloves, and protective eyewear. The safety official at the construction sites recommended wearing boots which was not a problem. Field observations would be about four to six hours long, with the interviews conducted in the afternoon for just over an hour. There were four times I was invited to a meeting to see how the project manager discussed scheduling and the project in general and then focused discussions with each section. Typically, the entire time to conduct field observations and interviews would last between five to seven hours.

Analyzing Themes

The themes found in this research come from interviews and observations from the field. All interviews used open-ended questions to gather as much information from the project managers as possible. These questions did not point the participants in any direction desired by the researcher, preventing preconceived notions or desired outcomes. The answers provided by the participants revealed how they felt and thought about using interpersonal skills within project management.

This research relied on inductive reasoning to analyze and interpret the themes found during the interviews and observations. Inductive reasoning uses the data from interviews and observations to generate themes, while deductive reasoning uses data to confirm or negate the hypothesis (Thorne, 2000). The research aimed to be both inductive and deductive. Creswell and Poth (2018) stated that data collection in a qualitative approach should be inductive and deductive to establish patterns or themes.

Themes emerged from the participants who showed a genuine appreciation of interpersonal skills within project management, expressing the environment, especially during times of high turnover, as seen in the last two years due to COVID-19. The dynamic environment of the construction industry does not guarantee the retention of project teams or workers in the field. Project managers believe that being present in the area and showing how much they are invested in managing people encourages teams and workers to remain in the field working. More than half the participants expressed how much they felt interpersonal skills have developed in the last ten years as a better way to manage projects to meet deadlines and exceed expectations.

The interviews and observations took place within the work environment of the project managers. Researchers should observe the participants' natural settings (Creswell & Poth, 2018). Using their natural setting, the researcher collected data from the field where the participants had to use their skill sets to decide or discover potential project problems. The researcher was limited to a few areas within the construction site for safety precautions when conducting field observations.

The natural environment within the construction industry is dangerous. It carries the risk of life or severe injury for project managers, especially on road construction, where safety is the top priority. Keeping in mind the safety factor, the researcher participated in the companies' safety programs, which also provided more insight into the project manager's daily duties within the construction industry.

The researcher worked back and forth between all data sets to determine the most common themes found within the research. Participants unanimously revealed the importance of interpersonal skills within project management but observed the project manager is more of a

leader than a manager. Project managers felt they managed people more than they managed projects because so many team members filled vital roles within the project. Managing their roles and their work resulted in more effective project management, leading to better completion rates. This was found to be accurate within three companies that met each milestone of their current projects ahead of schedule.

Analyzing the data revealed that many project managers started their careers by expecting to use the technical skills learned from their institutional training or learning to meet the daily requirements of their position. Participants revealed that they needed to develop interpersonal skills to manage the people involved to ensure project success effectively. The project managers mentioned at least one person to whom they looked for mentorship and guidance. Of the 12 participants, ten relied internally on their organization for mentorship, while the other two relied on external sources for mentorship. The other two participants sought out mentorship from other project managers with much more experience within the construction industry.

The researcher used NVivo to code and analyze the data in this research. NVivo coded the participants from P1 to P12 and the companies from C1 to C5. The researcher used NVivo to produce graphs and scatterplots to represent the data from interviews and observations (Hackett & Strickland, 2018). The researcher uploaded notes, interview documents, and excel spreadsheets to NVivo to store all data relating to the research, and it is not accessible to anyone besides the researcher.

Representation and Visualization of the Data

The data found within the research are represented in four figures that show the themes discovered, found causes according to participants to the reason why project managers lack soft skills, participants' responses to questions, and data recorded from observations in the field. Each

figure is derived from an analysis of the data collected. The themes discovered are depicted below. Data collected from the interviews revealed that participants felt the primary interpersonal skills needed are leadership, building trust, listening, and verbal communication.

Themes Discovered.

All participants agreed that leadership is the most critical skill to learn and practice in project management, followed closely by listening skills, building trust, and verbal communication. Other interpersonal skills such as problem-solving, relationship management, and non-verbal communication were good skills to possess but not regarded as critical as the skills found in Figure 1.

Leadership was the best attribute to possess as a project manager. Within the leadership role, project managers understood they needed to know how to manage people rather than the technical aspects of the project. This is because the project is organized in different sections by people who are responsible for maintaining their share of the workload. The project manager's responsibility is to ensure the people working on the project are doing their job and being resources to perform their duties (Demirkesen & Ozorhon, 2017).

Verbal communication was mentioned in all the interviews as an interpersonal skill frequently used to manage teams effectively. The project managers learned through experience that verbal communication is the best form, which was observed through team meetings, field visits, and conflict resolution. Project managers can use many different communication methods to convey or distribute their guidance to make project progress, but communicating verbally in person seemed to be the preferred method. Verbal communication may be the preferred method because of the average age of the participants.

Building trust is also an essential interpersonal skill a project manager must possess. The project team must trust their project manager to make critical decisions within the project as necessary. Building trust is based on establishing credibility (Radujković & Sjekavica, 2017). Trust is earned from the project manager and their teams, and neither is guaranteed, regardless of position or experience. Some participants mentioned they follow other project managers who have established credibility within the construction industry. Project managers who successfully gain their teams' and organizations' trust and confidence can attribute their success to actively listening to their teams and being receptive to feedback.

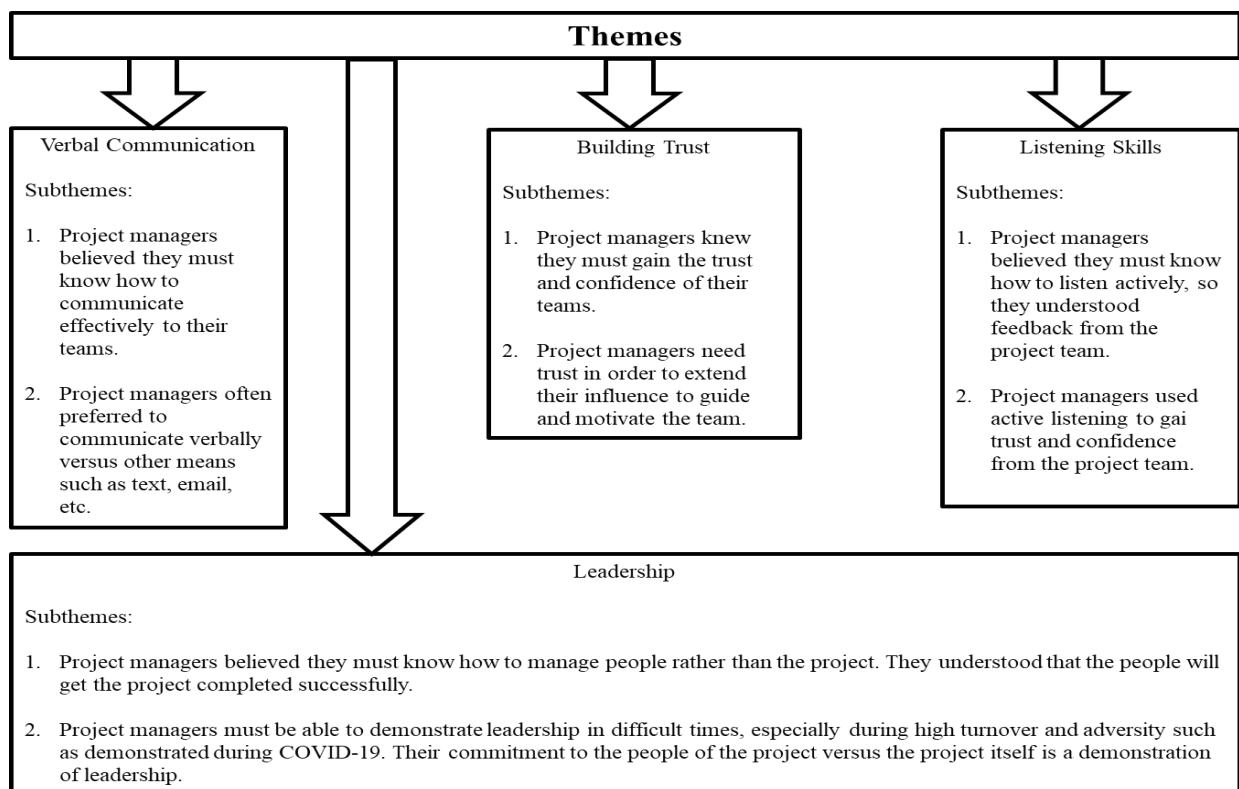


Figure 3. Themes discovered.

Listening skills were also regarded as a critical interpersonal skill to possess. Active listening shows a genuine interest in the person's concerns, and project managers should be

receptive to feedback from the field to anticipate delays or conflicts. Most of the project managers mentioned and demonstrated active listening during the observations.

Possible Causes and Effects of the Lack of Soft Skills.

As the participants revealed within the interviews, soft skills or interpersonal skills are not taught in learning institutions as the intent is to teach the technical skills needed to earn a degree in project management. Some organizations lack developmental programs for interpersonal skills, but two of the three companies encouraged self-development through online seminars and reading material specifically on interpersonal skills. It was found that almost all of the participants actively sought mentorship and coaching within their organization, while the rest relied on external sources.

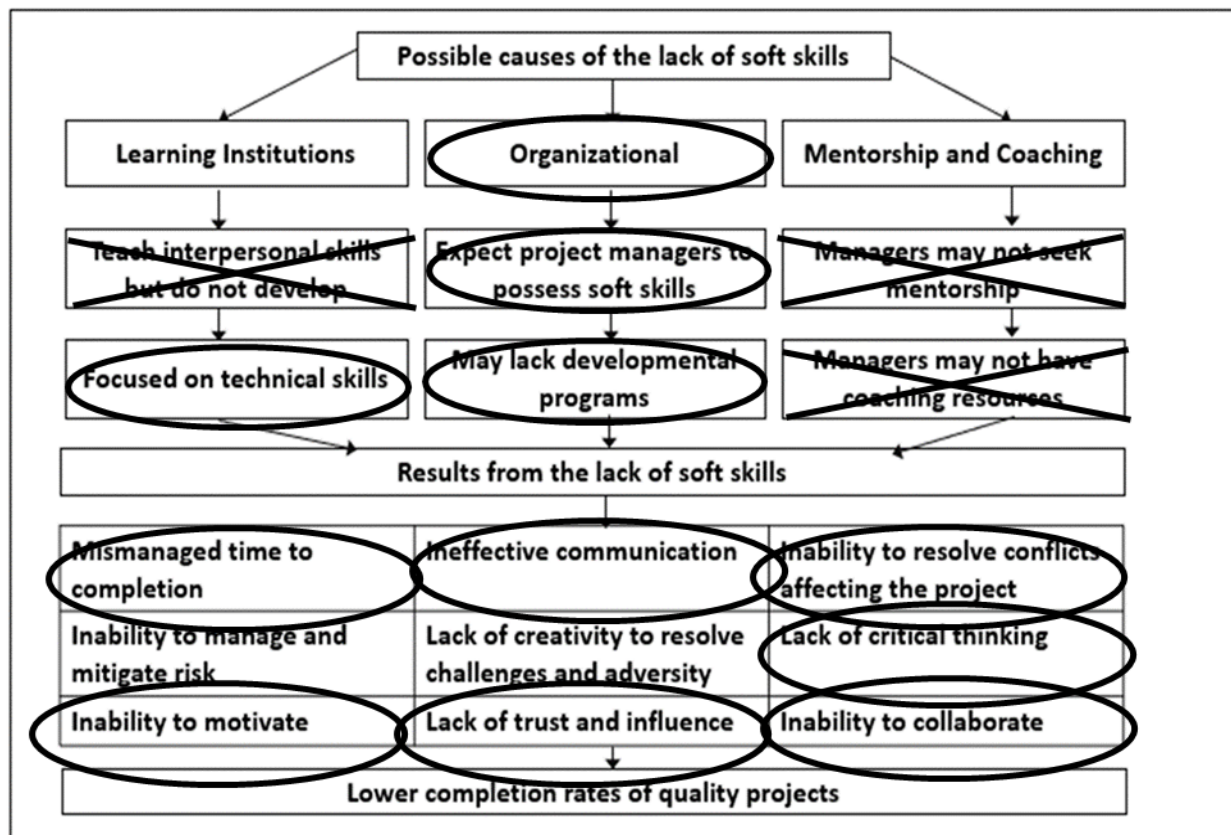


Figure 4. Lack of soft skills–potential cause and effect.

Participants mentioned the lack of interpersonal skills often led to communication breakdowns, inability to collaborate and build an effective team, difficulty in predicting delays, and mismanagement of time and resources. Despite being proficient in the technical aspects of project management, such as budgeting and forecasting materials, project managers who have not developed their interpersonal skills experienced more difficulty frequently than those who developed them. Being a new project manager can be complex, especially in the construction industry (Demirkesen & Ozorhon, 2017).

Inexperienced project managers should seek mentorship and coaching to begin their development as soon as possible. Experience in managing people within the project leads to developing interpersonal skills (Ali et al., 2021). Some project managers (75%) mentioned during the interviews that they found it challenging to manage time or resolve conflicts because they did not communicate as often as they should have. Once they started to go out and meet with team members who held responsibility for different aspects of the project, they realized they needed to know as much as possible about the project's progress to avoid delays. All the project managers realized that the project's success relied on the level of involvement in every detail.

Project managers need to have the trust and confidence of their teams to be effective leaders (Novo et al., 2017). Project managers who have the trust and confidence of their teams also benefit from open communication. Open communication and receptiveness to feedback can lead to discovering potential problems in the field. Project managers who know the details of the project's progress can anticipate delays or conflicts that will hinder the successful completion of the project (Elia et al., 2021).

Interpersonal Skills Mentioned the Most to Least by the Participants.

Figure three shows the participants either mentioned or emphasized which interpersonal skill was more important as a project manager. The interpersonal skills mentioned during the interviews are listed in the figure and given a value as to how much that interpersonal skill was to the project manager during the interview. Leadership and building trust were the best interpersonal skills to possess as a project manager, but receptiveness to feedback was not regarded as necessary. Although trust involves receiving and accepting feedback, it did not sway or change any project managers' opinions.

Managing relationships, self-confidence, negotiation skills, problem-solving, assertiveness, and non-verbal communication was essential to know and practice but not as important as the most mentioned interpersonal skills. A few project managers said it is important to maintain and establish relationships but not within the project team. The reason that they interact with the teams daily and maintain an environment that facilitates open communication is critical. Still, relationship management is more directed to external sources and organizations, such as construction equipment lease agreements and materials.

Negotiation and assertiveness are interpersonal skills that may be important but not consistent. Some project managers mentioned they may have to assert themselves during critical phases of the project or if team members are not following the plans for the project. It is important to know how to tactfully address team members or field workers to get your point across to ensure project progress. Negotiation skills are also fundamental as the project manager may need to negotiate materials delivery or equipment earlier than expected.

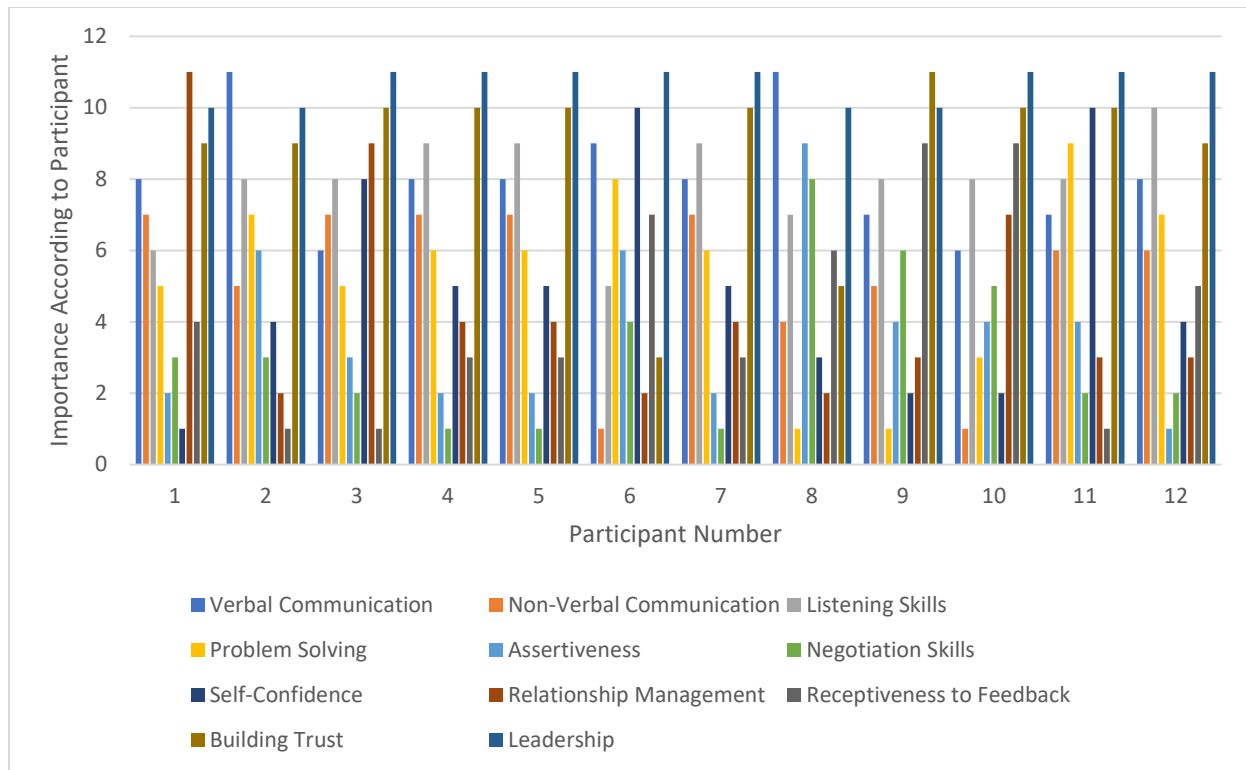


Figure 5. Lack of soft skills—interpersonal skills mentioned as the most to least important for project managers.

Two participants regarded self-confidence and non-verbal communication as important in their daily routines. The reason project managers consistently visit work sites and work out of on-site offices is to measure progress accurately. If they walked around with a “defeated or tired” demeanor on the work site, their team or the workers could have the same attitude and slow progress, according to the two participants.

Interview and Observation Matrix.

During the interviews and field observations, the researcher noted when interpersonal skills were mentioned or observed. Two participants said how critical interpersonal skills were during the interviews but did not demonstrate the use of interpersonal skills during the field observations. This inconsistency may be explained by participants anticipating the subject of the

interview but not truly knowing how to apply soft skills in their work environment. These participants met each milestone of their projects within the project timeframe, while the other participants were ahead of schedule on their projects.

Three participants mentioned little interpersonal skills during their interview or did not expand on their answers. The three participants did demonstrate effective use of interpersonal skills such as verbal communication and listening skills. Despite not being formally trained or knowing the application of interpersonal skills, they showed how project managers could be influential leaders. The same three project managers also sought out mentorship and coaching from experienced project managers but did not participate in any formal developmental program.

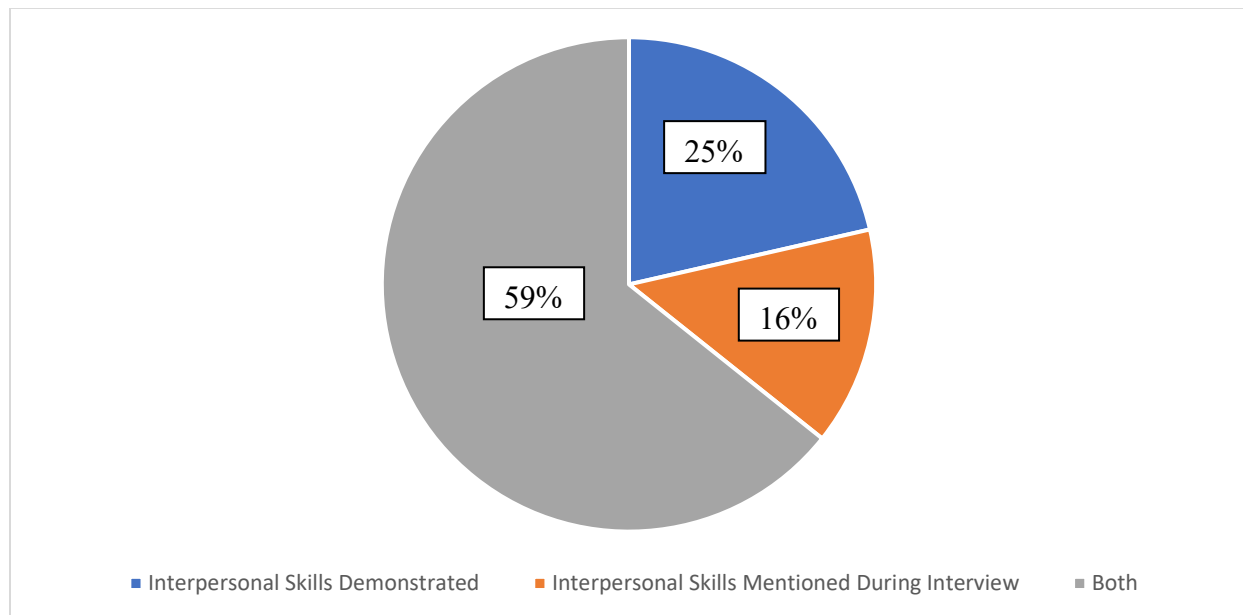


Figure 6. Lack of soft skills—interpersonal skills mentioned during interviews and/or demonstrated during field observations

Relationship of the Findings

The findings share relationships to key areas of the research proposal. The data also provides insightful information contrary to the research questions and anticipated themes. In addition to the interviews and field observations, the researcher toured each company that employed the participants, except for the intergovernmental agency, to understand the complexity and culture of the organizations. Understanding the cultural aspects of the companies provided a perspective of each company and their priority to develop their project managers.

Participants answered open-ended questions in each interview to facilitate convergence toward key areas of the research proposal. The research found answers to each research question, relationships to literature and themes, and insight into the problem. The researcher documented the relationship between the data collected and the problem within the research proposal within the interview transcripts.

The Research Questions.

Research questions are the driving force for most empirical studies, such as this research (Creswell & Poth, 2018). This research aimed to correlate the lack of interpersonal skills to completion rates within project management. The research design logically links the research questions with collected data, then analyzes the case study (Creswell & Poth, 2018).

The data collected and analyzed shows direct and indirect answers to the research questions. The first research question asks, “how do project leaders lack soft skills?” The sub-questions within the research question ask what soft skills the project manager should possess and how a leader can develop soft skills. The research found that most project managers know and understand soft or interpersonal skills and how they can impact their effectiveness as project managers. The participants in the research revealed that leadership, active listening, knowing

how to build trust, and effective communication are critical interpersonal skills a project manager must possess. Project managers can develop their interpersonal skills on their own through self-development techniques such as reading literature and seeking out coaching.

Most of the participants did reveal they either read literature or sought out mentorship within the organization. Some organizations shared literature with their project managers to facilitate their development as leaders. One organization shared and distributed mandatory reading to promote self-development. One book shared, *Radical Candor*, authored by Kim Scott, was made a mandatory read for all project managers to provide effective guidance on managing people through interpersonal skills.

The second research question asks, “how do soft skills contribute to the project completion rates in construction projects?” The sub-questions then ask which specific soft skills apply to increase success rates and which soft skills hold the most impact for greater success rates in construction projects. The research shows that interpersonal skills have a significant effect on project completion rates and are moderate to speeding up or completing a project ahead of schedule. Other factors outside the project manager’s control, such as severe weather or the COVID-19 pandemic, will significantly impact the project’s progress.

Being dynamic in a dynamic environment is the difference between a good project manager and an effective leader. The project managers who prioritized the management of people instead of managing the work within the project were usually ahead of schedule within their project timelines. Specifically, leadership and effective communication impacted construction project success rates more significantly than other interpersonal skills. Project managers who did not communicate effectively through any means, and were not often seen at

points of friction, such as work sites, were found to be slightly behind schedule or hardly on schedule.

The third research question asks, “how can soft skills be taught or developed within the construction field?” The sub-questions ask how companies provide the development of soft skills and how programs outside of the construction field can provide development. The means of development found in the research consisted of self-development and mentorship. The project managers sought some form of coaching within their organization. Most of the project managers sought official mentorship from within the organization, whereas a few sought mentorship from outside the organization. Only a few participants were active in self-development, including literature and leadership seminars.

The construction field does facilitate the development of interpersonal skills for project managers within the private sector but not the government agencies. The private companies in this research shared literature and encouraged mentorship for their project managers, whereas those working within government agencies did not. It did not seem as important or a priority for the governmental agency to promote interpersonal skills development as they could not provide any evidence or proof of developmental programs. Ma et al. (2014) lays out multiple options for any business to develop their project managers, such as programs found in the Project Management Institute, Project Management Professional (PMP) certifications, and other online options found in the International Project Management Association (IPMA).

There is no evidence of any construction company or governmental agency actively seeking external organizations or institutions to develop their project managers. External organizations providing interpersonal skills development could benefit project managers within the construction industry. Taking time away from the work site to focus on being a better leader

will benefit the organization (Rui et al., 2015). Providing literature seems to be a minimal initiative to develop project managers within the construction industry.

The Conceptual Framework.

The findings relate to most of the elements within the research framework. The researcher ensured the participants understood the intent of the research to assess the effectiveness of soft skills within project management and not criticize their work ethic, how they conduct themselves within the work environment, etc. The researcher ensured there was no deception while conducting the research (Creswell & Poth, 2018). Each interview question was open-ended, and freedom in how to answer and what to answer was solely on the participant without influence from the researcher. Based on the findings, the theories, actors, and constructs mostly correlated to the research framework.

Theories that could relate to the research framework included the Bayesian theory, social exchange theory, and the theory of constraints. The Bayesian theory did not apply entirely to the research as the initial assessment did not match emergent themes. This theory enabled the researcher to record the participants' perceived knowledge of soft skills before assessing their performance. Some participants did not use soft skills during the field observations.

The social exchange theory directly applied to the research framework as it accounted for the social behaviors within the relationship between project managers and their teams. The social exchange theory also captured the change in behavior and interaction between the project managers and other stakeholders or external organizations such as material suppliers. This theory correlated the effectiveness of the communication between all stakeholders of the project. As with qualitative research, the research process should follow an approach that can account for social and behavioral research (Creswell & Poth, 2018). The theory of constraints did not apply

directly to the research as it is more applicable to the technical role of the project manager. The theory could apply indirectly to the project manager as they may have to interact or interject to solve problems their team cannot solve independently.

The researcher identified actors involved in the research as the project manager, construction managers, and their team, with sub-actors as project stakeholders, customers, and workers. Project managers, construction personnel in general, project stakeholders, and external organizations were primarily found to be the main actors of the research. Customers were not found to be a significant part of the research as initially thought. The project managers were found to interact more consistently with the construction personnel than any other actor. Construction personnel includes workers, supervisors, and safety personnel who provide feedback from each perspective and create a common operating picture for the project manager. Providing an accurate description of project progress is essential to the project manager to continue providing resources and direction.

The constructs initially identified at the beginning of the research compared to the findings from interviews and field observations correlated to the conceptual framework. The participants understood interpersonal skills and how to apply them as project managers. A few project managers were unaware of interpersonal skills but demonstrated effective use within their duties. The research reached saturation with 12 participants. The findings accurately depict a mutual understanding from all participants who believe interpersonal skills are essential to project management. The research found a difference in project progression between project managers who understand and apply effective interpersonal skills and those who do not. Therefore, the researcher can determine that interpersonal skills can provide an advantage in

project management if the organizational leadership provides some developmental program or facilitates internal mentorship.

Anticipated Themes.

There are differences between the anticipated themes and the findings within the research. The researcher found unanticipated themes but confirmed anticipated themes and captured them within the interview transcripts and footnotes (Creswell & Poth, 2018). The researcher expected several anticipated themes, such as leadership, building trust, and effective communication. Participants often mentioned these skills to manage teams in interviews and observed in the field. Leadership and effective communication were interpersonal skills necessary to manage challenging times such as the COVID-19 pandemic. Many project managers had to learn how to build and maintain relationships with their teams to ensure they could work on the projects and avoid setbacks. Building trust within the teams and communicating effectively created the work environment needed to maintain progress through the pandemic.

One unanticipated theme was the importance of listening skills. Most participants mentioned how vital understanding and listening to each project team member is to complete the project. Only two of the participants did not regard listening skills as a critical skill. An effective project manager must understand each actor involved in the project to know every detail of the project's progress as they can anticipate setbacks or delays (Demirkesen & Ozorhon, 2017). Project managers with a comprehensive understanding of the progress of their project can potentially provide better progress reports to all stakeholders who are invested in the project.

The researcher anticipated some interpersonal skills to be either mentioned or observed but was not found in the findings. Anticipated themes such as problem-solving, relationship

management, and negotiation skills were not regarded as important interpersonal skills for a project manager. Instead, the importance of knowing how to manage and trust people within the project team to conduct these duties within the project was more critical. Potentially, this approach is why effective communication and building trust is considered more important interpersonal skills to possess instead.

Many interpersonal skills were captured within the research, but a behavioral theme remained consistent with all the participants. Each participant unconsciously seemed to regard themselves as leaders instead of managers. All the participants introduced themselves as project managers because it is their official title and primarily their duty to perform for the organization. Since leadership was favored as the most important interpersonal skill to possess, it is evident that each participant knows they are a manager but operate and conduct themselves as leaders.

Understanding that project managers conduct and operate as leaders, their organizations should invest in their development to produce more favorable results, such as early completion of quality projects. Developing their abilities to lead their organizations through the dynamic work environments of construction can potentially provide a distinct advantage over other organizations. The researcher anticipated themes that involved methods of benchmarking. Project managers used milestones within the project to measure progress, but there is no type of measurement of the development of the project managers. For example, a project manager reaches five years of working for the same organization. Are they better project managers after five years, or are they working on the same skill level as their entry counterparts? What development has the project manager participated in, and how effective has it been? Is the organization prioritizing its development to benefit the organization to serve its stakeholders better?

The Literature.

The findings in the research have many similarities with minor differences compared to the literature. There is a lot of supporting research and case studies that support the development of interpersonal skills in project management. The data found in this research further supports developmental programs. The literature reviewed for this research helped shape the open-ended questions and ensured the researcher knew what to ask within the interviews and what to look for in the field observations (Creswell & Poth, 2018).

Much of the literature to support this research involves interpersonal skills from a management perspective and supporting literature specific to project management within the construction industry. The researcher found that standard management practices apply to project management as each participant prioritized the management of people to increase performance rather than micromanage within the working environment. The researcher should compare their findings with other research and case studies (Creswell & Poth, 2018). Literature on the effectiveness of interpersonal skills within project management supported the findings and supported further research on developing interpersonal skills within the construction industry.

The literature supported some interpersonal skills as critical to the success of a project manager over other skills, specifically adaptability, negotiation, problem-solving and critical thinking. None of these interpersonal skills were regarded as most critical for a project manager from any interview, nor were any of these skills observed. The most senior project managers interviewed in this research mentioned how much they comfortably reached back to their experience to think critically and creatively about problems within the project. Their credibility served junior project managers as they would ask for their opinions on their projects.

Benchmarking, resiliency, and sustaining development plans covered in the literature review were revealed as critical for project managers in other research but not as essential, according to the participants. The participants agreed that benchmarking within the project timeline and schedule is essential to managing the project, but benchmarking self-development and resiliency depend on the individual. The participants agreed that identifying and building interpersonal skills and other competencies comes with experience, as noted by Awan et al. (2015).

Coaching and mentorship proved consistent in this research and within the literature on interpersonal skills in project management. Coaching and mentoring new project managers with little experience is critical to develop into effective leaders. Participants in this research recalled times when they quickly reached out to their mentors to help solve problems within their projects. Participants' interaction between their mentors and coaches is consistent with findings in Roupnel et al. (2019). Coaches and mentors are not available to solve the problems for the project managers; they are available to help the project managers solve the problem themselves (Roupnel et al., 2019).

Interpersonal skills consistent with other literature were effective communication, leadership, building trust, and negotiation. Other literature found interpersonal skills consistent within their research, such as time management, flexibility, creativity, motivation, social awareness, and collaboration, as critical skills in their research. Contrary to this research, the participants did not consider these interpersonal skills essential. The interpersonal skills covered in this research can be attributed to the skills covered in other research, such as effective problem-solving requiring creativity, flexibility, and influencing (Zia, 2020).

Solving problems within dynamic environments such as construction will require more critical thinking to effectively solve problems and prevent other problems from forming during the project timeline. As one participant mentioned, being adaptable to your environment is essential to anticipating potential delays, and knowing who to talk to for help is just as important. Participants revealed that managing relationships internally and externally helps solve problems, as Novo et al. (2017) found through teamwork and collaboration.

The Problem.

Research must be focused on understanding specific topics, and the problem must be clearly stated (Creswell & Poth, 2018). This research aimed to find a correlation between the lack of interpersonal skills and quality project completion rates within the construction industry. The problem should apply to real-world situations (Creswell & Poth, 2018). This research directly applies to real-world applications within project management. The participants revealed how necessary interpersonal skills are to their scope of responsibility as project managers. The findings show that developing interpersonal skills can benefit organizations by producing influential leaders.

The findings in this research have found that the lack of interpersonal skills within the construction industry has a moderate impact on the completion rate of construction projects. The findings support the idea that project managers who develop their interpersonal skills to be better and more effective leaders are ahead of schedule. Managing people within the project, from team members to construction workers in the field, helped avoid delays and setbacks. The findings also found that interpersonal skills can fill the gaps in technical skills.

Technical skills will ensure that project managers can forecast resources and measure progress with dates and milestones. Interpersonal skills can ensure the project manager can still

provide resources and measure progress but offers more flexibility in case of adversity. For example, suppose there is a delay in the delivery of materials. To prevent delays, what technical skill does the project manager employ to ensure materials are at the work site? From an interpersonal skills perspective, maintaining relationships and often communicating with suppliers of the needed materials can offer more predictability. The construction industry is dynamic, mainly because it is subject to weather conditions; the project manager must be adaptive and flexible to meet any adversity outside their control.

Summary of the Findings

The researcher gathered data through interviews and field observation to find a correlation between the lack of interpersonal skills and quality project completion rates within the construction industry. The research findings found a correlation between using interpersonal skills to increase productivity within the construction industry. Data shows the participants believed that interpersonal skills, including the construction industry, play a critical role as a project manager. Project managers who understand interpersonal skills and apply these skills effectively in the scope of duties were ahead of schedule within their project. This research found that the lack of interpersonal skills and the inability to apply them within project management did not significantly decrease quality project completion rates. Data shows that applying interpersonal skills within project management facilitates better completion rates and work environments.

The research found answers to each research question determining that more research is needed in deciding what type of developmental programs are required within project management, specifically within the construction industry. Despite the developmental programs in this research, it can be concluded that more comprehensive programs are needed to develop

effective project managers, potentially producing faster completion rates. The participants revealed the need for more leadership-focused skills to manage projects effectively. Considering the size of most construction projects, it is critical project managers are capable of keeping situational awareness of all aspects of the project, which will require more than technical skills in project management.

Application to Professional Practice

The research findings can apply to professional practice within project management to improve productivity. Higher productivity and raised skill levels result in better workplace environments (Robles, 2013). Interpersonal skills bridge the gap between the technical skills taught institutionally that project managers will need to perform their daily duties and obligations to the organization. Many organizations believe interpersonal skills are critical to the success of the project manager (Robles, 2013). Development of interpersonal skills can potentially lead to improved completion rates of quality projects within the construction industry.

Improving General Business

Within a general business practice, interpersonal skills development can improve many areas within an organization (Borg & Scott-Young, 2020). Interpersonal skills can be applied to many areas within general business and can be used by anyone within the organization. Managers will socially interact with their employees and customers if there is a problem for example. Business owners, managers, and employees should know how to effectively deal with situations within their operations.

Other studies have found that interpersonal skills have become more valuable and sought after by many industries, including on a global scale (Hardjati & Febrianita, 2019). Interpersonal skills enable managers to take on a leadership role within their organization. Using interpersonal

skills will enable managers to foster a work environment conducive to adaptability and creativity (Subrahmanyam, 2019). Leaders will find ways to prevent delays and solve problems concerning their operations and their employees. Thinking critically, communicating effectively, and performing in a leadership role are critical to fostering an optimal work environment (Robles, 2013).

Increased Productivity.

Productivity is measured within the work environment by how much work is completed in a specific amount of time (Hanaysha, 2016). Increasing productivity benefits all employees within the organization and its customers. Increasing productivity can be done in many ways such as improving processes, increasing efficiency, and employee engagement (Hanaysha, 2016). Increasing productivity potentially leads to higher profits and economic growth.

Managers who effectively engage employees often can potentially measure productivity accurately and make changes that can either manage or improve productivity (Dean & East, 2019). Engaging employees is a great way to gain their trust and influence within the organization. An influential leader empowers organizations to meet their productivity and profitability goals (Hardjati & Febrianita, 2019). Positively influencing the workplace environment can potentially lead to higher rates of job satisfaction. The result of promoting a positive work environment are increased productivity, job satisfaction, and potentially increased profitability.

Retention.

Higher productivity output is an excellent advantage for any organization. Employees who work in a positive workplace are more likely to remain with the organization, potentially resulting in better retention rates. Businesses must retain their best employees to remain

competitive (Raj et al., 2022). Project managers who positively engage their teams and others within the organization foster a better work environment.

Positive work engagements often lead to higher performance outcomes, productivity, and employee retention (Hanaysha, 2016). Construction projects are dynamic environments subject to potential delays caused by environmental or other factors, as we saw during the COVID-19 pandemic (Raj et al., 2022). Employers should foster a positive work environment that promotes retention to ensure employees remain with the organization.

Potential Application Strategies

There are a few strategies that organizations can apply to their organizations to promote and develop interpersonal skills for their project managers. Promoting and developing interpersonal skills within the organization can potentially increase productivity and improve the work environment of the organization (Hanaysha, 2016). This research has shown that there is a difference in work environment and productivity if the project manager understands and applies interpersonal skills within their organization.

Application Strategy 1: Self-Development.

An organizational strategy found in the research is the encouragement of self-development through literature. The researcher found self-developmental literature in four of the five organizations and practiced by 10 out of 12 participants. These participants demonstrated a clear understanding of interpersonal skills and how to apply those skills within their organization. Their organizations also benefited from increased productivity as each of those organizations were ahead of their projected timeline according to scheduling.

Of the four organizations that shared self-developmental literature, only one enforced mandatory reading and expected their project managers to read the literature within a reasonable

timeframe. The timeframe given to the project managers were within the calendar year and one book was required. This amount of reading within one year is very reasonable and very easy to complete, especially given the amount of work and attention to detail a project manager must provide to their projects.

Organizations can create a self-development program for their project managers to increase their knowledge of interpersonal skills. Newly hired project managers can be hired with the awareness of required self-developmental requirements. Members within the organization willing to commit to the required self-development program potentially are more than likely to remain within the organization (Hanaysha, 2016).

Application Strategy 2: External Certifications.

There are many organizations that specialize in project management certifications such as the Project Management Institute. The Project Management Institute offers a certification within project management as the Project Management Professional (PMP) certification and the Program Management Professional (PgMP). Each of these certifications require applicants to meet specific competencies like project scheduling, budgeting, and human resources. Other certifications like the PgMP require competencies such as understanding how to manage projects throughout multiple regions and within different cultures. Project managers who perform their duties within these types of organizations may potentially have to understand and practice a multitude of interpersonal skills considering the work environments of international organizations (Hanaysha, 2016).

Within this research, all of the participants held either a bachelor's degree in project management or a certification in project management but only half (P1-P3 and P8-10), held both. None of the organizations paid for their project managers to gain certifications but each of the

participants who sought and obtained the certifications were paid more by their organizations. One certification offered by the Project Management Institute is the Professional in Project Management (PPM) that specifically measures and tests a project manager's interpersonal skills such as adaptability, effective communication, leadership for experienced project managers. The average cost of all certifications offered by the Project Management Institute is between \$250-\$400.

Application Strategy 3: Mentorship Program.

Participants in this research who understood the importance of interpersonal skills were mentored and/or coached by experienced project managers. Organizations can implement a mentorship or coaching program pairing new project managers with experienced project managers providing guidance and assistance. Organizations that foster mentorship programs can potentially increase productivity (Bausell et al., 2020). Mentors can guide and encourage their mentees, shaping and influencing their decision-making and project approach.

Project managers who are mentored can benefit their organizations by developing into innovative and creative leaders (Bausell et al., 2020). New project managers can benefit from the organization's established network of internal and external mentors. This approach means new project managers can reach within and outside of the organization for assistance with their projects. Mentors can visit their mentees on their project sites to provide guidance and assistance, which can build the mentee's confidence as they gain experience.

Summary of the Application to Professional Practice

The results of this study can improve organizations by sharing current organizational practices, identifying ways to improve general business practices, and highlighting potential application strategies. Organizations that promote interpersonal skills have better work

environments and higher retention rates (Hanaysha, 2016). Potential application strategies for organizations include implementing self-development requirements, promoting external certifications, and fostering a mentorship program. Each of these initiatives is low-cost.

Recommendations for Future Study

Several areas of study should be explored based on the research findings. One area is the construction industry's lack of established formal project management development programs. Organizations used initiatives and encouragement to develop project managers' interpersonal skills but did not provide formal training, seminars, or established internal programs. Online courses designed to develop interpersonal skills offer self-paced development opportunities for any manager. The operational tempo and dynamic environment may prevent project managers from developing interpersonal skills without organizational encouragement.

Another area recommended for future research is studying the impact of internship programs on project managers attending college. Not all project managers participate in internships. The project managers in this study did not participate in intern programs. Project managers participating in internships regularly observe experienced project managers modeling interpersonal skills in the field. Some internship programs found online detail their daily routines, assisting in data collection and analysis and preparing various reports (Kumar, 2021). These internship programs focus on the technical aspects of project management without acknowledging the need for soft skills.

The course of research encouraged the researcher to look more closely at applying interpersonal skills from a civilian perspective instead of a military perspective. Significant similarities apply to project management in these sectors. Both sectors require leaders who can motivate people to increase productivity and achieve project goals. Applying interpersonal skills

and fostering healthy work environments is consistent with the Christian worldview, as it is essential to care for everyone's development (1 Thessalonians 5:11).

Reflections

Personal and Professional Growth

After serving 22 years in the Army, with 20 years in direct leadership roles, I realized I needed to learn more about interpersonal skills. After reading so much material about the importance of interpersonal skills and how they can increase productivity, I realized there was much to learn. I once thought of workers, or soldiers in my field, as the means to production, with a quota they must fill each day. I understood that each soldier was a person who enlisted for distinct reasons, with many simply trying to provide for their families.

Interpersonal skills apply not only to my organization but also to external organizations that directly affect my soldiers. I understood the importance of accomplishing any mission presented to the organization, as it was a part of the bigger picture. However, with time, I learned that I could only accomplish the mission if I had the right people. This perspective made me prioritize their welfare and development to include their families.

I assumed there was a difference in the civilian sector, where people are hired and fired constantly. However, I realized that many industries place the same care and thought into managing personnel as I had in the Army. Many managers, especially the project managers in this study, care about their employees and regard them as essential individuals who work within their organizations for the same reasons as soldiers serving in the Army. I found leaders who genuinely cared about their employees' development and their families' welfare.

Since interviewing the participants, I have purchased each book they recommended. I plan on reading each of the recommended books during the following year. If I am lucky enough

to be selected to serve as a Command Sergeant Major, I will create a list of recommended readings that I can share with my organization so that others can understand what I learned from this research.

The desired outcome of this list is to get at least half my organization to read the materials, read and share my research, and share the findings with others in the Army so that a culture of interpersonal skills can develop. Currently, the Army is promoting a culture of placing people first, and interpersonal skills are a great way to create that environment. By recognizing my need for interpersonal skills, I can promote the importance of these skills to new leaders who will eventually replace senior leaders in the Army, creating culture change.

Biblical Perspective

The business functions explored in this study relate to and integrate with a Christian worldview by applying interpersonal skills. Organizations need effective project managers who use technical and interpersonal skills. Interpersonal skills like leadership, critical thinking, and effective communication are consistent with the Christian worldview.

Other interpersonal skills include relationship management, trust building, and listening. These skills are also consistent with the Christian worldview. Organizations must ensure their business is profitable and maximize their profits (Proverbs 10: 4). Organizations can meet this goal through initiatives such as interpersonal skills development that will develop more effective leaders. Interpersonal skills enable project managers to lead their people to ultimately meet their goal of project completion, benefiting everyone in the community.

The projects covered in this research were primarily road and building construction projects. Roads benefit everyone who travels through the cities covered in the research. Buildings help those who are underprivileged and cannot afford some basic housing needs. Other

projects examined during this study provided services to those using public transportation. The project managers overseeing these critical projects were doing work that directly benefitted their communities, meeting God's intent.

Project managers meet God's intent through several interpersonal skills. Two critical interpersonal skills project managers can consider developing to fulfill God's intent and benefit the community are leadership and relationship management. These two interpersonal skills directly affect interactions between project managers and their teams (Robles, 2013).

Leadership.

Effective leaders consistently apply interpersonal skills to increase productivity and enhance work environments (Moradi et al., 2020). Effective leaders are needed everywhere, in every organization and community. Effective leaders also apply their experiences and teach others to be leaders in their organizations and communities. According to Psalm 78:72, leaders can use "an upright heart, he shepherded them and guided them with his skillful hand." Leaders share their experiences and lead others to become effective members of the organization.

Construction projects are very large and can span miles and use many teams operating in different locations. Project managers must know every aspect of the project to anticipate potential problems and prevent delays. Project managers must be adaptive, creative, and innovative thinkers (Khozravi et al., 2020). Creativity and innovation are essential interpersonal skills project managers can apply to their projects. According to Romans 12:6, "we have different gifts, according to the grace given to each of us. If your gift is prophesying, then prophecy in accordance with your faith." Project managers may not be prophets, but using their experience, they can predict possible factors that affect their projects.

Relationship Management.

Managing relationships is critical to the success of construction projects (Subrahmanyam, 2019). Managing relationships includes internal interactions between members of the project team. The project team looks to the project manager for guidance to manage the project. Thessalonians 5:11 states, “Therefore encourage one another and build each other up, just as in fact you are doing.” Project managers can prioritize coaching their teams throughout the project and look to build up each team member.

Project managers who share their experience with others are consistent with the Christian worldview as their coaching develops others. Proverbs 13:20 says, “Walk with the wise and become wise, for a companion of fools suffers harm.” This passage means that project managers should share their knowledge with their teams and everyone who seeks to be a better project manager. Developing the project team benefits the organization and improves teamwork and collaboration during the project (Hanaysha, 2016).

Developing the project team takes consistency and time. Teams are not expected to collaborate and work together immediately, but project managers can foster work environments that promote these attributes (Moradi et al., 2020). Colossians 3:23 says, “Whatever you do, work at it with all your heart, as working for the Lord, not for human masters.” Project managers should commit to developing their project teams because it serves a higher calling.

Summary of Reflections

This research could benefit project management businesses. The research covered many organizations, ranging from large corporations to governmental agencies. The findings can improve business practices, increase retention rates, and improve work environments. Organizations can implement potential strategies like development requirements, external certifications, and mentorship programs. Applying interpersonal skills to project management is

consistent with the Christian worldview because these skills enable project managers to be effective leaders showing empathy and compassion for others within the organization.

Summary of Section 3

The researcher gathered data through interviews and field observations to explore the links between using soft skills as a project manager and higher project completion rates in the construction industry. The research revealed that interpersonal skills are critical skills project managers need to be effective. This study's results can improve organizations by promoting productive organizational practices, highlighting ways to improve general business practices, and identifying potential application strategies.

The potential low-cost application strategies discussed in this research were implementing self-development requirements, promoting external certifications, and fostering a mentorship program. Findings within this research can contribute to improved business practices, higher retention rates, and improved work environments. Applying interpersonal skills within project management is consistent with the Christian worldview because these skills enable project managers to be effective leaders showing empathy and compassion for others within the organization.

References

- Alam, K. (2021). A systematic qualitative case study: Questions, data collection, NVivo analysis, and saturation. *Qualitative Research in Organizations and Management*, 16(1), 1-31.
<http://dx.doi.org/10.1108/QROM-09-2019-1825>
- Ali, M., Li, Z., Khan, S., Shah, S. J., & Ullah, R. (2021). Linking humble leadership and project success: The moderating role of top management support with mediation of team building. *International Journal of Managing Projects in Business*, 14(3), 545-562.
<https://doi.org/10.1108/IJMPB-01-2020-0032>
- Anantatmula, V. S. (2010). Project manager leadership role in improving project performance. *Engineering Management Journal*, 22(1), 12-22.
<https://doi.org/10.1080/10429247.2010.11431849>
- Awan, M., Ahmed, K., & Zulqarnain, W. (2015). Impact of project manager's soft skills leadership skills on project success. *Journal of Poverty, Investment and Development*, 8, 27-46. <https://iiste.org/Journals/index.php/JPID/article/view/19288>
- Bano, M., Zowghi, D., Ferrari, A., Spoletini, P., & Donati, B. (2019). Teaching requirements elicitation interviews: An empirical study of learning from mistakes. *Requirements Engineering*, 24, 259–289. <http://dx.doi.org/10.1007/s00766-019-00313-0>
- Bausell, R., Lyon, C., & Al-Dahhan, M. (2020). Improving soft skills through mentorship. *CEP*, 2020(12), 47-52. <https://tinyurl.com/3cscz447>
- Beech, N., Gold, J., & Kershaw-Solomon, H. (2021). Foresight and action learning supporting transition: An account of practice. *Industry and Higher Education*, 35(2), 137-143.
<http://dx.doi.org/10.1007/s00766-019-00313-0>

- Binsaeed, R. H., Unnia, S. T., & Rizvi, L. J. (2017). The big impact of soft skills in today's workplace. *International Journal of Economics, Commerce and Management*, 5(1), 456-463. <https://ijecm.co.uk/wp-content/uploads/2017/01/5123.pdf>
- Blythe, K., Solomon, J., & Gunther, W. K. (2019). The hard task of soft skills: Project management for the materials review process. *Serials Review*, 45(3), 158-159. <https://doi.org/10.1080/00987913.2019.1647745>
- Borg, J., & Scott-Young, C. M. (2020). Priming the project talent pipeline: Examining work readiness in undergraduate project management degree programs. *Project Management Journal*, 51(2), 165-180. <https://doi.org/10.1177/8756972820904220>
- Brannick, T., & Coghian, D. (2016). In defense of being “native”: The case for insider academic research. *Organizational Research Methods*, 10(1), 59-74. <https://doi.org/10.1177/1094428106289253>
- Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological Research and Practice*, 2, Article 14. <https://doi.org/10.1186/s42466-020-00059-z>
- Carstens, A. (2016). Cultivating the soft skills of future construction through restoring construction workers' career narratives. *The Journal for Transdisciplinary Research in Southern Africa*, 12(1), Article a335. <https://doi.org/10.4102/td.v12i1.335>
- Chowdhury, S., Zhu, J., Rasoulkhani, K., Mostafavi, A., Jasilskis, E., Stoa, R., Li, Q., Banerjee, S., Alsharef, A., & Brannen, L. (2020). Guidelines for robust adaptation to environmental regulations in infrastructure projects. *Journal of Construction Engineer Management*, 146(10), Article 5. [http://dx.doi.org/10.1061/\(ASCE\)CO.1943-7862.0001908](http://dx.doi.org/10.1061/(ASCE)CO.1943-7862.0001908)

City of El Paso. (2022, February 6). *Project management*.

<https://www.elpasotexas.gov/information-technology>

Cloutier, C., & Ravasi, D. (2021). Using tables to enhance trustworthiness in qualitative research. *Strategic Organization*, 19(1), 113-133.

<https://doi.org/10.1177/1476127020979329>

Creswell, J., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.

Crispim, J., Silva, L. H., & Rego, N. (2019). Project risk management: The organizational maturity influence. *International Journal of Managing Projects in Business*, 12(1), 187-210. <https://doi.org/10.1108/IJMPB-10-2017-0122>

Dandage, R. V., Mantha, S. S., & Rane, S. B. (2019). Strategy development using TOWS matrix for international project risk management based on prioritization of risk categories. *International Journal of Managing Projects in Business*, 12(4), 1003-1029. <https://doi.org/10.1108/IJMPB-07-2018-0128>

Deloitte Access Economics. (2017, May). *Soft skills for business success*. <https://tinyurl.com/2s4hr3wr>

Demirkesen, S., & Ozorhon, B. (2017). Impact of integration management on construction project management performance. *International Journal of Project Management* 35(8), 1639-1654. <https://doi.org/10.1016/j.ijproman.2017.09.008>

Dionisio, M. (2017). Strategic thinking: The role in successful management. *Journal of Management Research*, 9(4), 44-57. <https://doi.org/10.5296/jmr.v9i4.11448>

- Dorfler, V., & Stierand, M. (2021). Bracketing: A phenomenological theory applied through transpersonal reflexivity. *Journal of Organizational Change Management*, 34(4), 778-793. <https://doi.org/10.1108/JOCM-12-2019-0393>
- Elia, G., Margherita, A., & Secundo, G. (2021). Project management canvas: A systems thinking framework to address project complexity. *International Journal of Managing Projects in Business*, 14(4), 809-835. <https://doi.org/10.1108/IJMPB-04-2020-0128>
- Enhassi, M. S. A., Walbridge, S., West, J. S., & Hass, C. T. (2020). Dynamic and proactive risk-based methodology for managing excessive projects using the Bayesian Theory. *Journal of Construction Engineering and Management*, 146(2), Article 3. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001747](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001747)
- Galli, B. J. (2020). How to effectively manage communication on project teams. *IEEE Engineering Management Review*, 48(1), 21-23. <http://dx.doi.org/10.1109/EMR.2020.2971668>
- Geithner, S., & Menzel, D. (2016). Effectiveness of learning through experience and reflection in a project management simulation. *Simulation & Gaming*, 47(2), 228-256. <https://doi.org/10.1177/1046878115624312>
- Griffith, B. A., & Dunham, E. B. (2015). *Working in teams*. Sage. <https://www.ebooks.com/en-us/book/1995855/working-in-teams/brian-a-griffith/>
- Guest, G., Namey, E., & Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative research. *PLoS One*, 15(5), Article e0232076. <https://doi.org/10.1371/journal.pone.0232076>

- Gulati, R., Reaciche, C. H., Baroudi, S., & Gunawan, I. (2019, December 3-6). *The contribution of project managers' soft skills to their project success*. Anzam 2019, Cairns, Queensland, Australia. <https://tinyurl.com/ycxzf9k2>
- Hackett, A., & Strickland, K. (2018). Using the framework approach to analyze qualitative data: A worked example. *Nurse Researcher* 26(2), 8-13. <https://doi.org/10.7748/nr.2018.e1580>
- Halou, M., Samin, R., & Ahmad, M. (2019). Impacts of change management on risk and cost management of a construction projects. *Journal of Project Management*, 4(2), 157-164. <http://dx.doi.org/10.5267/j.jpm.2019.1.005>
- Hamilton, A. B., & Finley, E. P. (2019). Qualitative methods in implementation research: An introduction. *Psychiatry Research*, 280, Article 112516. <https://doi.org/10.1016/j.psychres.2019.112516>
- Hanaysha, J. (2016). Improving employee productivity through work engagement: Empirical evidence from higher education sector. *Management Science Letters*, 6(1), 61-70. <http://dx.doi.org/10.5267/j.msl.2015.11.006>
- Hardjati, S., & Febrianita, R. (2019). The power of interpersonal communication skill in enhancing service provision. *Journal of Social Science Research*, 14, 3192-3199. <https://doi.org/10.24297/jssr.v14i0.8150>
- Harrison, H., Birks, M., Franklin, R., & Mills, J. (2017). Case study research: Foundations and methodological orientations. *Forum: Qualitative Social Research*, 18(1), Article 19. <https://www.qualitative-research.net/index.php/fqs/article/view/2655/4080>
- Hendarman, A., & Cantner, U. (2018). Soft skills, hard skills, and individual innovativeness. *Eurasian Business Review*, 8(2), 139-169. <https://doi.org/10.1007/s40821-017-0076-6>

Hjørland, B. (2012). Methods for evaluating information sources: An annotated catalogue.

Journal of Information Science, 38(3), Article 4.

<https://doi.org/10.1177/0165551512439178>

Ika, L. A., Soderlund, J., Munro, L. T., & Landoni, P. (2020). Cross-learning between project management and international development: Analysis and research agenda. *International Journal of Project Management*, 38(4), 548-558.

<https://doi.org/10.1016/j.jechem.2021.08.062>

Iverson, A. (2019). Developing and executing a corporate mentorship program. *Journal of Pension Benefits*, 27(1), 51-53. <https://tinyurl.com/ymskh63c>

Jena, A., & Satpathy, S. S. (2017). Importance of soft skills in project management. *International Journal of Scientific Research and Management*, 5(7), 6173-6180.

<https://doi.org/10.18535/ijssrm/v5i7.45>

Ji, J., Plakoyiannaki, E., Dimitratos, P., & Chen, S. (2019). The qualitative case research in international entrepreneurship: A state of the art and analysis. *International Marketing Review*, 36(1), 164-187. <https://doi.org/10.1108/IMR-02-2017-0052>

Karna, S., & Junnonen, J. M. (2016). Benchmarking construction industry, company and project performance by participants' evaluation. *Benchmarking: An International Journal*, 23(7), 2092-2108. <https://doi.org/10.1108/BIJ-05-2015-0050>

Khattak, M., & Mustafa, U. (2019). Management competencies, complexities and performance in engineering infrastructure projects in Pakistan. *Engineering, Construction, and Architectural Management*, 26(7), 1321-1347. <https://doi.org/10.1108/ECAM-05-2017-0079>

- Khattak, M. N., Zolin, R., & Muhammad, N. (2020). Linking transformational leadership and continuous improvement: The mediating role of trust. *Management Research Review*, 43(8), 931-950. <https://doi.org/10.1108/MRR-06-2019-0268>
- Khozravi, P., Rezvani, A., & Ashkanasy, N. M. (2020). Emotional intelligence: A preventative strategy to manage destructive influence of conflict in large scale projects. *International Journal of Project Management*, 38(1), 36-46.
<http://dx.doi.org/10.1016/j.ijproman.2019.11.001>
- Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, 24(1), 120-124.
<https://doi.org/10.1080/13814788.2017.1375092>
- Kudyba, S. (2020). COVID-19 and the acceleration of digital transformation and the future of work. *Information Systems Management*, 37(4), 284-287.
<https://doi.org/10.1080/10580530.2020.1818903>
- Kumar, S. (2021). *Project management internship reflective report at Sochitel UK Ltd.* Northumbria University. <http://dx.doi.org/10.13140/RG.2.2.34588.92809>
- Lannon, J., & Walsh, J. N. (2020). Project facilitation as an active response to tensions in international development programs. *International Journal of Project Management*, 38(8), 486-499. <https://doi.org/10.1016/j.ijproman.2020.06.002>
- Lester, J. N., Cho, Y., & Lochmiller, C. R. (2020). Learning to do qualitative data analysis: A starting point. *Human Resource Development Review*, 19(1), 94-106.
<https://doi.org/10.1177/1534484320903890>

Livesey, P. (2016). Insights of project managers into the problems in project management.

Construction Economics and Building, 16(1), 90-103.

<https://doi.org/10.5130/AJCEB.v16i1.4600>

Lutas, M., Nistor, R., Radu, M., & Beleiu, I. (2020). Perceptions regarding the profile of an ideal project manager. *Amfiteatru Economic*, 22(54), 608-622.

<http://dx.doi.org/10.24818/EA/2020/54/608>

Ma, T., Luong, C., & Zuo, J. (2014, November 26-28). *A study of the skills of construction project managers in Australia and their needs for training certification*. The 2014 EPPM Conference, Port Elizabeth, South Africa.

<http://dx.doi.org/10.32738/CEPPM.201411.0006>

Magano, J., Silva, C., Figueiredo, C., Vitoria, A., Nogueira, T., & Dinis, M. (2020). Generation Z: Fitting project management soft skills competencies—A mixed-method approach.

Education Sciences, 10(7), Article 187. <https://doi.org/10.3390/educsci10070187>

Martens, M. L., & Carvalho, M. M. (2017). Key factors of sustainability in project management context: A survey exploring the project manager's perspective. *International Journal of Project Management*, 35(6), 1084-1102. <https://doi.org/10.1016/j.ijproman.2016.04.004>

McGrath, C., Palmgren, P., & Liljedahl, M. (2019). Twelve tips for conducting qualitative research interviews. *Medical Teacher*, 41(9), 1002-1006.

<https://doi.org/10.1080/0142159X.2018.1497149>

Mesároš, P., Behúnová, A., Mandičák, T., Behún, M., & Krajníková, K. (2019). Impact of enterprise information systems on selected key performance indicators in construction project management: An empirical study. *Wireless Networks*, 27, 1641-1648.

<https://doi.org/10.1007/s11276-019-02048-w>

- Mocănașu, D. R. (2020, October 27). *Determining sample size in qualitative research*. International Multidisciplinary Scientific Conference on the Dialogue between Sciences & Arts, Religion & Education: MCDSARE 2020, Romania. <https://tinyurl.com/yc7vb3z7>
- Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environmental and People*, 7(1), 23-48.
<https://mpira.ub.uni-muenchen.de/85654/>
- Moradi, S., Kahkonen, K., & Aaltonen, K. (2020). Project managers' competencies in collaborative construction projects. *Buildings*, 10(3), Article 50.
<https://doi.org/10.3390/buildings10030050>
- Moser, A., & Korstjens, I. (2018). Series: Practical guidance to qualitative research. Part 3: Sampling, data collection, and analysis. *European Journal of General Practice*, 24(1), 9-18. <https://doi.org/10.1080/13814788.2017.1375091>
- Mufaricha, L., Rarasati, A. D., & Soeparto, H. G. (2020). The influence of transactional leadership and soft skill project manager to project success factor in Indonesia construction industry. *IOP Conference Series: Materials Science and Engineering*, 1098, Article 022053. <http://dx.doi.org/10.1088/1757-899X/1098/2/022053>
- Nasir, N., Nawi, M. N., & Radzuan, K. (2016). Relationship between time management in construction industry and project management performance. *AIP Conference Proceedings* 1761(1), Article 020079. AIP Publishing. <https://doi.org/10.1063/1.4960919>
- Noguera, I., Guerrero-Roldan, A., & Maso, R. (2018). Collaborative agile learning in online environments: Strategies for improving team regulation and project management. *Computers and Education*, 116(1), 110-129.
<https://doi.org/10.1016/j.compedu.2017.09.008>

- Novo, B., Landis, E. A., & Haley, M. L. (2017). Leadership and its role in the success of project management. *Journal of Leadership, Accountability and Ethics*, 14(1), 73-78. www.na-businesspress.com/JLAE/NovoB_Web14_1_.pdf
- Obondi, K. C. (2021). The utilization of project risk monitoring and control practices and their relationship with project success in construction projects. *Journal of Project Management*, 7(1), 35-52. <http://dx.doi.org/10.5267/j.jpm.2021.7.002>
- Olawumi, T. O., & Chan, D. W. (2019). Development of a benchmarking model for BIM implementation in developing countries. *Benchmarking: An International Journal*, 26(4), 1210-1232. <https://doi.org/10.1108/BIJ-05-2018-0138>
- Project Management Institute. (2017). *PMBOK guide*. Author. <https://www.pmi.org/pmbok-guide-standards/foundational/pmbok>
- Radujković, M., & Sjekavica, M. (2017). Project management success factors. *Procedia Engineering*, 196, 607-615. <https://doi.org/10.1016/j.proeng.2017.08.048>
- Raj, A., Mukherjee, A., Lopes de Sousa Jabbour, A., & Srivastava, S. (2022). Supply chain management during and post-COVID-19 pandemic: Mitigation strategies and practical lessons learned. *Journal of Business Research*, 142, 1125-1139. <https://doi.org/10.1016/j.jbusres.2022.01.037>
- Ravindranath, S. (2016). Soft skills in project management: A review. *IUP Journal of Soft Skills*, 10(4), 16-25. <https://tinyurl.com/4ukxhj5n>
- Robles, M. M. (2013). Executive perceptions of the top ten soft skills needed in today's workplace. *Business Communication Quarterly* 75(4), 453-465. <https://doi.org/10.1177/1080569912460400>

- Roupnel, S., Rinfre, N., & Grenier, J. (2019). Leadership development: Three programs that maximize learning over time. *Journal of Leadership Education*, 18(2), 126-143.
<http://dx.doi.org/10.12806/V18/I2/T1>
- Rui, L. M., Ismail, S., & Hussaini, M. (2015). Professional development of project management for contractor in the construction project: A review. *Procedia - Social and Behavioral Sciences*, 174, 2940-2945. <https://doi.org/10.1016/j.sbspro.2015.01.1032>
- Sarkar, D., Jha, K. N., & Patel, S. (2018). Critical chain project management for a highway construction project with a focus on theory of constraints. *International Journal of Construction Management*, 21(2), 194-207.
<https://doi.org/10.1080/15623599.2018.1512031>
- Sellberg, M. M., Ryan, P., Borgstrom, S. T., Norstrom, A. V., & Peterson, G. D. (2018). From resilience thinking to resilience planning: Lessons from practice. *Journal of Environmental Management*, 217, 906-918.
<https://doi.org/10.1016/j.jenvman.2018.04.012>
- Sharvari, K., & Kulkarni, D. G. (2019). Gap analysis of soft skills in the curriculum of higher education (A case study of management institutes in Karnataka). *Advances in Management*, 12(1), 64-68. <https://tinyurl.com/23mnnx38>
- Smith, S. E. (2021). Project planning and performance of construction industry: Perspective from the United States of America. *Journal of Entrepreneurship & Project Management*, 5(1), 106-120. <https://tinyurl.com/2p96afr9>
- Soliman, E. (2017). Communication problems causing governmental projects delay: Kuwait case study. *International Journal of Construction Project Management*, 9(1), 55-71.
<https://tinyurl.com/4bah6847>

- Subrahmanyam, S. (2019). Corporate leadership: A study of interpersonal skills growing in the corporate world. *International Journal of Trend in Scientific Research and Development*, 2(4), 2054-2066. <https://doi.org/10.31142/ijtsrd14573>
- Taherdoost, H. (2016). Sampling methods in research methodology: How to choose a sampling technique for research. *International Journal of Academic Research in Management*, 5(2), 18-27. <https://dx.doi.org/10.2139/ssrn.3205035>
- Taherdoost, H. (2017). Determining sample size; How to calculate survey sample size. *International Journal of Economics and Management Systems*, 2, 237-239. <https://tinyurl.com/yrecs2kr>
- Tahir, M. (2019). The effect of project manager's soft skills on success of project in the construction industry. *International Journal of Applied Research in Social Sciences*, 1(5), 197-203. <https://doi.org/10.51594/ijarss.v1i5.44>
- Tang, Y., Chen, Y., Hua, Y., & Fu, Y. (2020). Impacts of risk allocation on conflict negotiation costs in construction projects: Does managerial control matter? *International Journal of Project Management*, 38(3), 188-199. <https://doi.org/10.1016/j.ijproman.2020.03.002>
- Tereso, A., Ribiero, P., Fernandes, G., Loureiro, I., & Ferreira, M. (2019). Project management practices in private organizations. *Project Management Journal*, 50(1), 6-22. <https://doi.org/10.1177/8756972818810966>
- Thompson, S. (2019). The power of pragmatism: How project managers benefit from coaching practice through developing soft skills and self-confidence. *International Journal of Evidence Based Coaching and Mentoring*, 513, 4-15. <https://doi.org/10.24384/86ee-ps25>
- Thorne, S. (2000). Data analysis in qualitative research. *Evidence-Based Nursing*, 3, 68-70. <http://dx.doi.org/10.1136/ebn.3.3.68>

- Tufford, L., & Newman, P. A. (2011). Bracketing in qualitative research. *Qualitative Social Work*, 11(1), 80-96. <https://doi.org/10.1177/1473325010368316>
- Turan, U., Fidan, Y., & Yidldiran, C. (2018). Critical thinking as a qualified decision-making tool. *Journal of History Culture and Art Research*, 8(4), 1-18. <https://doi.org/10.7596/taksad.v8i4.2316>
- Turner, M. (2019). Developing the resilient project professional: Examining the student experience. *International Journal of Managing Projects in Business*, 12(3), 716-729. <https://doi.org/10.1108/IJMPB-01-2018-0001>
- Vaux, J. S., & Dority, B. (2020). Relationship conflict in construction: A literature review. *Conflict Resolution Quarterly*, 38(1-2), 47-72. <https://doi.org/10.1002/crq.21286>
- Walker, D., & Llyod-Walker, B. (2019). The future of the management of projects in the 2030s. *International Journal of Managing Projects in Business*, 12(2), 242-266. <https://doi.org/10.1108/IJMPB-02-2018-0034>
- World Bank. (2021). *Gross capital formation (% of GDP)*. <https://data.worldbank.org/indicator/NE.GDI.TOTL.ZS>
- Yin, R. K. (2018). *Case study research applications: Design and methods* (6th ed.). Sage.
- Zaman, U., Nawaz, S., & Nadeem, R. D. (2020). Navigating innovation success through projects. Role of CEO transformational leadership, project management best practices, and project management technology quotient. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 1-19. <https://doi.org/10.3390/joitmc6040168>
- Zia, N. U. (2020). Knowledge-oriented leadership, knowledge management behaviour and innovation performance in project-based SMEs. *Journal of Knowledge Management*, 24(8), 1819-1839. <https://doi.org/10.1108/JKM-02-2020-0087>

- Zulkiffi, N. A., & Latiffi, A. A. (2019). Review on project manager's leadership skills in the pre-construction phase of sustainable construction projects. *MATEC Web of Conferences*, 266(2019), Article 01011. <https://doi.org/10.1051/mateconf/201926601011>
- Zuo, J., Zhao, X., Nguyen, Q. B., Ma, T., & Gao, S. (2018). Soft skills of construction project management professionals and project success factor: A structural equation model. *Engineering, Construction, and Architectural Management*, 25(2), 425-442. <https://doi.org/10.1108/ECAM-01-2016-0016>

Appendix A: Semi-Structured Interview Guide

Project Managers

Introduction

Thank you for agreeing to participate in this interview. We are interviewing you to better understand the effectiveness of soft skills or interpersonal skills in the construction field and how it directly affects the completion rate of quality projects. There are no right or wrong answers to any of our questions, we are interested in your own experiences.

Participation in this study is voluntary. The interview should take approximately one hour depending on how much information you would like to share. With your permission, I would like to audio record the interview because I don't want to miss any of your comments. All responses will be kept confidential.

This means that your de-identified interview responses will only be shared with research team members, and we will ensure that any information we include in our report does not identify you as the respondent. You may decline to answer any question or stop the interview at any time and for any reason. Are there any questions about what I have just explained? May I turn on the digital recorder?

Please note that this guide only represents the main themes to be discussed with the participants and as such does not include the various prompts that may also be used. Non-leading and general prompts will also be used, such as "Can you please tell me a little bit more about that?" and "What does that look like for you".

Establishing Rapport

Before we begin, it would be nice if you could tell me a little bit about yourself. Tailor a question here to specific person and/or situation. For example: “This is an impressive organization, how long have you worked here?”

Experiences in Project Management

Can you tell me about your understanding of soft skills as a project manager?

Prompts: How do you define soft skills? Do you think many project managers lack soft skills?

Prompts: Do you think project managers must possess and apply soft skills? Which soft skills do you think apply to the construction field?

Prompts: How can a project manager develop soft skills? How difficult is developing soft skills within the construction field?

Personal Experiences of the Application of Soft Skills in Project Management

How do soft skills contribute to the project completion rates in construction projects?

Prompts: Let’s talk about your first project. What stands out for you about that experience? How would you describe the communication you had with the project team? How would you describe your level of participation in any decisions within that project?

Prompts: Looking back at your total experience, which soft skills have direct impact to project completion? How can the lack of soft skills affect project completion? Do you think the lack of soft skills from the project manager contribute to the ineffectiveness of the project team?

Development of Soft Skills in the Construction Field

How would you describe your soft skill development as a project manager?

Prompts: For example, has your development improved, declined or remained the same? What methods have you experienced or seen for soft skill development in the construction field?

Prompts: What are the reasons you think your soft skill development has improved, declined or remained the same? In your experience, how can a project manager develop their soft skills? Are there ways a project manager can develop their soft skills on their own?

Prompts: Have you used coaching or mentoring? Thinking back on your experience from coaching or mentoring, how effective was it? For example, if you were in a difficult situation where you must make a critical decision for your project, who would you call?

Conclusion

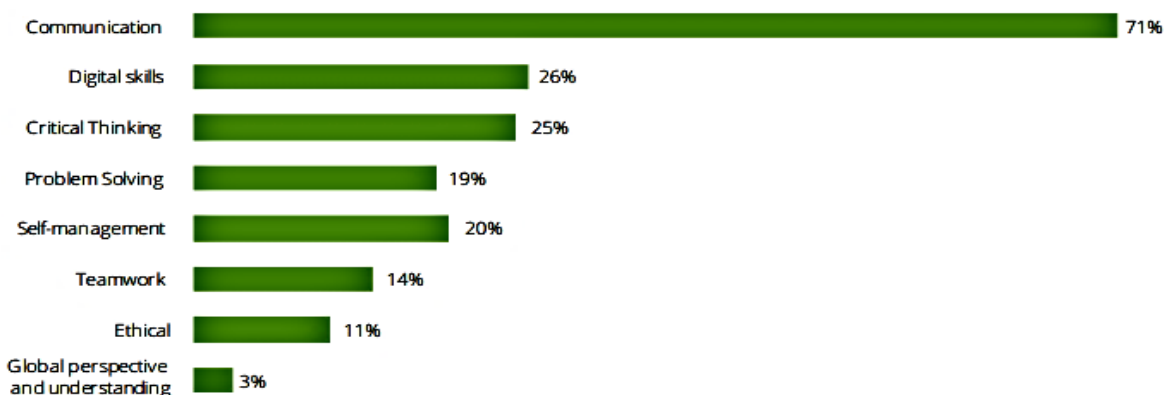
My last two questions. Would you recommend developmental programs for all project managers who share similar needs as you?

Prompts: Can you explain why you would or would not recommend soft skills development? Is there anything else that you would like to comment on about soft skills development for project managers that we haven't discussed today? Thank you very much for your time and the information you shared today.

Appendix B: Soft Skills Development Survey

5. The soft skills gap

Soft skills are in demand. Recognizing the importance of soft skills, businesses regularly advertise for staff with specific soft skills. For example, nearly three in every four jobs advertised with the Workable network list communication skills as a requirement, as pictured in Chart 5.1. This demand is ubiquitous across industries – communication skills are ranked in the top three most demanded soft skills across all industries covered by Workable. Soft skills are clearly important for all occupations and industries. Yet outside of communication skills, the importance of individual skills varies across industries and roles, as shown in Table 5.2. For example, Workable data shows that critical thinking is over six times as likely to be listed in a job advertisement for science as in sport, fitness and recreation. Creative skills, which could be a measure of innovation at an individual level, was requested in 61% of marketing and communications roles but only in 2% of accounting jobs.

Chart 5.1: Demand for soft skills, Workible

Source: Workible

Table 5.2: Top five skills demanded by industry, Workible

Industry	Top ranked soft skill	Second ranked soft skill	Third ranked soft skill	Fourth ranked soft skill	Fifth ranked soft skill
Mining and resources	Communication	Critical thinking	Problem solving	Digital skills	Self management
Marketing and communications	Communication	Digital skills	Critical thinking	Self management	Problem solving
Nannies and babysitters	Ethical	Self management	Communication	Problem solving	Critical thinking
Creative media and arts	Digital skills	Communication	Critical thinking	Self management	Problem solving
Medical and health care	Communication	Self management	Problem solving	Critical thinking	Digital skills

Source: Workible

Source: Deloitte Access Economics. (2017, November 10). *Soft skills for business success*.

Retrieved from Deloitte Access Economics:

<https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economics-deakin-soft-skills-business-success-170517.pdf>