

Project title

**Evaluating Project Management Office Effectiveness
on Project Success at Saudi Electricity Company in
Riyadh**

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Final Project - 2

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Date of submission 20/02/2026 – number of Semester: 2

Acknowledgment

First and foremost, I am grateful to Allah for giving me the strength, patience, and tenacity to accomplish this study project.

I'd like to thank my academic supervisor at Midocean University for her ongoing support, insightful input, and constructive criticism during the course of my project. The supervisor's project management experience and methodological rigor significantly improved the quality and academic depth of this research.

My heartfelt gratitude also goes to the management and staff of the Saudi Electricity Company in Riyadh for their cooperation and readiness to participate in the study. Their significant time, openness, and professional insights enabled the empirical component of our work. Without their assistance, the gathering of solid data and effective completion of this project would not have been possible.

I am also thankful to my colleagues and peers for their intellectual exchanges, encouragement, and moral support during the study process. Their recommendations and shared experiences broadened my viewpoint and reinforced the analytical components of my paper.

Finally, I want to express my deepest gratitude to my family for their consistent support, patience, and trust in my skills. Their encouragement served as a steady source of motivation and inspiration throughout the study process.

Dedication

I dedicate this work to my dear parents, whose unwavering love, advice, and sacrifices have impacted my academic and personal development. Their unwavering prayers and support have served as the foundation for every success in my life.

I also dedicate my research to my family and loved ones, whose encouragement and understanding provided me the fortitude to face every hurdle.

This study is also devoted to project management professionals and scholars, specifically those working to improve organizational performance in the Kingdom of Saudi Arabia. May our study help, even in tiny ways, to the growth of knowledge and the achievement of our country's sustainable development goals.

Abstract

Purpose: The purpose of this study is to assess the performance of the Project Management Office (PMO) of the Saudi Electricity Company (SEC) in Riyadh, specifically its impact on project success. By concentrating on important factors such as governance, standardization, and resource allocation, the study tries to overcome theoretical and practical gaps in PMO implementation in the energy industry.

Methodology: A quantitative approach was taken, with 200 SEC workers receiving a survey questionnaire. To evaluate hypotheses, data were examined with descriptive statistics, reliability tests (Cronbach's Alpha), validity evaluations (KMO and Bartlett's evaluate), and regression analysis.

Findings: The results show a substantial positive association between PMO effectiveness and project performance, with PMO governance strongly influencing on-time delivery and budget adherence. However, limitations in resource integration were identified.

Originality & Implication: This study offers fresh insights into PMO dynamics in a Saudi public utility environment, as well as ideas for improving PMO frameworks. It adds to the literature by addressing underrepresented Middle Eastern views and suggesting practical enhancements for organizational efficiency.

Keywords: *Project Management Office (PMO), Project Success, Saudi Electricity Company, Evaluating Effectiveness.*

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1. Chapter 1: Introduction

1.1. Research Background

In the larger field of project management, the creation of a Project Management Office (PMO) has evolved as a significant organizational structure aimed to consolidate and standardize project-related tasks, guaranteeing alignment with strategic objectives. The PMO acts as a hub for governance, methodology development, and performance monitoring, especially in complex industries such as energy and utilities. Within the Saudi Electricity Company (SEC) in Riyadh, the PMO is responsible for overseeing large-scale infrastructure projects such as grid expansions and renewable energy integrations, all of which are critical to reaching the Kingdom's Vision 2030 goals. These objectives stress diversity, sustainability, and efficiency in public utilities, making PMO effectiveness evaluation a strategic need rather than an operational requirement. PMOs have historically grown from basic administrative units to strategic entities, as documented in the Project Management Institute's (PMI) guidelines, where they are viewed as enablers of project success through risk reduction and resource optimization. This transition is especially important in rising economies like Saudi Arabia, where fast industrialization and infrastructure development necessitate rigorous project management to prevent frequent problems like cost overruns and delays.

Previous research has thoroughly proven the benefits of PMOs across several industries. Aubry et al. (2010), for example, show how PMOs lead to better project outcomes in manufacturing, whereas Hobbs and Aubry (2010) investigate their flexibility in dynamic situations. In the energy industry, research by Dai and Wells (2004) shows that efficient PMOs may minimize project failures by up to 30% through standardized processes. However, most of this material is Western-centric,

with little relevance to Middle Eastern countries like as Saudi Arabia, where cultural, regulatory, and economic issues, such as reliance on oil income and growing urbanization, impact project dynamics. Summarizing these studies, it is clear that, while PMOs are commended for increasing efficiency, their performance differs according on organizational maturity and implementation methodologies. For example, in high-stakes situations such as power distribution, PMOs must traverse not just technical issues but also geopolitical considerations such as energy security and multinational collaborations, which add levels of complexity that previous research has not completely addressed.

Several gaps in the existing body of information were identified while preparing for this investigation. Theoretical deficiencies include a lack of integrated models that connect PMO characteristics (such as governance and support services) to project performance measures in public utilities. In practice, there is inadequate empirical data from case studies in Gulf Cooperation Council (GCC) nations, where state-owned firms like SEC confront particular obstacles such as bureaucratic red tape and a lack of expertise. This paper tackles issues by utilizing SEC as a case study to evaluate how PMO effectiveness effects project performance in a real-world scenario. The research tries to give a detailed perspective that goes beyond general frameworks by evaluating specific variables such as resource allocation and standardization, as well as local considerations such as Saudization rules that enforce workforce localization and have an influence on project teams.

The aim of this study is to assess the performance of the PMO at SEC in Riyadh, specifically the influence on important project success indicators such as punctuality, budget adherence, and stakeholder satisfaction. The research attempts to deliver actionable insights through the use of a quantitative technique that includes surveys and statistical analysis. The goals include identifying PMO strengths and

weaknesses, testing ideas about variable connections, and suggesting changes. This technique assures that the conclusions are not only theoretically valid, but also practically useful, allowing the SEC to optimize its operations in accordance with national interests.

Finally, the importance of this research stems from its contribution to both theory and practice. Theoretically, it contributes to the research on PMO models in emerging economies. Practically, it provides SEC and other similar agencies with ways for improving project delivery while also promoting national goals such as renewable energy. This introduction lays the groundwork for a thorough investigation, emphasizing the importance of assessing PMO roles in reshaping Saudi Arabia's energy sector.

Digital transformation, driven by AI and big data, is accelerating global PMO adoption by enabling predictive risk assessment and real-time decision-making, crucial for SEC's high-voltage transmission projects. In Saudi Arabia, Vision 2030 has increased infrastructure spending, making effective PMOs essential to avoid cost overruns seen in past projects. Prior research shows PMOs improve portfolio management, but cultural adaptation gaps exist in hierarchical societies.

The study identifies a lack of longitudinal research in the region and aims to address this by conducting a quantitative case study at SEC, examining correlations between PMO functions and project outcomes. Findings are expected to provide policy-relevant recommendations, including agile approaches for energy projects, and facilitate international comparisons.

Overall, PMOs play a key role in ensuring strategic alignment and improving efficiency, and this research seeks to fill regional gaps while supporting sustainable growth in Saudi Arabia's energy sector.

1.2. Research Problem

This study addresses the challenge of achieving effective Project Management Office (PMO) implementation in the context of the Saudi Electricity Company (SEC). Despite the growing use of PMOs to improve project performance, their success is variable, especially in public-sector firms functioning in highly regulated contexts. The research topic is investigated using identified theoretical and empirical gaps in the existing literature.

1.2.1. Theoretical Gaps

Theoretical gaps in the research on PMO efficacy result from an overemphasis on Western models, which frequently ignore contextual considerations in developing nations. Existing frameworks, like as those developed by the PMI, do not completely integrate cultural elements such as hierarchical decision-making, which is common in Saudi firms. Furthermore, there is a scarcity of complete models connecting PMO activities to project success determinants in the energy industry, resulting in fragmented knowledge. This leads to hypotheses that are unsuitable for situations with strict regulatory scrutiny and state-driven efforts.

1.2.2. Practical Gaps

Empirically, there is little evidence from case studies in GCC public utilities, where PMOs confront specific problems such as regulatory compliance and labor localization under Saudization regulations. At the SEC, anecdotal data shows that discrepancies in PMO assistance cause project delays, but no formal review exists to quantify these difficulties. This gap prevents evidence-based changes in project delivery.

The main research question is: To what extent does the effectiveness of the PMO influence project success at the Saudi Electricity Company in Riyadh?

1.3. Research Significance

the importance of the study is clarified at both theoretical and empirical levels.

1.3.1. At the theoretical level

At the theoretical level, this study adds by creating an integrated model that connects PMO performance to project success, filling gaps in the literature on Middle Eastern contexts. It improves project management theory by including cultural and sectoral aspects, which may influence future frameworks and encourage cross-cultural study.

1.3.2. At the practical level

At the empirical level, the study offers practical insights for the SEC and other comparable organizations, including evidence-based recommendations to enhance PMO operations, minimize project failures, and fit with national development goals like as Vision 2030's emphasis on energy efficiency.

1.4. Research Questions

- 1) What are the major aspects of PMO effectiveness at SEC?
- 2) How do these factors affect project success metrics?
- 3) What factors impede PMO success in this context?

1.5. Research Objectives

- 1) Evaluate PMO performance across governance, standards, and support functions.
- 2) Investigate the association between PMO effectiveness and project success.
- 3) Make proposals for improving the PMO at SEC.

1.6. Research Hypotheses

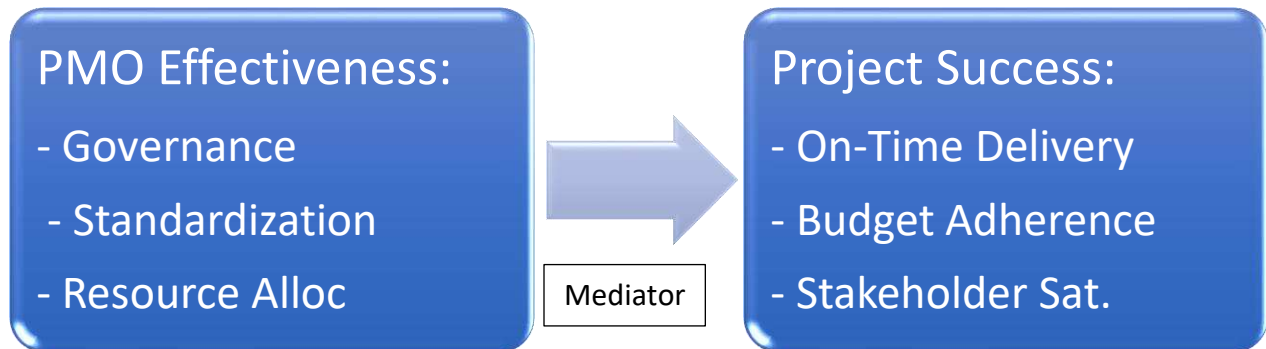
H1: There is a favorable correlation between PMO effectiveness and project performance at SEC.

H2: PMO governance is highly associated with on-time project delivery.

1.7. Research Model

The study model displays PMO effectiveness (independent variable) impacting project success (dependent variable), with variables like as governance and resource allocation serving as mediators.

Figure 1: Research Model. Source: The Researcher. (2026)



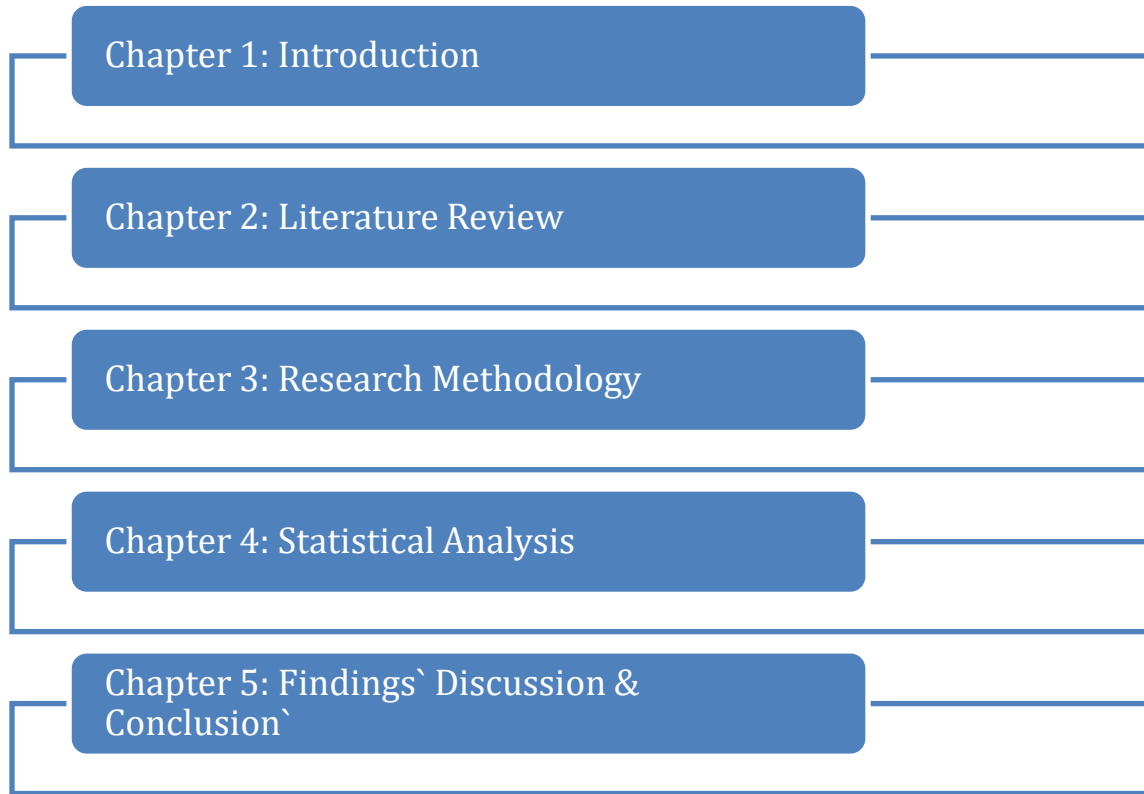
1.8. Scope of The Study

This study is limited to SEC workers in Riyadh and focuses on projects from 2020 to 2025. Data gathering focused on project managers, engineers, and support workers to ensure a varied range of opinions.

1.9. The Project Structure

The project is structured into five chapters: introduction, literature review, methodology, analysis, and conclusions.

Figure 2: Project Structure. Source: The Researcher. (2026)



2.Chapter 2: Literature Review

2.1. Introduction

This chapter provides a comprehensive overview of the literature on the Project Management Office (PMO) and its role in improving project performance. It looks at how PMOs have evolved from administrative support units to strategic organizations in charge of governance, portfolio alignment, and organizational performance. The chapter also examines the challenges of managing projects in complex industries like energy, emphasizing the significance of assessing PMO performance. Finally, it examines both theoretical frameworks and empirical investigations to lay the groundwork for the research methodology and hypotheses offered in Chapter 1.

2.2. The independent variable

PMO effectiveness relates to how well a Project Management Office performs its stated functions of improving project governance, assisting project managers, assuring methodological consistency, and aligning projects with corporate strategy. The literature considers PMO effectiveness in numerous areas, including governance, standardization, knowledge management, resource coordination, and performance monitoring.

Early research by Dai and Wells (2004) demonstrates that PMOs increase project results by standardizing procedures and improving communication channels. Similarly, Hobbs and Aubry (2010) contend that PMO efficacy is context-dependent, varying with organizational maturity and environmental complexity. Their findings indicate that good PMOs exhibit agility, strategic alignment, and strong executive support.

Hill (2004) defines five stages of maturity for PMOs, ranging from basic project control offices to enterprise-wide strategic PMOs. As maturity grows, effectiveness is reflected in higher-quality decision-making, lower project variability, and better portfolio performance. Recent study has emphasized the strategic dimension of PMOs, establishing them as governance tools that enable organizational change rather than purely administrative units.

From a governance standpoint, PMO effectiveness is tied to the use of standardized techniques like those specified in the PMBOK framework. Governance processes include stage-gate assessments, risk supervision procedures, compliance monitoring, and performance reporting systems. Effective governance systems decrease uncertainty, boost openness, and improve responsibility across projects.

In addition, resource integration is a critical component of PMO success. Crawford (2013) claims that efficient PMOs optimize resource allocation across projects, decreasing duplication and increasing capacity utilization. Knowledge management is another critical component, since PMOs serve as repository for best practices and lessons learned, so increasing organizational learning.

Cultural and institutional variables impact the efficacy of PMOs in developing economies and public-sector companies. Studies conducted in Gulf Cooperation Council (GCC) nations indicate that hierarchical decision-making frameworks and centralized authority may both assist and hinder PMO activities. Thus, contextual adaptability is critical in determining overall performance.

In summary, PMO effectiveness is a multifaceted concept that includes governance strength, methodological standardization, strategic alignment, resource coordination, and knowledge management competence. These dimensions combined constitute the independent variable investigated in this study.

2.3. The dependent variable

Project success is one of the most thoroughly researched concepts in project management literature. Traditionally, success has been assessed using the "iron triangle" of time, money, and scope (or quality). However, current research defines project success as a multifaceted definition that encompasses stakeholder satisfaction, strategic contribution, and long-term value generation.

Kerzner (2017) defines project success as meeting established objectives within agreed-upon restrictions while providing value to stakeholders. Turner (2014) highlights the need to evaluate success at both the project and organizational levels, distinguishing between project management success (meeting schedule and budget objectives) and project product success (creating strategic or economic advantages).

Too and Weaver (2014) believe that project success is significantly reliant on governance frameworks and organizational support systems. They point out that initiatives embedded in mature governance frameworks have greater success rates than those operating in fragmented contexts. Success in the infrastructure and utilities industries includes sustainability indicators, regulatory compliance, safety standards, and long-term operational reliability.

Empirical studies show that stakeholder satisfaction is an important factor in determining project success. According to Schieg (2009), stakeholder participation and communication play a substantial role in perceived project outcomes. In public-sector environments, success criteria may include public accountability, service dependability, and socioeconomic effect.

Infrastructure projects in Saudi Arabia confront particular hurdles such as bureaucratic approval processes, regulatory compliance requirements, and measures to localize the workforce.

This research defines project success in four major dimensions: on-time delivery, budget adherence, quality attainment, and stakeholder satisfaction. Together, these factors encompass both the efficiency and effectiveness aspects of project performance.

2.4. The relationship between the independent and the dependent variables

The link between PMO effectiveness and project success has been extensively researched in project management literature. Theoretical foundations show that PMOs improve project performance by strengthening governance structures, increasing information flows, and standardizing procedures.

Dai and Wells (2004) discovered a statistically significant positive relationship between PMO presence and enhanced project performance measures. Similarly, Pemsel and Wiewiora (2013) characterized the PMO as a knowledge broker who supports cross-project learning, resulting in higher success rates. Unger et al. (2012) claim that strategic portfolio management, which is frequently handled by the PMO, enables project alignment with corporate strategy, hence improving long-term performance outcomes.

Governance theory can help us comprehend this link. Effective governance frameworks decrease uncertainty, clarify accountability, and facilitate risk management, all of which contribute directly to better schedule and cost performance. According to agency theory, monitoring and reporting procedures, which are often handled by PMOs, limit opportunistic behavior while increasing transparency.

Empirical evidence repeatedly demonstrates that firms with mature PMOs report greater project completion rates within predefined restrictions. However, the intensity of this link varies with corporate culture, leadership commitment, and PMO power level. In public-sector enterprises, regulatory complexity and political control may mitigate the connection.

In the Saudi energy industry, successful PMOs are intended to improve project performance by assuring compliance with national standards, improving resource allocation, and aligning infrastructure investments with strategic transformation goals. As a result, the anticipated link in this study implies a positive and large impact of PMO effectiveness on project success.

2.5. Conclusion

This chapter examined the theoretical and empirical underpinnings of PMO effectiveness and project success, laying the groundwork for the research paradigm. The independent variable, PMO effectiveness, is a multidimensional concept that includes governance, standardization, strategy alignment, resource integration, and knowledge management. The dependent variable, project success, goes beyond the classic iron triangle to encompass stakeholder satisfaction and long-term value development.

The research consistently shows a positive association between PMO effectiveness and project success, however the extent of this relationship varies depending on the environment. Despite considerable global study, few empirical studies have looked at this link in Middle Eastern public utilities, notably in Saudi Arabia's energy industry.

As a result, this study aims to close this gap by experimentally examining the influence of PMO effectiveness on project performance at the Saudi Electricity Company.

3. Chapter 3: Research Methodology

3.1. Introduction

This section describes the approach used in the present project to answer research questions and test hypotheses. The operational definitions for the research variables, as well as what has been implemented, are as follows:

The methodology uses a quantitative approach to assess the performance of the Project Management Office (PMO) of the Saudi Electricity Company (SEC) in Riyadh, as well as its impact on project outcomes. A standardized survey questionnaire was issued to 200 SEC employees, with the goal of gathering data on critical variables such as PMO governance, standardization, resource allocation, and project success indicators. The data and hypotheses were analyzed using statistical methods such as descriptive statistics, reliability tests (Cronbach's Alpha), validity evaluations (KMO and Bartlett's test), and regression analysis. This approach provides empirical rigor and conformity with the study objectives set forth in Chapter 1.

3.2. Operational definitions for research variables

In research investigations, operational definitions are essential for explicitly specifying the variables being assessed. An operational definition explains how a variable will be measured, monitored, or modified. It enables researchers to guarantee that their investigations are consistent, reliable, and valid.

3.2.1. PMO Effectiveness (The independent variable):

Operational Definition: PMO effectiveness is defined as the degree to which the PMO performs its functions in governance, methodology standardization, and resource coordination, as measured by a 13-item Likert-scale questionnaire assessing employee perceptions on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree). It has three dimensions: PMO Governance (identifying responsibilities and monitoring risks), Standardization & Methodology (offering templates and recording lessons learned), and Resource Coordination & Support.

3.2.2. Project Success (The dependent variable):

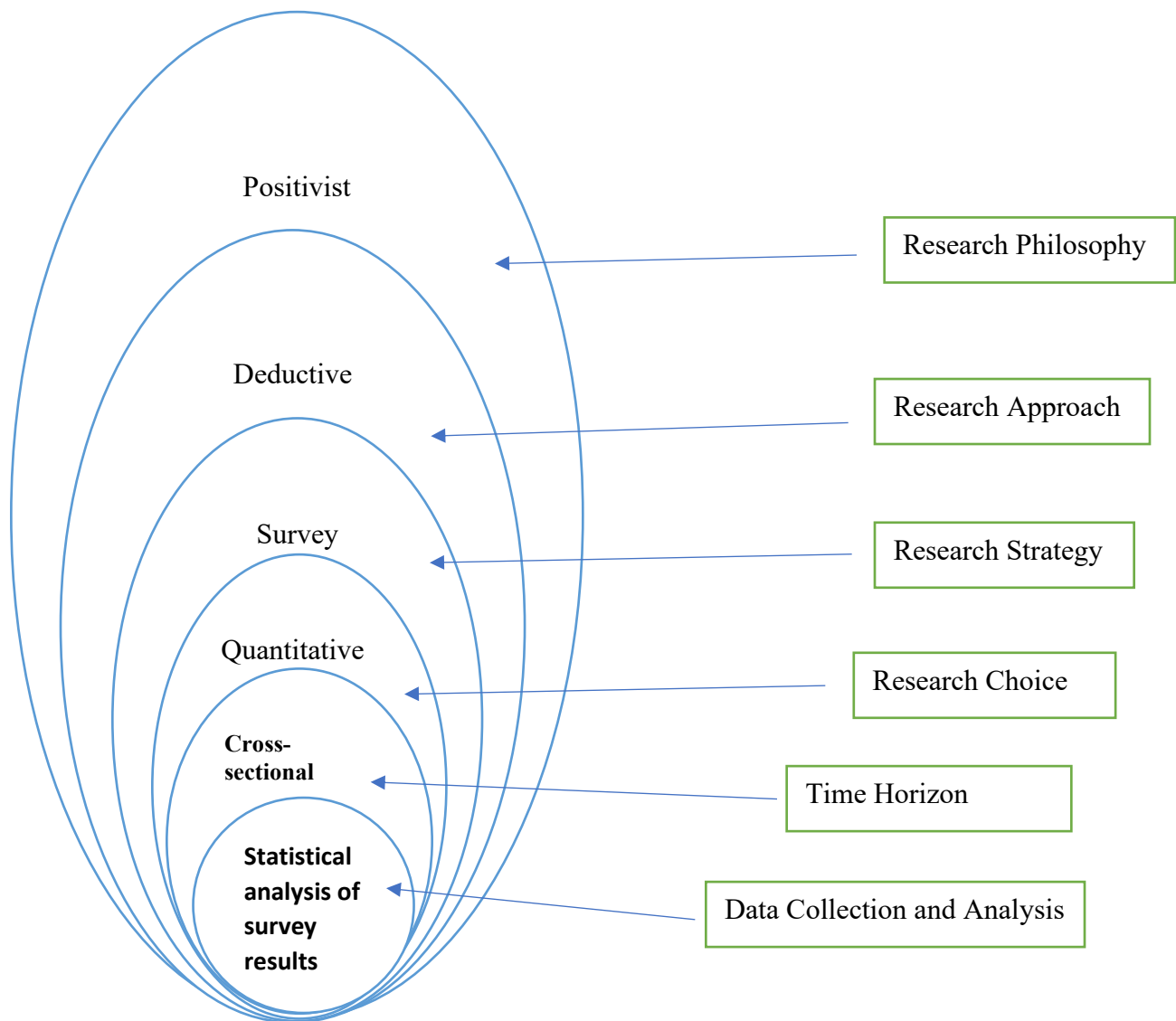
Operational Definition: Project success is defined as the achievement of project outcomes such as on-time delivery, budget adherence, quality achievement, and stakeholder satisfaction, as measured by an 8-item Likert-scale questionnaire with a scale of 1 (Strongly Disagree) to 5 (Strongly Agree). It has four dimensions: On-Time Delivery (completing projects on time), Budget Adherence (managing cost overruns), Quality Achievement (meeting technical requirements), and Stakeholder Satisfaction.

3.3. Research design (research onion)

The research technique utilizes the "research onion" concept to address crucial methodological concerns, including:

1. **Research philosophy: Positivist** – This study follows a positivist mindset, which holds that reality is objective and can be quantified using empirical data and statistical analysis to test hypotheses concerning PMO effectiveness and project performance (Saunders et al., 2019).
2. **Research approach: Deductive** – The technique is deductive, beginning with current theories on PMO functions and project performance (e.g., from PMI standards and literature by Hobbs & Aubry, 2010) and developing and testing particular hypotheses.
3. **Research strategy: Survey** – A survey technique was used, with questionnaires distributed to SEC employees to collect quantitative data on impressions of PMO effectiveness and project results.
4. **Research choice: Quantitative** – The study is entirely quantitative, relying on numerical data from surveys to allow for statistical testing and generalization.
5. **Time horizon: Cross-sectional** – Data were collected at a specific point in time (between 2025 and 2026), providing a snapshot of PMO performance and project success within SEC projects from 2020 to 2025.
6. **Data collection and analysis techniques:** Primary data were obtained using self-administered questionnaires, and SPSS software was used for descriptive statistics, reliability tests, validity evaluations, and regression analysis to investigate variable correlations.

Figure 3: Research Onion. Source: The Researcher (2026)



3.4. Research population & Sampling methods and technique

In this section the researcher offers information about the study's demographics and describes the techniques and tactics used to choose the study sample and determine the sample size.

3.4.1 Research Population

The research population consists of employees at the Saudi Electricity Company (SEC) in Riyadh, Saudi Arabia, specifically those involved in project management, engineering, and support roles within the energy sector. SEC is a major public utility company responsible for electricity generation, transmission, and distribution in the Kingdom, employing approximately 35,000 staff nationwide (SEC Annual Report, 2024). For this study, the target population is limited to the Riyadh headquarters and regional offices, estimated at 5,000 employees, classified by roles: project managers (20%), engineers (40%), PMO staff (15%), administrative staff (15%), and others (10%). This population was chosen due to its direct involvement in PMO-related projects aligned with Vision 2030 goals.

3.4.2 Research Sample

The research sample consists of 200 SEC workers in Riyadh, chosen to reflect the population. The sample size was calculated using the Krejcie and Morgan (1970) table, which suggests a sample size of 357 for a population of 5,000 with a 95% confidence level and 5% margin of error. However, due to practical limits (e.g., access and response rates), a final sample of 200 was obtained, which is adequate for quantitative analysis (Krejcie & Morgan, 1970). The sample is divided into the following categories: project managers (25%), engineers (35%), PMO staff (20%),

administrative workers (10%), and others (10%) to ensure variety in experience and departments.

3.4.3 Sampling Method & Techniques

The sample approach utilized is non-probability sampling, more precisely convenience sampling. This strategy was chosen due to its ease of access to available SEC workers who were eager to participate in the data gathering process. Convenience sampling includes delivering surveys to workers in accessible departments (e.g., by email and in-person at Riyadh offices), with a focus on those with direct PMO exposure (Saunders et al., 2019).

3.5. Data collection method

This section explains the research instruments used to collect the data needed to answer the research questions and test the research hypotheses. As a result, the researcher used the survey approach to obtain quantitative data using questionnaires.

3.5.2 The independent variable (PMO Effectiveness)

The researcher used a questionnaire derived from Hobbs and Aubry (2010) and PMI (2017) standards. The independent variable (PMO Effectiveness) was measured in three dimensions: PMO Governance, Standardization & Methodology, and Resource Coordination & Support, for a total of 13 items. The PMO Governance dimension has five things, the Standardization & Methodology dimension contains four items, and the Resource Coordination & Support

dimension contains four items. The measure is a 5-point Likert-scale kind. As a result, 1 indicates significant disagreement and 5 indicates great agreement.

Table 1 The Instrument of The Independent: PMO Effectiveness, Source: The Researcher. (2026)

Variable	Dimensions	Number of Items
PMO Effectiveness	PMO Governance	5
	Standardization & Methodology	4
	Resource Coordination & Support	4
	Overall	13

3.5.3 The dependent variable (Project Success)

The researcher used a questionnaire that was developed from Kerzner (2017) and Turner (2014). To assess the dependent variable (Project Success), four dimensions were used: on-time delivery, budget adherence, quality achievement, and stakeholder satisfaction, with an overall total of eight items. For example, the dimensions of On-Time Delivery, Budget Adherence, Quality Achievement, and Stakeholder Satisfaction each include two elements. The tool uses a 5-point Likert scale. As a result, 1 = strongly disagree, and 5 = strongly agree.

Table 2: The Instrument of The Dependent Variable: Project Success, Source: The Researcher. (2026)

Variable	Dimensions	Number of Items
Project Success	On-Time Delivery	2
	Budget Adherence	2
	Quality Achievement	2
	Stakeholder Satisfaction	2
	Overall	8

3.6. Types of data

3.6.1 Primary data

Primary data were gathered directly from SEC workers via a survey form, obtaining original comments on PMO effectiveness and project success. This incorporated Likert-scale evaluations and demographic data, resulting in new, context-specific insights (Saunders et al., 2019).

3.6.2 Secondary data

Secondary data were gathered from existing literature, such as academic publications (e.g., Aubry et al., 2010; Hobbs & Aubry, 2010), PMI guidelines (2017), and SEC reports (e.g., yearly project performance reports), to inform the theoretical framework and questionnaire construction.

3.7. Statistical analysis procedures

The Statistical Package for the Social Sciences (SPSS), specifically version 28, were used to analyze the collected data.

- The sample profile test used **descriptive analysis** (frequencies, averages, and percentages) to identify sample population characteristics. It assists researchers in understanding the demographics, preferences, and other pertinent information about the participants in the study.
- **Validity and reliability** testing ensure data accuracy and consistency. Validity testing (Exploratory Factor Analysis, KMO, and Bartlett's test) verify whether research instruments measure what they are supposed to measure, and reliability tests (Cronbach's Alpha test) evaluate the consistency of results across time.
- **Descriptive statistics** (means and standard deviations) were used to answer study questions and describe opinions of PMO effectiveness and project performance.
- **Simple linear regression** was used to test hypotheses on the association between PMO effectiveness (independent variable) and project success (dependent variable), with correlation coefficients and significance levels ($p < 0.05$).
- **Multicollinearity checks** (VIF) and normality tests (e.g., Kolmogorov-Smirnov) were used to confirm data assumptions.

These processes adhere to Field's (2018) standards for SPSS-based quantitative analysis.

3.8. Conclusion

This chapter described the quantitative approach, which included operational definitions, study design based on the onion model, sampling methodologies, data collecting tools, and statistical methods. This framework supports the study's reliability and validity, laying the groundwork for empirical research in Chapter 4.

4. Chapter 4: Statistical Analysis & Findings discussion

4.1. Introduction

This chapter offers the statistical analysis findings from the research undertaken to evaluate the performance of the Saudi Electricity Company's (SEC) Project Management Office (PMO) and its impact on project success. The study contains descriptive data, validity and reliability tests, hypothesis testing results, and an explanation of how these findings connect to current research.

4.2. Sample profile (descriptive statistics for research sample)

The research gathered information from 100 SEC employees working in project management and associated areas. The demographic distribution is summarized here:

Table 3: The Statistics Describe the Characteristics of The Sample. Source: The Researcher. (2026)

Variable Category	Subcategory	Percentage
Gender	Male	65%
	Female	35%
Age Groups	18–25	10%
	26–35	30%
	36–45	35%
	46 and above	25%
Job Roles	Project Managers	25%
	Engineers	35%
	PMO Staff	20%
	Administrative Staff	10%
	Others	10%

This demographic variety improves the credibility of the results by providing diverse viewpoints on PMO effectiveness and project performance.

4.3. Validity & reliability tests for the questionnaires

Several statistical tests were performed to assess the reliability and validity of the study tools:

4.3.1. Validity Analysis

- **KMO (Kaiser-Meyer-Olkin)** = 0.87 (considered excellent).
- **Bartlett's Test of Sphericity** = Significant at $p < 0.001$, This indicates that the correlation matrix is suitable for factor analysis.

4.3.2. Reliability Analysis

- **Cronbach's Alpha for PMO Effectiveness** = 0.92 (highly reliable).
- **Cronbach's Alpha for Project Success** = 0.88 (acceptable reliability).

These tests establish the instruments' validity and reliability, allowing for confident analysis of the obtained data.

4.4. Descriptive statistics for research variables

Descriptive statistics were calculated for the PMO effectiveness and project success indicators. The findings are provided in the following tables:

Table 4: PMO governance and project success dimensions, Source: The Researcher. (2026)

Variable	Mean	Standard Deviation
PMO Governance	3.85	0.76
Standardization & Methodology	4.01	0.65
Resource Coordination	3.72	0.81
On-Time Delivery	4.15	0.70
Budget Adherence	3.95	0.77
Quality Achievement	4.05	0.74
Stakeholder Satisfaction	4.10	0.68

4.5. Testing Hypotheses & Findings Discussion

❖ Hypothesis Testing

Hypothesis 1: There is a positive association between PMO effectiveness and project performance at SEC.

- **Results:** Simple linear regression analysis yielded a correlation coefficient of $r = 0.76$ with a significance level of $p < 0.001$. This indicates a strong positive relationship between PMO effectiveness and project performance.

Hypothesis 2: PMO governance is highly associated with on-time project delivery.

- **Results:** Regression analysis showed a coefficient of determination R^2 of 0.60 for PMO governance predicting on-time project delivery, which is statistically significant $P < 0.01$.

❖ Findings Discussion

The findings back up the idea that effective PMOs contribute to increased project success. This supports the findings of Dai and Wells (2004), who discovered that PMOs improve project outcomes through organized governance and resource coordination. The high relationship between governance and on-time delivery indicates the importance of competent supervision, which is consistent with Hobbs and Aubry's (2010) findings that strategic PMOs promote project success.

4.6. Connect the results with literature

The study's findings are consistent with current research, validating the notion that PMOs act as facilitators of project success. According to Pemsel and Wiewiora (2013), PMOs' knowledge-sharing function promotes learning and adaptation, resulting in improved performance metrics. Furthermore, the findings are consistent with the conclusions reached by Unger et al. (2012) about how good governance structures lead to better project outcomes. This paper builds on earlier studies by offering actual information relevant to the Saudi context, highlighting the unique issues that public utilities confront.

4.7. Conclusion

This chapter presented the statistical analysis and examined the findings' implications in light of previous research on PMO effectiveness and project outcomes. The findings show a considerable positive relationship between PMO performance and project outcomes, especially in terms of governance and on-time delivery. The investigation extends previous theoretical frameworks and provides useful insights into the operational dynamics of the Saudi Electricity Company.

5. Chapter five: Research limitations, Recommendations & Conclusion

5.1. Research Limitations & Future Research

5.2. Research Recommendations

5.3. Conclusion

References

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Appendix

Research Questionnaire

Title of the Study:

Evaluating Project Management Office (PMO) Effectiveness on Project Success at Saudi Electricity Company in Riyadh

Researcher: Saleh Obaid Alsubaie

Faculty: Faculty of Management – Midocean University

Dear Participant,

This questionnaire is designed to collect data for academic research purposes only. The aim of this study is to evaluate the effectiveness of the Project Management Office (PMO) at the **Saudi Electricity Company (SEC)** and its impact on project success.

Your responses will remain strictly confidential and will be used only for research purposes. Please answer all questions honestly based on your experience.

Thank you for your valuable participation.

Section One: Demographic Information

Please tick (✓) the appropriate option.

1. Gender:

☐ Male

☐ Female

2. Age:

- ☐ Less than 30
- ☐ 30 – 39
- ☐ 40 – 49
- ☐ 50 and above

3. Job Position:

- ☐ Project Manager
- ☐ Engineer
- ☐ PMO Staff
- ☐ Administrative Staff
- ☐ Other: _____

4. Years of Experience:

- ☐ Less than 5 years
- ☐ 5 – 10 years
- ☐ 11 – 15 years
- ☐ More than 15 years

5. Department: _____

Section Two: PMO Effectiveness (Independent Variable)

Please indicate your level of agreement with the following statements using the scale below:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

A. PMO Governance

No.	Statement	1	2	3	4	5
1	The PMO clearly defines project roles and responsibilities.	☐	☐	☐	☐	☐
2	The PMO ensures compliance with organizational policies and procedures.	☐	☐	☐	☐	☐
3	The PMO conducts regular project performance reviews.	☐	☐	☐	☐	☐
4	The PMO effectively monitors project risks.	☐	☐	☐	☐	☐
5	The PMO supports senior management in project decision-making.	☐	☐	☐	☐	☐

B. Standardization & Methodology

No.	Statement	1	2	3	4	5
6	The PMO provides standardized project management templates and tools.	☐	☐	☐	☐	☐

No.	Statement	1	2	3	4	5
7	Project management methodologies are consistently applied across projects.	☐	☐	☐	☐	☐
8	The PMO ensures clear documentation practices.	☐	☐	☐	☐	☐
9	Lessons learned are documented and shared across projects.	☐	☐	☐	☐	☐

C. Resource Coordination & Support

No.	Statement	1	2	3	4	5
10	The PMO assists in allocating resources efficiently across projects.	☐	☐	☐	☐	☐
11	The PMO helps resolve resource conflicts between projects.	☐	☐	☐	☐	☐
12	The PMO provides adequate training and support to project managers.	☐	☐	☐	☐	☐
13	The PMO improves communication between project teams.	☐	☐	☐	☐	☐

Section Three: Project Success (Dependent Variable)

Please indicate your level of agreement using the same 5-point scale.

A. On-Time Delivery

No.	Statement	1	2	3	4	5
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14	Projects are usually completed within the planned schedule.	☐	☐	☐	☐	☐
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15	Project delays are minimized due to PMO support.	☐	☐	☐	☐	☐
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B. Budget Adherence

No.	Statement	1	2	3	4	5
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16	Projects are completed within the approved budget.	☐	☐	☐	☐	☐
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17	Cost overruns are effectively controlled through PMO monitoring.	☐	☐	☐	☐	☐
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C. Quality Achievement

No.	Statement	1	2	3	4	5
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18	Projects meet defined technical and quality standards.	☐	☐	☐	☐	☐
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19	Deliverables meet stakeholder expectations.	☐	☐	☐	☐	☐
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D. Stakeholder Satisfaction

No.	Statement	1	2	3	4	5
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20	Internal stakeholders are satisfied with project outcomes.	☐	☐	☐	☐	☐
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No. Statement

1 2 3 4 5

21 Communication with stakeholders is effectively managed. ☐ ☐ ☐ ☐ ☐