Enhancing project manager communication soft skills and risk management practices in Libyan oil and gas construction projects: the role of experience

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Abstract
Purpose – Although there has been an increase in the application of a variety of robust technologies and systems, the oil and gas sector relies on project managers’ soft skills for success because of their vital role. Therefore, this study aims to explore the profound influence of project managers’ soft communication skills on successful risk management within Libya’s oil and gas projects.

Design/methodology/approach – A review of relevant literature and a quantitative approach through the administration of a questionnaire were used to determine factors impacting risk management implementation related to managerial communication skills. A total of 246 valid responses were received from the oil and gas companies in Tripoli, Libya. Partial least squares structural equation modelling was used to examine the direct and moderating relationship drawn by the hypotheses.

Findings – The findings suggest that managerial soft skills may be used to improve continuous risk management processes and intra-project communication. It was found that the experience is strengthening the positive relationship between written communication soft skills and project risk management implementation among Libyan oil and gas construction projects.

Originality/value – This study defines project managers’ soft communication skills and analyzes project managers’ soft communication skills with the role of experience as a moderator. This paper presents a valuable contribution by offering original insights tailored explicitly to the Libyan context. The information presented in this paper is relevant to project managers operating within the oil and gas industry. It also offers a novel approach to risk management in the Libyan oil and gas industry that can improve project efficiency and effectiveness.

Keywords Communication skills, Soft skills, Risk management, Libyan oil and gas, Construction projects

Paper type Research paper

Abbreviations
AVE = average variance extracted;
$F^2$ = effect size;
SEM = structural equation modelling;
PLS-SEM = partial least square-structural equation modelling;
JIPMM = International Journal of Project Management;
NOC = National Oil Corporation;
PMBOK = project management body of knowledge; 
$Q^2$ = construct cross-validated redundancy; and 
$R^2$ = $R$-squared values.

1. Introduction

The global oil and gas industry is a cornerstone of economic influence, shaping national economies and international markets as a pivotal player in consumption and production (Akinremi et al., 2015). This sector’s far-reaching impact underscores the critical necessity for robust project risk management strategies, as highlighted by prominent scholars (Dayanandan and Donker, 2011; Kassem et al., 2020).

Effective communication is the linchpin for success in this complex and ever-evolving landscape. Stakeholder interaction and information exchange are foundational elements that dictate outcomes (Sandhyavitri, 2019). Conversely, insufficient communication within construction teams has been repeatedly linked to project delays and misunderstandings (Radosavljevic and Bennett, 2012). This research seeks to delve into the nuanced role of communication methods used by project managers within Libya’s oil and gas sector, aiming to fortify the efficacy of project risk assessment and execution.

In the realm of project management, soft skills such as teamwork, leadership, and problem-solving assume paramount importance (Olanrewaju et al., 2017). Recognizing the weight of effective communication skills in controlling project risks is particularly pertinent within Libya’s oil and gas projects (Khalilzadeh et al., 2021). This study endeavours to define and scrutinize project managers’ soft communication skills, discerning their application in achieving effective project risk management. Using quantitative analysis, the research seeks to unearth the correlation between communication skills and project risk control in Libya’s oil and gas projects, exploring the experience as a moderating variable.

Navigating the intricacies of oil and gas projects, often fraught with tight deadlines and budget constraints, underscores the indispensability of technical expertise alongside effective communication, teamwork, and problem-solving abilities among project managers (Bakaddour, 2022; Kraidi et al., 2019). These competencies collectively underpin team management, influence performance, and significantly contribute to project risk management and overall success. Recent literature by Wen (2023) accentuates the pivotal role of soft skills, particularly effective communication, teamwork, cognitive abilities and leadership, in construction projects. Aligning specific competencies with enhanced project success has been identified by Luțăș et al. (2020). Additionally, Gunter (2020) stresses the criticality of effective communication for project managers, especially with diverse stakeholders. El-Sabaa (2001) underscores the paramount importance of effective communication and leadership as essential skills across project management domains.

Research indicates that soft skills are a significant predictor of project success, particularly in project risk management (El-Sabaa, 2001). Studying and comprehending these soft skills within Libya’s oil and gas sector is significant in augmenting project outcomes and mitigating failure risks. Therefore, this research aims to explore the profound influence of project managers’ soft communication skills on successful risk management within Libya’s oil and gas sector, offering valuable insights to elevate project performance in this domain.
2. Literature review

2.1 Managerial communication soft skills
In the words of Barrett (2006), manager communication is composed of layers, with abilities growing from fundamental strategy creation and effective writing and speaking to the use of these talents in increasingly complicated organizational contexts. As a project progresses, the project manager must strengthen their fundamental communication skills to communicate more effectively. Barrett (2006) highlights that when a manager moves to higher levels in the business, the more sophisticated the communication requirements grow. Managerial communication talents are built on the foundation of their key competencies (Pikhart and Klimova, 2020). It is the talents that are more directly involved in managing other people. It involves communicating with individuals and managing groups (Barrett, 2006).

The project manager must build cooperative relationships with the project team members, create an environment conducive to communication, choose participants for the project to assure commitment, and use an acceptable leadership style (Odusami, 2002). In the absence of emotional intelligence, interpersonal skills may be ineffective, and technical skills may be rendered ineffective in the absence of interpersonal intelligence. According to Odusami (2002), all project managers must possess the same level of proficiency in each skill. Covey (2008) sees communication as a necessary life skill, while Sisson and Adams (2013) add that “the most critical talents a project manager has are communication skills”. Communication abilities, as seen in these comments, are critical for success. Besides, managerial talents are abilities that may be acquired and learned.

2.2 Related theory and hypotheses development
In project management, soft skills are becoming increasingly popular. Soft skill development is meant to facilitate and promote personal growth; as a result, soft skill evaluation is frequently used, although there is little study or data to support how successfully it is done. Reviewing soft skills evaluation critically necessitates building theories and establishing a research programme (Eagleson et al., 2016). An existing theory such as attribution theory may be used to build a theory that explains how the cognitive, emotional and social components interact to shape learner behaviour around receiving feedback. By performing managerial soft skills communications, attribution theory assists researchers in better understanding the link between soft managerial skills and project risk management implementation in the oil and gas sector. While addressing project risk management implementation, project managers prefer to ascribe companies’ goals to other-serving motives, in which project managers believe that the company has either altruistic or honest motives (e.g. to aid people in need, promote environmental preservation or assist non-profit organizations) or purely self-serving reasons (e.g. to make money) (Becker-Olsen et al., 2011; Habel et al., 2016). The most fruitful method for theory creation is to use an assimilative integration technique based on attribution theory, which incorporates both “self-regulation” and “socially placed” components (Kluger and DeNisi, 1996).

2.3 Relationship between managerial communication skills, project risk management practice and the experience of managers in Libyan oil and gas construction projects
There have been extensive dialogues within the project management community, where professionals and researchers alike have endeavoured to discern pivotal components influencing project managers’ successes. These encompass risk management, project techniques, and experience (Hijazi, 2021; Shenhar and Dvir, 2007). In the corporate landscape, numerous projects are executed, yet not all reach fruition. Factors contributing to project failures include scope creep, political influences, underestimated risks, cost overruns, resource constraints, project
complexity and environmental variables (Mukhtar et al., 2019). Furthermore, it is recognized that project managers’ lack of soft skills can determine project failure (Gulati et al., 2020).

Less experienced project managers, as highlighted by Dulaimi and Langford (1999) and Hijazi (2021), often prioritize technical expertise over soft skills, emphasizing the need for early soft skills cultivation (Dulaimi and Langford, 1999). As Sadeghi et al. (2014) and Rajabi et al. (2022) pointed out, selecting a proficient project manager ranks among the critical success factors. Soft skills encompass interpersonal aptitudes required to apply technical knowledge (Rainsbury et al., 2002). Project managers’ experience in various facets, such as project initiation, goal definition, task planning, risk management, resource allocation, budgeting, communication, issue tracking and performance evaluation, is essential. Additionally, well-rounded business, technology, behavioural, and leadership proficiencies are vital (Baloyi, 2013). The skills and insights garnered from managing projects, even smaller ones, offer a microcosmic view of organizational operations, nurturing future leaders and managerial adeptness. The project manager’s role necessitates proficiency in hard and soft skills to succeed (Tian, 2020).

The significance of project managers’ experience in risk management has been underscored by Jin et al. (2017). Experienced project managers exhibit heightened efficiency in risk detection and management (Herteliu and Despa, 2014; Wardito et al., 2021). They categorize risks into external and internal domains, with market forces and planning inexperience being key exemplars (Yang and Yeh, 2014). A formal risk management process elevates project success rates (Javani and Rwelamila, 2016). The crux of risk management lies in risk identification, which benefits seasoned project managers (Yim et al., 2015). This experience-driven prowess aids in identifying potential risks cost-effectively (Herteliu and Despa, 2014). Conversely, inexperienced project managers amplify internal risks. When internal personnel lead projects, knowledge dissemination through project risk communications bolsters long-term risk management (de Araújo Lima et al., 2020; Marcelino-Sádaba et al., 2014). Experienced project managers’ insights enhance risk comprehension and decision-making (Zhang et al., 2019a; Wang et al., 2016). In intricate projects, experienced managers play a pivotal role in risk alleviation (Aaltoenen and Kujala, 2016). Contrary to this, Fabricius and Büttgen (2015) find no correlation between experience and project manager overconfidence.

Oil and gas projects globally grapple with delivering substantial capital projects within time and budget confines (Seddeeq et al., 2019). Because of their complexity, these projects, deemed among the most challenging, warrant meticulous management (AlNoaimi and Mazzuchi, 2021). Kassem et al. (2020) and Musina et al. (2020) highlight the risk-laden nature of such projects, necessitating robust management strategies. Developing effective time, cost, and quality management strategies underpinned by project risk management is pivotal for success (Crispim et al., 2019; Rogers and Ethridge, 2013; Veiga and da Silva, 2020).

While project manager selection garners attention, the significance of their soft skills, particularly those impacting project success and risk management, is equally crucial. Soft skills encompass leadership, communication, negotiation, expectation management, problem-solving and decision-making. Baloyi (2013) distinguishes these from technical, tool-assisted hard skills. Addressing gaps in understanding the importance of specific soft skills and their influence on project manager success and risk management warrants exploration (Eva and Afroze, 2021; Weber et al., 2009).

In practical project management, communication plays a paramount role. Good communication, achieved through a defined channel, guides teams towards shared objectives (PMBOK Guide, 2004). Open, transparent, top-down and bottom-up communication fosters clarity and vision among project team members and stakeholders (Müller and Turner, 2005). Effective communication positively impacts team cohesion, understanding and project
ownership (Yang et al., 2011; Luu et al., 2008). A communication management plan specifying mediums, frequencies and modes for stakeholder engagement is imperative (Hargie, 2021).

Moreover, adhering to task-oriented project meetings and embracing various communication modalities enhance transparency and decision-making (Ahmed et al., 2021; Gryphon et al., 2010). Therefore, the evolving field of project management calls for a deeper understanding of soft skills’ significance and their role in shaping project success and risk management. This study addresses this void by shedding light on the soft skills that yield the most impact and exploring their ramifications on project outcomes.

2.4 Components influencing managerial communication soft skills

2.4.1 General communication skills. Managerial communication skills are a collection of characteristics present in managers’ personalities that enable them to successfully manage the workings of the business, according to the definition (Khasawneh, 2021). Managerial communication skills can also be defined as specialized technical knowledge in specific jobs that managers should possess to perform their duties and roles (Mata et al., 2021). Managerial communication skills can also be defined as how people can acquire skills through education. Aside from that, managerial skills have also been divided into three categories:

(1) personal skills, which include developing self-awareness, stress management and problem-solving skills;

(2) interpersonal and group skills, which include communication and influencing other skills, such as conflict management skills and the ability to motivate others; and

(3) organizational skills, which include empowerment, team building and authority delegation (Maghsoudi et al., 2021).

H1. There is a positive influence of general communication skills on project risk management implementation in Libyan oil and gas construction projects.

2.4.2 Verbal communication skills. Speaking is the most prevalent mode of communication because it is quick, spontaneous and direct and may be used in various contexts (Clendon et al., 2021). On the other hand, verbal communication is the most frequently misconstrued. The project manager spends most of his time communicating with others (Vogel et al., 2018). The project manager must be able to communicate effectively in a short amount of time. What’s the point of saying seven words when four would suffice? A project manager reporting to a senior executive does not want to hear every aspect of the project’s progress. Talking in circles and failing to reach the point might be much more irritating than usual. When discussing an issue or circumstance with a senior executive, the project manager must decide how much detail to convey. It is critical to learn how to turn it into an understandable tale that conveys the message in the shortest amount of time:

H2. There is a positive influence of verbal communication skills on project risk management implementation in Libyan oil and gas construction projects.

2.4.3 Written communication skills. Developing effective written communication skills is essential for project management professionals’ success. According to Holmes et al. (2019), the capacity to write coherently and the ability to criticize, assess and integrate information are all necessary for success. Written communication is the process of transmitting information inside an organization through the use of letters, memos, bulletins, procedures/policy manuals, notifications and books, among other methods. The written communication
of a project manager must be concise and to the point. Coworkers are inundated with emails, reports and various written correspondence types. According to Willis et al. (2020), bad business writing results in waste, mistakes and reduced overall workplace productivity and efficiency. Aside from that, many reports are chaotic, include needless words and are difficult to comprehend:

\[ H3. \text{ There is a positive influence of written communication skills on project risk management implementation in Libyan oil and gas construction projects.} \]

2.4.4 Project communication skills. Projects and organizations need effective project communication skills, and the project manager plays a vital role in managing communications. According to Saenab et al. (2018), one of the challenges associated with managing project communications is managing the communications process continuously to circulate project information from external and internal stakeholders via project documentation, which continues throughout the project’s life. Without an ongoing communication method, stakeholders and the project team may wonder where things are and what decisions have been taken (Trisnowati and Firmadani, 2020). To achieve project success, this research goes beyond the fiscal and efficiency elements (time and budget) and argues that the soft skills of project management, such as stakeholder and relationship management through project communications, can also play a significant role in achieving project success:

\[ H4. \text{ There is a positive influence of project communication skills on project risk management implementation in Libyan oil and gas construction projects.} \]

2.5 Experience as a moderator
An experienced project manager has knowledge of project initiations, target definition, planning of project activities, risk mitigation and mitigation of resources, planning of a project’s budgeting and communication needs, monitoring issues and project status and assessing a project’s performance (Prebensen et al., 2016). Project managers demand significant talents in business, technology, behaviour, leadership skills, and years of experience (LaLande, 2018). A project manager’s career path frequently begins with involvement in small projects, followed by participation in more significant projects, until the individual is given charge of small and more critical projects. For example, a tooling manager for a small project might be followed by a project engineer for a big project, a manufacturing supervisor for a large project, a deputy project manager for a large project, a project manager for a small project and eventually a project manager for large projects (Shi et al., 2016). No matter how modest, the abilities and experiences obtained by managing a project are a scaled-down version of what it is like to lead a large-scale enterprise. The results are that project-based learning environments are great environments to build future executives’ leadership abilities and managerial capabilities.

According to Hyväri (2006), project success strongly depends on project managers’ capacity to influence projects, which is crucial to their success. The efficiency of project management in project-oriented corporate organizations is investigated. This is the first issue of Project: An International Journal of Project Management (JIPPM). Official and informal learning events help project managers progress along their career trajectories. Academic and practitioner communities lack a comprehensive understanding of the learning events project managers see as critical to their professional growth (Timko et al., 2021). The old approach to project management education was based on an expository paradigm, with exercises to demonstrate how to use a given strategy or use a specific tool.
On the other hand, exercises or case studies do not provide enough stimulation to keep people interested and engaged long enough to promote successful learning:

- **H5.** Experience of the manager plays a moderating role between general communication skills and project risk management implementation in the oil and gas projects in Libya.
- **H6.** Experience of the manager plays a moderating role between verbal communication skills and project risk management implementation in the oil and gas projects in Libya.
- **H7.** Experience of the manager plays a moderating role between written communication skills and project risk management implementation in the oil and gas projects in Libya.
- **H8.** Experience of the manager plays a moderating role between project communication skills and project risk management implementation in the oil and gas projects in Libya.

As provided in Appendix A1, the conceptual framework clarifies the arrows of the hypotheses in this study.

### 3. Methodology

This study uses a quantitative study approach. As Creswell and Clark (2017) figured out, quantitative approach designs offer much potential for the researcher who attempts to address dynamic problems that exist at several levels. It can boost the kinds of information that has been obtained and can assist in improving the validity of a given study. A brief overview of the quantitative approach to analysis is needed here. To achieve the study’s aims, a quantitative technique was used to explore the causes and effects of the variables. Interrelationships were investigated between project risk management implementation (dependent variable) and general management skills, verbal communication skills, written communication skills, project communication skills (independent variables) and experience as moderating variables. The quantitative method is appropriate in this situation because the study focuses on collecting and analyzing numerical data from a specific set of people to conduct hypothesis testing.

The data collection process was centered in Tripoli, Libya, with the target demographic comprising managers associated with oil and gas companies affiliated with the National Oil Corporation (NOC). Simple random sampling was used to select respondents, and questionnaires were distributed via mail, along with a personalized permission letter from the researcher and an endorsement from the principal supervisor. It is necessary to consider similarities and differences within the unit when constructing the demographic profile of respondents. Respondents were chosen from the populations using a random sampling technique, and G-Power software (Faul et al., 2007) was used to determine the minimal sample size needed. Therefore, in this study, the unit of analysis is the managers working on oil and gas projects in Libya. In survey research, the response rate denotes the proportion of individuals invited to participate and who completed the survey instrument. It is important to note that there are no universal standards for expected response rates, as they tend to vary across different surveys. To achieve a robust response rate for this study, a total of 260 questionnaires were randomly distributed to various oil and gas companies located in Tripoli, Libya. Among these, six questionnaires were not returned, accounting for a percentage of 2.3%.

Enhancing project manager communication
A total of 254 questionnaires were successfully received, constituting 97.7% of the distributed questionnaires. However, it is worth noting that eight questionnaires were deemed unusable because of missing data, representing 3.1% of the total received. As a result, an impressive 94.61% of the received questionnaires were deemed usable, ultimately yielding an effective sample size of 246 respondents. Consequently, a response rate of 96.9% is considered satisfactory for the analytical purposes of this study. Notably, the suggestion that a response rate of 30% is sufficient for surveys is taken into account (Hair et al., 2013). The respective respondents to the questionnaire were required to answer the questions based explicitly on their views on managerial communication soft skills and their impact on project risk management practices. The profile of respondents of the study is provided in Appendix A2.

4. Analysis and findings

The study model was determined using partial least squares structural equation modelling (PLS-SEM) (Ringle and Sarstedt, 2016). This method enables simultaneous evaluations and full results on the relationships between variables while minimizing measurement mistakes. This approach also suits the study’s exploratory nature; it works well with small sample sizes, even when the data distribution is non-normal (Hair et al., 2016). The following subsections provide this analysis procedure and its findings.

4.1 Measurement model assessment: construct validity

Construct validity is the extent to which a measure accurately assesses the target variable (O’Leary-Kelly and Vokurka, 1998). Refusing to assess construct validity might jeopardize the study’s findings (Taofeeq et al., 2020a). The outer loadings, average variance extracted (AVE) and composite reliability are necessary for convergent validity. The external loadings were used to examine the variance for each construct in the measurement model, and the AVE was used to measure the indicators’ reliability (Hair et al., 2016). Each component’s internal consistency, reliability and association were assessed using the composite reliability.

Discriminant validity guarantees that the measurement variables are unrelated or have a minor relationship (Taherdoost, 2016). This study uses heterotrait–monotrait ratio statistics (HTMT) analysis as the discriminant measurement method. The multitrait-multimethod matrix yields HTMT (Henseler-unger and Ziele, 2016). According to Henseler-unger and Ziele (2016), the HTMT value should not exceed 0.9 for good discriminant validity. On the other hand, a number greater than 0.9 is considered to lack discriminant validity. Table 2 shows that all the HTMT values are below 0.9, with the greatest being 0.894 and the lowest being 0.530. As a result, it demonstrates acceptable discriminant validity. The summary of the measurement model assessment is provided in Tables 1 and 2.

4.2 Structural model assessment: hypothesis testing

After completing the measurement model evaluation and ensuring that the values match all of the standards, the research team continued to conduct bootstrapping in SmartPLS to identify the hypothesis testing in the structural model. The researcher must use a 5,000 bootstrap sample size and a significant alpha of 0.05 to do the bootstrapping (Hair et al., 2016). The researcher should also evaluate the Standard Coefficients Beta (Standard Beta) to discover how an important variable affects another variable (Sarstedt et al., 2014). Even if the result is positive, the researcher cannot simply assume that the variables have a substantial association (Ravand and Baghaei, 2016). As a result, the researcher must evaluate the interaction effects (t-values) to corroborate the hypothesis (Ravand and Baghaei, 2016). Hair et al. (2013) found that when the p-value is less than 0.05 and the one-
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WCS 5</td>
<td>0.871</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** rho_A and CR are the composite reliability; AVE = average variance extracted
**Source:** Authors’ own work

Table 1. Convergent validity
tailed test is used, the \( t \)-values must be greater than 1.645 (\( t \)-values > 1.645) for the hypothesis to be accepted. The summary of the results of the hypothesis testing needed by bootstrapping is shown in Table 3 and Appendix 3.

5. Discussion

\( H1 \) posits that general communication soft skills wield significant influence over project risk management execution in Libyan oil and gas construction projects, a claim substantiated by empirical evidence. Table 3 demonstrates a statistically meaningful impact of general communication abilities on project risk management execution (\( \beta = 0.360, t = 5.038 \)). These soft skills encompass personal skills such as self-awareness, stress management and problem-solving; interpersonal skills including communication, influencing, conflict management, and motivation; and group skills such as empowerment, team building and delegation of authority. A manager’s ability to steer an organization towards its objectives determines its fate. Thus, \( H1 \) is validated.

\( H2 \) asserts that verbal communication soft skills significantly affect project risk management execution in Libyan oil and gas construction projects, a contention backed by findings. Table 3 illustrates a positive linkage between verbal communication soft skills and project risk management implementation, evident through the value (\( t = 3.098 \)). This connection is not surprising, given the universal value of adept verbal communication skills among managers. Speech is the predominant mode of swift and direct interaction and a vital

<table>
<thead>
<tr>
<th>Items</th>
<th>Experience</th>
<th>GCS</th>
<th>PCS</th>
<th>PRMI</th>
<th>VCS</th>
<th>WCS</th>
</tr>
</thead>
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<tr>
<td>Experience</td>
<td></td>
<td></td>
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<td>GCS</td>
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<td>PCS</td>
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<td>0.772</td>
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<tr>
<td>PRMI</td>
<td>0.721</td>
<td>0.809</td>
<td>0.797</td>
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<tr>
<td>VCS</td>
<td>0.634</td>
<td>0.546</td>
<td>0.692</td>
<td>0.614</td>
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<tr>
<td>WCS</td>
<td>0.710</td>
<td>0.569</td>
<td>0.730</td>
<td>0.576</td>
<td>0.740</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** GCS = general communication skills; VCS = verbal communication skills; WCS = written communication skills; PCS = project communication skills; PRMI = project risk management implementation

**Source:** Authors’ own work

Discriminant validity: heterotrait–monotrait ratio statistics

Table 2.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Path</th>
<th>Std. beta</th>
<th>Std. error</th>
<th>( t )-Value</th>
<th>Bias</th>
<th>5.00%</th>
<th>95.00%</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>GCS → PRMI</td>
<td>0.360</td>
<td>0.071</td>
<td>5.038</td>
<td>0.026</td>
<td>0.272</td>
<td>0.495</td>
<td>Significant***</td>
</tr>
<tr>
<td>H2</td>
<td>VCS → PRMI</td>
<td>0.248</td>
<td>0.080</td>
<td>3.098</td>
<td>0.005</td>
<td>0.122</td>
<td>0.389</td>
<td>Significant***</td>
</tr>
<tr>
<td>H3</td>
<td>WCS → PRMI</td>
<td>0.152</td>
<td>0.083</td>
<td>1.837</td>
<td>0.009</td>
<td>0.275</td>
<td>0.012</td>
<td>Significant***</td>
</tr>
<tr>
<td>H4</td>
<td>PCS → PRMI</td>
<td>0.275</td>
<td>0.077</td>
<td>3.578</td>
<td>0.041</td>
<td>0.110</td>
<td>0.368</td>
<td>Significant***</td>
</tr>
<tr>
<td>H5</td>
<td>Experience × GCS → PRMI</td>
<td>0.171</td>
<td>0.093</td>
<td>1.846</td>
<td>0.069</td>
<td>0.325</td>
<td>0.084</td>
<td>Significant***</td>
</tr>
<tr>
<td>H6</td>
<td>Experience × VCS → PRMI</td>
<td>−0.109</td>
<td>0.074</td>
<td>1.473</td>
<td>0.038</td>
<td>−0.222</td>
<td>−0.003</td>
<td>Not significant</td>
</tr>
<tr>
<td>H7</td>
<td>Experience × WCS → PRMI</td>
<td>−0.042</td>
<td>0.071</td>
<td>0.583</td>
<td>0.033</td>
<td>−0.250</td>
<td>0.028</td>
<td>Not significant</td>
</tr>
<tr>
<td>H8</td>
<td>Experience × PCS → PRMI</td>
<td>0.294</td>
<td>0.155</td>
<td>1.901</td>
<td>−0.106</td>
<td>0.216</td>
<td>0.457</td>
<td>Significant***</td>
</tr>
</tbody>
</table>

**Notes:** **Significant at 0.05 (\( p \)-value); ***Significant at 1.65 (\( t \)-values)

**Source:** Authors’ own work
tool across diverse contexts. Project managers, who invest most of their time communicating, must excel in concise and effective communication. Consequently, $H2$ stands confirmed.

$H3$ anticipates a substantial impact of written communication soft skills on project risk management execution in Libyan oil and gas construction projects, a proposition corroborated by findings. Data in Table 3 show a favourable correlation between written communication soft skills and project risk management application ($\beta = 0.152, t = 1.837$). Effective written communication is integral to project management professionals’ success, encompassing information dissemination via letters, memos, manuals, notifications and more. Writing coherently and critically assessing and integrating information is paramount, as noted by Christopher (2006). Therefore, $H3$ is confirmed.

$H4$ predicts that project communication soft skills significantly impact project risk management implementation in Libyan oil and gas construction projects, a supposition substantiated. Project communication’s soft skills component significantly influences project risk management execution ($\beta = 0.275, t = 3.578$). In the realm of projects and organizations, soft skills, particularly project communication, are pivotal. Project managers play a central role in managing communication channels. Challenges include sustaining continuous communication through project documentation to disseminate information from both internal and external stakeholders throughout the project’s life cycle. Hence, $H4$ is confirmed.

Lastly, $H5$, $H6$, $H7$, $H8$ and $H9$ posit that managerial communication soft skills and experience substantially affect project risk management execution in Libyan oil and gas construction projects, a conjecture validated. As per the bootstrapping results in Table 3, experience moderates the effect of managerial communication soft skills on project risk management implementation in $H5$ and $H8$, though not in $H6$ and $H7$. The orthogonalization term method, enhancing the relationship between managerial communication soft skills’ influence on project risk management execution, is significant in $H5$ and $H8$. In the domain of project management, experience encompasses project initiation, goal definition, task planning, risk and resource management, budgeting, communication, issue tracking, status evaluation and performance assessment. Project managers require substantial business, technology, behaviour and leadership proficiency, culminating in their years of experience.

5.1 Testing the moderating effect
As shown in Figures 1 and 2, this study embraced the orthogonalization approach, using PLS-SEM, to gauge the potency of experience’s moderating impact on the link between managerial communication soft skills and project risk management execution within Libyan oil and gas construction projects (Henseler and Chin, 2010). Given the continuous nature of the moderating variables, the orthogonalization technique is deemed suitable, as indicated by Rigdon et al. (2017). Henseler and Chin (2010) advised that the orthogonalization approach is often on par with or superior to the group comparison method, making it a preferred choice whenever feasible.

To use the orthogonalization indicator method in examining the moderating role of experience on the relationship between managerial communication soft skills and project risk management implementation in Libyan oil and gas construction projects, establishing orthogonalization terms between latent predictor variable indicators and latent moderator variable indicators is imperative. These terms would subsequently serve as the basis for $t$-tests.

The constructive nexus between verbal communication soft skills and successful project risk management execution within Libyan oil and gas construction projects is further enhanced
by experience garnered through project engagement. When comparing managers highly experienced in verbal communication and adeptly orchestrating projects with those with limited exposure to oil and gas construction projects, the statistical significance of verbal communication soft skills becomes pronounced among the highly experienced managers.
Experience strengthens the positive relationship between written communication, soft skills and project risk management implementation among Libyan oil and gas construction projects. The result of written communication soft skills, however, is statistically significant for managers with high experience in written communication to coordinate the project than for managers with low experience in oil and gas construction projects.

5.2 Coefficient of determination (R²)
After examining the path coefficients’ significance and relevance, the structural model’s explanatory power was judged to be significant. The coefficient of determination (R²) was used to assess the model’s explanatory power; R² values were calculated (Hair et al., 2013). Another important criterion for evaluating the structural model in the PLS-SEM is the application of R-squared values, also known as the coefficient of determination, in the analysis (Hair et al., 2016). The literature has established that the R-square is an indicator that indicates the amount of variation analyzed in the endogenous variable by its exogenous variable. The R-square shows the quality of the variables included in the model (Hair et al., 2016). However, various factors may be used to determine the degree of R-square, and they can be used as guides. For example, the Hair et al. (2016) criteria state that an R-square value equal to or greater than 0.67 is considerable, 0.33–0.20 is moderate and 0.19–0.05 is weak. In this regard, R-squared values for the internal latent variable (project risk management application) equal 0.66. Therefore, this value is considerable.

5.3 Effect size
In addition to the fundamental parameters, the predictive relevance impacts size (f²), according to Hair et al. (2016). Following the criteria proposed by Cohen (1988), the effect size is less than 0.02 (0.10–0.14 = small, 0.15–0.34 = medium, 0.35 and above = high). The f² was evaluated according to Cohen’s standards, with 0.10–0.14 indicating a modest effect, 0.15–0.34 indicating a medium effect and 0.35 indicating a large effect (Cohen, 1988). The f² values significantly influenced general communication skills (f² = 0.202) but only had a minor effect on verbal communication skills (f² = 0.064) on overall communication skills. Aside from that, there was a tiny influence on written communication abilities (f² = 0.021). The medium effect on project communication abilities (f² = 0.104) can be described as follows.

5.4 Assessment of the predictive relevance (Q²)
Blindfolding was used while assessing the Q². By using only the remaining data points, blindfolding may be used to estimate the parameters (Hair et al., 2013). Using a Q value greater than zero, Fornell and Cha concluded that the model had predictive validity for a particular dependent construct (Hair et al., 2016). In addition, the Stone–Geisser test of predictive relevance for the research model was used in the current investigation, which involved blindfolding procedures. Using the Stone–Geisser test for predictive significance is standard practice to measure the fit quality in the PLS-SEM procedure (Hair et al., 2013). Therefore, because all of the endogenous latent variables in the present study were reflected in character, a blindfolding technique was used primarily on the endogenous latent variables in the current study (Taofeeq et al., 2020b). The construct cross-validity redundancy (Q²) of project risk management implementation is equal to 0.440, more than zero, which is acceptable.

6. Theoretical contribution
The present study may have made significant contributions to new knowledge and evidence in the field of construction risk management approaches. The attribution theory shows people’s perceptions of the reasons and causes of others’ actions (Fritz Heider, 1958;
Kelley, 1973). The attribution theory is the hypothesis under consideration in this study. It illustrated how individuals view explanations and causes of others’ behaviour as naive scientists, which is essential to remember. Heider (1958) discovered that individuals like discussing the causes of others’ behaviour in two categories: internal causes (e.g. personal disposition) and external causes (e.g. environmental factors) (e.g. one situation). This study aims to develop some theoretical foundations to validate the association between managerial soft skills and project risk management implementation, with the experience of managers serving as moderators. The attribution theory will be used to do this. According to the definition of the term “attribution theory”, it is a branch of social psychology that seeks to understand why people explain events in specific ways.

This has resulted in the current study attempting to evaluate the direct and indirect impacts of a manager’s experience on the link between the managerial soft skills component and the execution of project risk management in the context of Libyan oil and gas projects. Following the release of these data, it has been feasible to shed light on the manner in which the attribution theory is being applied in the context of the Libyan oil and gas construction projects. For these reasons, when the findings of this present study are compared to the existing body of information on construction risk management in the Libyan construction industry, they give useful insights into the practice of construction risk management in the Libyan construction industry.

A significant contribution of this study is the detailed description of all three dimensions of the variables: managerial communication skills (general communication skills, verbal communication skills, written communication skills and project communication skills), experience and the implementation of project risk management, all of which are discussed in detail. All of the variables stated above support the assumptions of the attribution theory that have been stressed in the previous section of this paper. It is clear from the available data that the organization’s decision to incorporate project management expertise into its oil and gas construction projects positively impacted construction risk management procedures in Libyan oil and gas construction projects, as evidenced by the data collected thus far.

Finally, this study will contribute to the advancement of attribution theory research by broadening the scope of knowledge within the construction industry sector to cover the new relationships that impact construction risk management techniques. This research also provided transparency and extensions to the aspects of managerial communication skills in the construction sector by examining the link that will be discovered to affect an organization’s accomplishment in essential areas. Results of this study show that the relationship between these variables and those values that are important for the reduction of construction risk management practices in Libyan oil and gas construction projects has been broadened to include not only these variables but also the characteristics that contribute to the development of those values in the organizational capital pool.

7. Practical implications
For practical purposes, the conclusions of the current study give various benefits to project managers, shareholders, and team members participating in Libyan oil and gas building projects, among other things. The study on communication soft skills affecting project risk management implementation elements in Libyan oil and gas projects, with the moderating role of experience, is critical to the academic world and the employer required to manage risk in every construction industry, as demonstrated by the findings.

Furthermore, it can assist the industry in achieving its profit objectives to the greatest extent possible. Parties involved in the construction business can use the information
gathered in this study to design a risk management plan that will be useful to them. According to Gorse and Emmitt (2007), a project manager’s communication and listening skills must be excellent to effectively manage the risks that may arise throughout a construction project. Furthermore, poor communication is one of the issues identified in the construction industry, and it can potentially cause significant production challenges and increase risk. Everyone involved in the building process must have excellent communication skills to reduce the risks associated with the project. As a result, this research is necessary to evaluate the effect of communication soft skills on project risk management implementation aspects, with the function of experience playing a moderating role in Libyan oil and gas projects.

Not only would disclosing information about risk activities through public reports or a trustworthy database allow academics to evaluate the implementation of risk management, but it would also improve awareness of risk among shareholders and enterprises. This means that performance in Libyan oil and gas projects may be enhanced if chief executives, managers and other stakeholders use their soft communication skills and take these efficiency aspects seriously. Based on the findings of this research, the construction industry should support the soft communication skills of workers and the availability of resources that will allow for effective risk management in the construction sector of Libyan oil and gas projects.

It should be noted that the relevance of the many dimensions of communication soft skills aspects in the growth of any company has been highlighted in this study. Additionally, findings from the current study imply that individual elements should receive significant attention in the building business and meet the aforementioned criteria. In particular, it has been demonstrated that experience significantly impacts the level of commitment employees show within a company, which may reduce the level of risk faced during building projects.

8. Conclusion and limitations
This study has been able to provide valuable insights and contributions. In light of this, the primary goal of this study was to define project managers’ soft communication abilities and examine project managers’ soft communication skills using experience as a moderator. However, while analyzing the study’s findings, it is crucial to keep in mind that there are certain limitations. First and foremost, the scope of the current analysis was confined solely to the Libyan oil and gas building projects. This constraint is related to the generalization of the findings of the investigation. Aside from that, the unit of analysis in this study consisted of project managers and team members in the firms who may potentially take over the duties of project managers. However, because of technological innovation and leadership support, although the construction sector is a significant business in Libya, the outcomes cannot be applied universally to other public and private companies in the country.

In addition, a cross-sectional study design was used in the methodological component to examine the predicted associations at a particular moment, which was considered a limitation. Various changes in human psychological features and responses to challenges might be implemented at any point in time. A longitudinal research approach might have resulted in a different conclusion for this study as a consequence. Lastly, only a quantitative research approach was used in this study. The respondents were asked to translate their opinions expressed in the survey questionnaire into numerical values using a Likert scale, which was provided in the survey questionnaire. A mixed-study design should be used in future research.
Additionally, this study is being conducted to explore the impact of communication soft skills elements on project risk management implementation in Libyan oil and gas construction projects in particular. As a result, future studies will assess the effectiveness of construction risk management and its adoption in other industries, increasing the dependability of applying effective communication in the construction industry. Furthermore, it would have been more complete to examine personality as an independent variable in addition to the communication soft skills variables, which was not done before.

References
Covey, S.R. (2008), The 7 Habits of Highly Effective People Personal Workbook, Simon and Schuster, New York, NY.


Hijazi, M. (2021), *Relationship between Project Manager’s Gender, Years of Experience, and Age and Project Success*, Walden University.


Figure A1. Conceptual framework

Source: Authors’ own work
Enhancing project manager communication

Source: Authors’ own work
Table A1. Profile of respondents

<table>
<thead>
<tr>
<th>Profiles items</th>
<th>Frequency</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
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<tr>
<td>Male</td>
<td>214</td>
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<tr>
<td>Female</td>
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<td>13.0</td>
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<tr>
<td><strong>Years of experiences</strong></td>
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<tr>
<td>Below 5 years</td>
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<td>5–9 years</td>
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<td>10–14 years</td>
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<td><strong>Language used to communicate with colleagues</strong></td>
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<td>2.8</td>
</tr>
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<td><strong>Total</strong></td>
<td>246</td>
<td>100</td>
</tr>
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</table>

Source: Authors’ own work

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