

The Impact of Planning on the Completion of Construction Projects in Saudi Arabia (Jubail City) (Research Proposal)

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Chapter 1.0 Introduction

1.1 Background of the topic

The construction industry is critical in a country's infrastructural and economic development. In Saudi Arabia, the construction industry contributed over 7.1% of the country's GDP in 2023, and is expected to grow at Compound annual growth rate (CAGR) of 2.75% to 2028, thereby contributing even more to the Saudi non-oil GDP (International Monetary Fund, 2023).

Saudi Arabia's construction industry is considered to be one of the largest in the Middle East and has significantly contributed to development of various mega projects related to basic infrastructure, and it is executed using pre-determined national plans (Alsulamy, 2022). Project planning is a critical component of project management that plays a significant role in success of a project. Effective project planning in project management directly influences key project outcomes including project cost, time and overall project success (Khan, Saher, & Yunis, 2019).'

Effective project planning improves efficiency of project management processes, contributes to resource optimization streamlines processes and mitigates the risk of delays. Conversely, inadequate project planning could lead to unfavorable project outcomes such as delays in project schedule, cost overruns and cost issues that could lead to other undesirable consequences such as project variability that undermine investor confidence (Naeem, Khanzada, Mubashir & Sohail, 2018). As Saudi Arabia continues its growth trajectory in infrastructural development and economic diversification, effective planning remains imperative for timely project completion, which is critical for sustainable growth sought after in the Saudi construction industry (Ahmed et al., 2024).

1.2 Problem Statement

Recently, failures in construction projects have become rampant adversely affecting project completion schedules, with project planning being cited as one of the major contributors to project delays. A great deal of planning and coordination is required during and after work commencement, failure to which projects could not run smoothly (Alsulamy, 2015). Poor planning has been cited as one of the greatest contributors to project failure in the construction industry in Saudi Arabia. In the Saudi Arabia context, inadequate planning constituting of deficient risk assessment, inappropriate resource allocation to construction projects, and inadequate stakeholder involvement collectively contribute towards undermining project success (Ikediashi, Ogunlana & Alotaibi, 2014).

One of the major challenges to Saudi Arabia's project planning practice is fragmented project planning processes that lead to disjointed stakeholder engagement undermining project coordination, which is critical for project completion (Alhammadi, 2022). Fragmented planning hinders holistic assessment of project status leading to misaligned project management strategies and conflicting practices leading to project failure. Furthermore, studies have also indicated that ambitious project timelines given by the Saudi government and key stakeholders in the construction industry exert pressure on project planning experts, leading to rushed planning that undermines project accuracy (Ahmad, Aftab, Eltayeb & Siddiqui, 2023).

Other aspects contributing to poor planning in Saudi Arabia's construction industry include inadequate attention to risk management practice (Alsulamy, 2022). Failure to pay attention and put in place mechanisms to mitigate potential risks, such as geopolitical issues, economic fluctuations and regulatory constraints leaves projects with high vulnerability to disruptions, delays and cost overruns. Furthermore, there is limited integration of technological advancements such as Internet of Things, Data Analytics, Artificial Intelligence, advanced scheduling software, etc. hinders planning that limits the capacity of contractors to optimize project outcomes.

In Saudi Arabia, the nexus between project planning and success has become a major concern amidst the country's ambitious infrastructural development endeavors. despite the widely acknowledged significance of planning on project completion, there is shortage of empirical studies that could lead to comprehensive project planning frameworks which exacerbates project risks, hinders multi-stakeholder collaboration that leads to project failure (Alghonamy, 2015). Despite the rapidly changing operating environment, project planning in Saudi Arabia has not evolved to match the challenges and risks affecting project success. Consequently, poor project planning has emerged as a major contributor to project failure. Fragmented project planning process, inadequate risk management and limited technological integration being the major issues affecting the efficacy of the country's project planning efforts, exacerbating project completion challenges, which ultimately impedes the country's development and growth efforts (Naeem et al., 2018).

1.3 Study Aim and Purpose

The primary aim of this study is to investigate the impact of planning on construction projects in Saudi Arabia, with emphasis on identifying some of the key factors and factors for successful project planning practices for timely project completion.

The purpose of the study is to highlight the significance of robust project planning for favorable project outcomes, elucidating mechanisms through which effective planning could facilitate project success. By highlighting planning strategies, best practices and critical success factors, the study will provide insights into the critical elements of effective project planning, thereby helping project management stakeholders to identify ways that they could contribute toward optimization of project outcomes, minimize risks and improve stakeholder satisfaction.

1.4 Research questions

1.4.1 Main research question

What is the impact of project planning on the completion of construction projects in Saudi Arabia?

1.4.2 Sub-questions

What are the characteristics or factors for effective project planning practices in the Saudi construction industry?

1. How does stakeholder involvement influence project planning in the Saudi construction industry?
2. How does integration of new technologies influence project planning in the Saudi construction industry?
3. How does risk assessment and management influence project planning in the Saudi construction industry?
4. What is the impact of effective project planning on project cost in the Saudi construction industry?
5. What is the impact of effective project planning on project quality in the Saudi construction industry?
6. What is the impact of effective project planning on project timelines in the Saudi construction industry?
7. What is the impact of effective project planning on efficiency in the Saudi construction industry?
8. What recommendations could be made to improve project planning and optimize project outcomes in the Saudi construction industry?

1.5 Research Hypotheses

1.5.1 Main research hypothesis

H1: Project planning has a significant positive impact on the completion of construction projects in Saudi Arabia.

1.5.2 Other hypotheses.

H2: Stakeholder involvement has a significant positive impact on project planning in the Saudi construction industry.

H3: Integration of new technologies has a significant positive impact on project planning in the Saudi construction industry.

H4: Risk assessment and management has a significant positive impact on project planning in the Saudi construction industry.

H5: Effective project planning has a significant positive impact on project cost in the Saudi construction industry

H6: Effective project planning has a significant positive impact on project quality in the Saudi construction industry.

H7: Effective project planning has a significant positive impact on project timelines in the Saudi construction industry.

H8: Effective project planning has a significant positive impact on efficiency in the Saudi construction industry.

1.6 Relevance and Importance of the study

The study makes a significant contribution to the Saudi construction industry, highlighting the pivotal role of project planning in ensuring successful delivery of construction projects. understanding the factors that lead to effective project planning is important for cost-effective and timely delivery of infrastructural projects, commercial and residential buildings, thereby contributing significantly towards the country's infrastructural and economic development as intimated in Alhammadi (2022).

The research contributes significantly to knowledge advancement in construction management by making practical, evidence-based recommendations on the role of project planning to ensure successful project delivery. The study serves to validate the established theoretical frameworks about the impact of project planning on project completion by providing empirical evidence based

on primary data, and insights from practitioners in the Saudi construction industry (Ahmad et al., 2023).

Chapter 2.0 Literature Review

The chapter presents a critical review of relevant scholarly sources, key concepts, theories and findings from previous studies relevant to the topic. This forms the basis on which the study bases its propositions and hypotheses that will be tested to inform the findings and conclusions of the study.

2.1 The Concept of Project Planning

Planning, also referred to as project planning involves a process of designing the project scope, resources, timelines, etc. to ensure project delivery within the pre-defined constraints. It entails determining the tasks and setting reasonable timelines and schedules and organizing for resources that are required to get the project completed (Project Management Institute, 2017). Project planning is an important phase of the construction process that lays the foundation of effective project execution and control. It involves a comprehensive evaluation of the project requirements, the inherent risks and challenges involved, and presents a comprehensive plan that lays out the necessary measures to be put in place throughout the project lifetime to ensure timely completion (Pierce, 2013).

2.2 Significance of Project Planning

Project planning is widely recognized as a fundamental aspect of project management, playing a crucial role in ensuring project success. This critical literature review aims to examine the significance of project planning in project management by analyzing key insights and findings from existing research literature.

Effective project planning is a cornerstone for project success offering a roadmap for fulfilling project objectives within specified time, financial and quality constraints (Kerzner, 2017). Project planning is critical in identification and allocation of project resources, setting realistic timelines, and mitigation of potential risks and uncertainties in project execution (Barkley & Saylor, 2014). Moreover, project planning facilitates effective communication and coordination between project

team members, and other stakeholders, which instils collaboration and alignment towards common project goals (Pinto & Trailer, 2016).

Project planning plays an important role in risk management by facilitating proactive identification, assessment, and mitigation of project risks throughout the project from inception to completion (Hillson & Murray-Webster, 2017). Project planning enables project managers to anticipate potential challenges and develop contingency plans to address unforeseen events, thereby minimizing project disruptions and enhancing overall resilience (Chapman & Ward, 2011). Moreover, effective project planning facilitates the allocation of resource to activities geared to risk mitigation and ensures implementation of appropriate measures for safeguarding project success (Flanagan & Norman, 2018).

Studies point to a strong correlation between project planning and performance, whereby well-planned projects exhibit success by meeting quality objectives, being executing within budget, and adhering to the set timelines (Turner & Müller, 2014). Therefore, by defining project scope, project deliverables, and milestones, project planning facilitates project teams in maintain their focus and direction, thereby improving project productivity and efficiency (Kloppenborg & Petrick, 2014). Furthermore, effective project planning enhances stakeholder satisfaction by ensuring project outcomes are aligned with the requirements and expectations of stakeholders (Shenhar et al., 2018).

2.3 Factors influencing project planning

Stakeholder Involvement

Stakeholder involvement is crucial in project planning as it ensures that the project aligns with the expectations and needs of all relevant parties. Involving stakeholders from the early stages of planning enhances communication, builds trust, and promotes a sense of ownership, leading to greater stakeholder satisfaction and support throughout the project lifecycle (Smith & Erakovic (2016). Leveraging emerging technologies such as artificial intelligence, data analytics, and virtual collaboration tools enables project managers to streamline processes, optimize resource allocation, and accelerate decision-making, thereby improving overall project performance and competitiveness (Huang et al., 2018)

Effective risk assessment and management are essential components of project planning, as they help identify, evaluate, and mitigate potential threats to project success. Integrating risk management into project planning enables proactive identification of risks, development of contingency plans, and allocation of resources to address uncertainties, thereby enhancing project resilience and reducing the likelihood of negative impacts on project outcomes (Hillson & Murray-Webster (2017).

Effective communication and collaboration are essential for successful project planning, as they facilitate coordination, alignment, and knowledge sharing among project stakeholders (Kerzner, 2017). Organizational culture and leadership style influence project planning by shaping attitudes, behaviors, and decision-making processes within the project team and the broader organizational context (Shenhar et al. ,2018)

2.4 Challenges and limitations facing project planning

Despite its immense importance, project planning experiences a great deal of challenges and limitations. In practice, project planning is subject to obstacles including incomplete information, changing project requirements, and stakeholder interests that often complicate project planning process and therefore affect its outcomes (Atkinson, 2015). Furthermore, too rigid or detailed project planning could be a hindrance to project adaptability and innovation, especially in today's dynamic and uncertain environment (Morris et al., 2014). Therefore, balancing the need for comprehensive planning with some degree of flexibility to provide for inherent changes and uncertainties presents a challenge to project managers (Geraldi et al., 2011).

2.5 Impact of project planning on key project outcomes

Effective project planning significantly influences cost management by providing a structured framework for budget estimation, allocation, and control (Kerzner, 2017). Project planning plays a pivotal role in time management by establishing clear timelines, milestones, and deliverables to guide project execution and monitor progress (Haughey, 2019). By incorporating quality considerations into project scope definition, requirements analysis, and risk assessment, project planners can identify potential quality issues early on and implement preventive measures to mitigate risks (Project Management Institute, 2017).

Through detailed task analysis, workflow optimization, and resource leveling techniques, project planners can identify opportunities for process improvement and resource optimization, thereby enhancing project efficiency and productivity (Kloppenborg & Petrick, 2014).

Project planning ensures that project objectives, requirements, and deliverables are aligned with organizational goals, stakeholder expectations, and market needs (Turner & Müller, 2014).

Risk Management:

Effective project planning encompasses risk management strategies to identify, assess, and mitigate potential threats to project success (Hillson & Murray-Webster, 2017).

2.6 Theoretical Framework

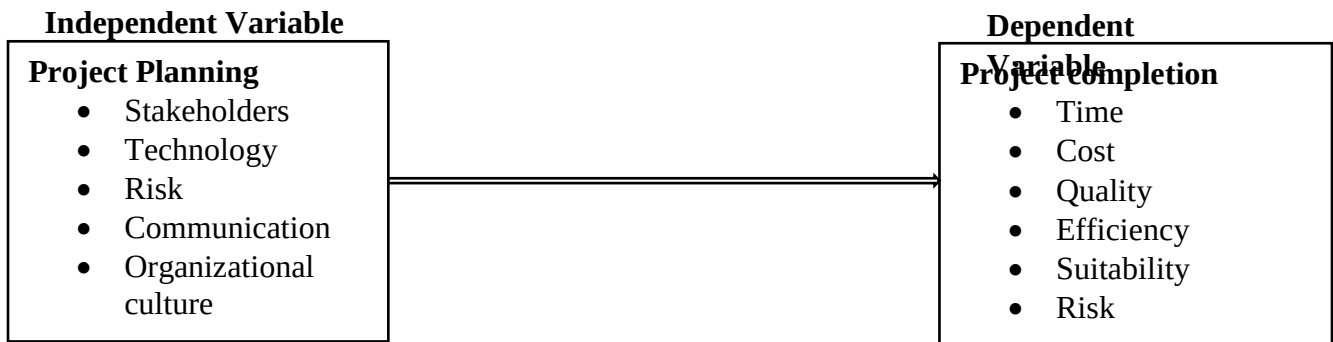
The study adopts the contingency theory to explain the impact of planning on project success. Theory holds that there is no one-size-fits-all approach to project management, and that, effectiveness of project planning efforts is influenced other factors including project complexity, the prevailing organizational culture, and uncertainty in the operating environment (Turner & Müller, 2014). This theory emphasizes the need for project managers to adapt their planning processes and strategies to suit the unique circumstances and requirements of each project.

In terms of project planning, the Contingency Theory highlights the importance of tailoring planning processes, techniques, and tools to the needs, characteristics and challenges of a specific project (Shenhar et al., 2018), such that projects with high uncertainty or complexity need more flexible planning approaches and need more emphasis on risk management and contingency planning to adapt to the changing project circumstances and mitigate the potential risks (Geraldini et al., 2011).

Therefore, the Contingency Theory illuminates the importance of employing context-specific planning and the need to tailor planning processes and strategies to ensure they fit the unique circumstances of specific projects. therefore, by embracing flexibility and adaptability in planning, project managers are able to enhance project outcomes by being able to address project challenges, mitigate risks, and maximize opportunities for success (Turner & Müller, 2014).

2.7 Conceptual Framework

Considering the arguments, observations, findings and conclusions of previous studies and key theoretical constructs, the study adopts the following theoretical framework with project planning being the independent variable and project completion being the dependent variable as illustrated below.



As indicated in figure 1 above, the independent variable is project planning which is influencing by factors such a stakeholder involvement, integrating new technologies, risk assessment and management, communication and collaboration, and the prevailing organizational culture. On the other side, the dependent variable is project completion which is measured by the extent to which the project meets its timelines, cost and quality constraints. the extent of project completion could also be examined through efficiency of the project execution process and suitability of the project to its intended objectives or purpose.

Chapter 3.0 Methodology

3.1 Research design

The research adopts a mixed-methods approach that uses both quantitative and qualitative research methods to collect and analyses both qualitative and quantitative data. The quantitative aspect uses numerical data to establish the trends and relationships between the dependent and independent variables, contributing to the generalizability of the results of the study. On the other hand, a qualitative approach allows a detailed explanation of the trends established, enabling the research to develop deeper insights into the phenomena under study. Creswell & Plano Clark, 2011). The greatest advantage of a mix-method approach lies in its incorporation of the strengths of both qualitative methods surpassing the benefits of using one approach enabling a more robust and comprehensive study of the research topic (Creswell, 2013).

3.2 Target population

The target population for the research includes workers in the construction industry who have first-hand experiences with project planning and its impact on project outcomes. The study will involve workers and managers of the Royal Commission for Jubail and Yanbu, one of the major construction companies in Jubail, Saudi Arabia. The quantitative survey will involve employees involved in project planning and management, and the in-depth interviews will involve senior managers in the construction company.

3.3 Sampling and sample size

Respondents in the qualitative aspect of the research will be selected through purposive sampling. Random sampling ensures a representative sample whereby each member of the target population has a fair chance of being selected, eliminating selection bias, which contributes to the generalizability of research findings (Noor, Tajik & Golzar, 2022). Respondents in the in-depth interviews will be recruited using purposive sampling which allows the flexibility to purposely select information-rich respondents with the required knowledge, experience and expertise to provide insights into the research (Creswell, 2013).

3.4 Data Collection methods

The quantitative aspect will be undertaken using an online survey on staff involved in project management. The survey will be undertaken using a questionnaire owing to its convenience, ability

to reach larger sample sizes and consistency in responses to allow for quantitative analysis of results needed (Creswell & Plano Clark, 2011).

The qualitative aspect will be undertaken using in-depth one-on-one interviews with project managers and key staff involved in project planning who will offer detailed explanations and insights into the project planning process and its impact on project completion. The in-depth interviews will be undertaken using semi-structured interview guides that offer flexibility to enable the respondents to give detailed responses and elaborate their answers (Newcomer, Hatry & Wholey, 2015).

3.5 Data Analysis Methods

Quantitative data from the surveys will be analyzed statistically using statistical tools like SPSS (Statistical Package for the Social Sciences, SPSS v.25). This will involve analysis of statistical tests such as descriptive statistics to analyses the demographical characteristics of the respondents. Hypothesis testing will be undertaken using a correlation analysis as indicated in Rahman & Muktadir (2021).

The results will be presented in tables, charts, graphs, etc. The responses from the in-depth interviews will be analysed using a thematic analysis, which involves identifying key points and perspectives from the responses obtained and analyzing them to inform the findings of the study as intimated by Dawadi (2020).

3.6 Ethical considerations

The research will be undertaken in strict conformity to the ethical considerations guiding interviews and online surveys. This entails seeking permission from the construction company to allow its employees to participate in the study, obtaining informed consent from the selected participants before collecting responses from them and employing mechanisms to maintain the privacy and confidentiality of the participants in the study as outlined in Creswell (2013).

3.7 Limitations of the study

Given that the study adopted a mixed-method approach, it means that the design minimizes the limitations of a single quantitative or qualitative approach. However, this research design is resource intensive, taking a great deal of time and personnel to execute.

Chapter 4.0 Implications and contributions to knowledge

4.1 Practical Implications

The research will offer insights that can directly inform and improve the planning processes within construction projects in Saudi Arabia. By identifying key factors contributing to successful planning practices, stakeholders can adopt evidence-based strategies to enhance project efficiency, mitigate risks, and optimize resource allocation. In addition, the findings can inform policy development within the construction industry, guiding regulatory frameworks and standards to promote effective planning practices.

4.2 Theoretical Implications

The study contributes to the advancement of project management theory and practice. By elucidating the impact of planning on construction project success, this research strengthens the Contingency Theory providing empirical evidence of the causal relationships between planning practices and project outcomes. Furthermore, the research creates a basis for further inquiry into the dynamics of planning within construction projects, opening avenues for future research on topics such as cross-cultural variations in planning practices.

المستخلص

الهدف الأساسي من هذه الدراسة هو دراسة تأثير التخطيط على مشاريع البناء في المملكة العربية السعودية، مع التركيز على تحديد بعض العوامل والعوامل الرئيسية لممارسات تخطيط المشاريع الناجحة لإنجاز المشروع في الوقت المناسب.

الغرض من هذه الدراسة هو تسليط الضوء على أهمية التخطيط القوي للمشروع لتحقيق نتائج مواتية للمشروع، وتوضيح الآليات التي من خلالها يمكن للتخطيط الفعال أن يسهل نجاح المشروع. ومن خلال تسليط الضوء على استراتيجيات التخطيط وأفضل الممارسات وعوامل النجاح الحاسمة، ستوفر الدراسة رؤى حول العناصر الحاسمة للتخطيط الفعال للمشروع، وبالتالي مساعدة أصحاب المصلحة في إدارة المشروع على تحديد الطرق التي يمكنهم من خلالها المساهمة في تحسين نتائج المشروع وتقليل المخاطر وتحسين رضا أصحاب المصلحة.

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أثر التخطيط على إنجاز المشاريع الانشائية في المملكة العربية السعودية (مدينة
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