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A research proposal

**An Evaluation of Practices in the Saudi Construction Sector
". within the Framework of Vision (2030)**

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: Introduction

The construction sector represents a cornerstone of the Kingdom of Saudi Arabia's economic and infrastructural development. With its significant contribution to GDP, employment generation, and urban expansion, the sector occupies a central position within the national development agenda. In 2016, the launch of Saudi Vision 2030 marked a pivotal turning point, introducing a comprehensive strategic framework aimed at transforming the Kingdom into a diversified, knowledge-based economy. Within this framework, the construction industry is not only expected to deliver critical infrastructure and urban development but also to embody principles of sustainability, efficiency, innovation, and global competitiveness.

Vision 2030 outlines ambitious initiatives such as NEOM, Qiddiya, the Red Sea Project, and Riyadh Metro, which collectively signal a substantial shift in the Kingdom's development trajectory. These mega-projects serve as both symbols and engines of national transformation, demanding advanced construction capabilities, high performance standards, and alignment with international best practices. As a result, the sector is undergoing a structural evolution that necessitates a re-examination of existing practices, operational frameworks, and strategic approaches. The government's emphasis on private sector

participation, environmental stewardship, digital integration, and human capital development further underscores the need for industry-wide adaptation and reform

Despite these developments, the Saudi construction sector continues to face persistent challenges, including project delays, cost overruns, inefficient resource utilization, regulatory bottlenecks, and limited integration of digital technologies. While high-profile projects and large-scale contractors may demonstrate progress in adopting modern practices, smaller and medium-sized enterprises (SMEs) often lack the capacity, resources, or technical knowledge to keep pace with evolving expectations. This disparity highlights the importance of a comprehensive, evidence-based evaluation of the sector's readiness and responsiveness to Vision 2030 imperatives

This research proposal seeks to critically assess current practices within the Saudi construction sector, with specific reference to their alignment with the strategic goals of

Vision 2030. The study will investigate key domains such as project management methodologies, regulatory compliance, technological adoption (e.g., Building Information Modeling), sustainability integration, and workforce development strategies. Through a combination of qualitative and quantitative methodologies, the research aims to identify performance gaps, highlight success factors, and generate actionable insights that can inform policy interventions and industry reforms

The significance of this study lies in its potential to contribute to both academic scholarship and practical implementation. By providing a holistic evaluation of construction practices in the context of national transformation, the research will support stakeholders—including policymakers, industry leaders, and academic institutions—in enhancing the sector's capacity to meet future demands. Furthermore, the findings will offer a framework for benchmarking best practices, promoting institutional learning, and guiding strategic decision-making across various levels of the construction ecosystem

In essence, this research aspires to bridge the gap between Vision 2030's strategic ambitions and the operational realities of the construction sector. By doing so, it aims to support the creation of a resilient, innovative, and globally competitive construction industry that is fully equipped to contribute to the long-term sustainable development of the Kingdom

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: Problem statement

The Saudi construction sector plays a central role in achieving the goals of Vision 2030, which emphasizes modernization, sustainability, and improved project delivery. While major development projects such as NEOM and the Red Sea Project reflect this national ambition, many construction firms in the Kingdom—especially local and mid-sized companies—still rely on outdated practices that limit efficiency and performance

Challenges such as project delays, cost overruns, poor quality control, and limited use of modern technologies remain common across the sector. Although the government has introduced new regulations and strategic guidelines, there is limited evidence on how widely and effectively these changes have been adopted in day-to-day construction operations

This lack of evaluation creates a gap in understanding the sector's actual progress toward Vision 2030 goals. Without this knowledge, it is difficult for stakeholders to assess readiness, identify weaknesses, or plan targeted improvements

This research aims to fill that gap by evaluating current practices in the Saudi construction industry in relation to Vision 2030 objectives. It will help determine to what extent these practices align with national priorities and provide recommendations to support more effective implementation moving forward

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: Significance of this study

- - :The significance of this research is highlighted in several key points
 - The increasing need to implement effective risk management methodologies in large--1
scale projects
 - The pivotal role of the construction sector in achieving the objectives of Saudi Vision-2
2030
 - The lack of updated studies addressing the current state of risk management within the-3
modern Saudi context

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: Research objectives

- - To identify the most prominent risks in construction projects in Saudi Arabia.1
 - To analyze the current practices used for risk management.2
 - To evaluate the extent to which these practices align with the objectives of Saudi Vision-3
2030
 - To propose a framework for improving risk management in construction companies ..4

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: Research questions

- ?What are the most prominent types of risks faced by Saudi construction companies-1
- ? To what extent do companies utilize standard practices in risk management-2
- ?What are the challenges that hinder the effective implementation of risk management-3
- How can the effectiveness of risk management be improved in alignment with-4
?Vision2030

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: Research hypothesis

- There is a disparity in the implementation of risk management between local and-1
international construction companies in Saudi Arabia
- .Weak institutional practices contribute to the limited effectiveness of risk management-2
- Increased awareness of senior management regarding the importance of risk management-3

.positively affects project performance

: Literature review

1. INSTITUTIONAL LOGICS AND RISK MANAGEMENT PRACTICES IN GOVERNMENT ENTITIES: EVIDENCE FROM SAUDI ARABIA

Studies have also identified the challenges of adoption and implementation of “generic” RISK MANAGEMENT frameworks by public sector entities (e.g., Hood and Rothstein 2001; Hood and Miller, 2009; Hood and Smith, 2013)

Key role of the different actors involved (e.g., Rocher, 2011; Andreeva et al., 2014) •

RISK MANAGEMENT as a source of uncertainty (e.g., Vinnari and Skærbæk, 2014) •

We explore the adoption and implementation of RISK MANAGEMENT practices in an emerging economy of the Middle East We link the macro and micro level of analysis. We develop a framework to examine the interplay between the institutional logics that currently co-exist in the social field of public sector entities in KSA and one specific management practice: RISK MANAGEMENT

Our findings suggest that the institutional conflict at macro level between an “old” traditional logic prevalent in public sector entities in the KSA and the “new” modernization logic based on the strategic framework launched by the government of KSA translated into a tension between the quest for “status-quo” and a model for RISK MANAGEMENT inspired by consultants and private/western practices (see also Abdullah-Bakr

for an example of “indirect no Risk Management isomorphism” in the adoption of (2020) (IFRS in KSA

In ENTITY Y, we find that the implementation of a RISK MANAGEMENT project led to a “hybrid practice” where “traditional” and “modernization” logics co-exist. While the RISK MANAGEMENT project itself was inspired and rooted in the modernization logic, in the process of implementation actors followed routines and practices grounded on (and associated with) a traditional logic

2. Investigating critical failure drivers of construction project at planning stage in Saudi Arabia

Other studies have investigated the defects and failures in construction projects resulting in the identifying of different factors and causes. Nevertheless, these factors were not related to a particular phase and were considered to be inclusive of all construction project phases, without even analyzing the varying effect and frequency by stages (Megha and Rajiv, 2013)

Project failures have received comparatively less attention although numerous studies have mainly identified certain elements related to project success, especially from the perspective of the Saudi Arabian construction sector. This study aims to close this gap by providing a methodology for identifying and categorizing the reasons for project failures in Saudi Arabia from the viewpoints of customers, consultants and contractors

This article focuses on research directions in the field of construction management to investigate the attributes, failure drivers, stockholders’ interests, correction actions for each project life-cycle stage

This enables researchers to understand the uncertainty and clarify ambiguity in project failure and success to increase sustainability. The Saudi authorities should examine all the factors that lead towards either the failure or failure of construction projects. Hence, the Saudi government should for Risk Management late a plan for the development of the construction industry in Saudi Arabia. The contractors should understand their responsibilities and show full commitment to completing the projects on time. The failure in construction projects means that the additional resources of the state are being utilized. It hurts the economy and financial system of the country

The contractors and clients should collaborate on regular basis. It will help the contractor in understanding the requirements of the client. The focus of the contractor should be to vail the services of skilled labor in the construction project. The team which would be a part of the project should be selected after examining all the requirements of the project. Qualified engineers should be included in the project. The availability of the resources and financial budget should examine. The progress of the project should be assessed after every stage. It will help the authorities in identifying the weaknesses present in the process. The resource management plan should be developed by the project manager so that the productivity of the employees can be enhanced. The factors that are causing disruptions in the projects need to be identified. workload should be equally distributed among the laborers

Impact assessment of critical success factors (CSFs) in public construction projects-3 of Saudi Arabia

Purpose – There is a limited number of research work on critical success factors (CSFs) in public construction projects in Saudi Arabia. In response to this knowledge gap, the objective of this paper is to assess the impact of CSFs on the government construction projects in Saudi Arabia. The success factors are investigated from a broader consideration of failure criteria, from consideration of most effectiveness in successful project completion and also from consideration of the impact of implementing control processes for successful project completion.

Design/methodology/approach – This study has analyzed the impact of success factors on construction projects in Saudi Arabia using a descriptive methodology. An exhaustive literature survey is undertaken to identify the success and failure factors related to government construction projects in Saudi Arabia. The survey data are sorted out and analyzed by cost, schedule, technical, context and finance dimensions of the projects based on project types, engineering complexity, size, modality, jurisdictional control and funding approach. To evaluate the influence of success factors implementation, qualitative data were collected in a survey via a web-based questionnaire that was sent to officials working and occupying a responsible position in national project guidelines organizations and in government construction organizations in Saudi Arabia. In all, 28 CSFs were identified, ranked and evaluated for their impact on project success. The four identified factors belong to process categories of construction projects, nine factors belong to management of construction projects and 15 success factors are identified for impact assessment of implementation in construction projects.

Findings – The study's findings have identified and ranked the top five CSFs that significantly influence project outcomes, including meeting time targets, adhering to financial budgets, delivering desired outcomes for all stakeholders, effectively managing risks and assembling the appropriate team while optimizing resource allocation.

Additionally, the research indicates that hindrances to projects primarily stem from execution, economic, human and political factors. The study advocates for strict controls over incomplete engineering designs and advises against contractors independently handling design work to ensure project success.

Additionally, addressing contractors' qualifications and financial matters is crucial for project success. By highlighting these CSFs and challenges, the research provides actionable insights to enhance project management practices in the construction industry.

Research limitations/implications – This study is limited to the infrastructure projects constructed by governmental bodies with the participation of officials from government organizations. Further study, including private projects and officials working on private projects, may be needed to generalize the research outcome.

Originality/value – Numerous studies have investigated CSFs in construction projects, but few have examined their relevance to Saudi Arabian government projects. This study aims to fill this gap by identifying key CSFs specific to Saudi Arabian public sector construction projects and assessing their impact on project success. It advocates for stringent controls in the Saudi Arabian construction sector, emphasizing the importance of preventing incomplete or altered engineering designs by contractors to increase the success rate of public sector projects. This research offers practical insights to stakeholders, advancing project management practices in Saudi Arabia's construction sector for improved outcomes and resource utilization.

Keywords Critical failure factor, Critical success factor, MCDMs methods, Public construction projects

Infrastructure projects, Impact assessment

Building Information Modeling Impact on Cost Overrun Risk Factors and-4 Interrelationships

The main purpose of outer model evaluation is to recognize and remove insignificant risk factors. Upon conducting an outer evaluation of seven models, it was observed that the results of the outer evaluation were consistent across all seven models. Therefore, findings from the outer evaluation of the first model are deemed sufficient.

Construction projects suffer from change orders, scheduling conflicts, and cost overruns that result in additional project costs. These issues are attributed to several risk factors for which experts and academics have identified BIM technologies as innovative solutions [44]. Therefore, this study aimed to investigate the extent to which implementation of BIM technology mitigates the main risk factors related to cost overruns in Saudi construction projects. To do so, a survey study was conducted, collecting 30 valid and completed questionnaires from professionals in the construction industry. Collected qualitative data was analyzed using PLS-SEM to identify and examine significant risk factors.

and their interdependencies. It is important to note that this research focused only on examining the impact of BIM on the top 10 risk factors related to Experience, Finances, and Time, as comprehensively identified within the context of the Saudi construction industry e.g., (Alshihri et al. [14]). Overall, the synthesis of the literature review and survey analysis findings showed that BIM significantly reduces cost overruns in construction projects compared to conventional construction processes. This positive influence is due to various benefits of BIM technology that help mitigate influential risk factors and consequent project cost overruns. This result aligns with existing studies, e.g., [25,45]. The main results revealed that BIM utilization substantially reduces the impact of risk factors associated with awarding contracts to the lowest bidder. This effect is evident in the decrease in its ranking from first to third place

Risk Factors That Lead to Time and Cost Overruns of Building-5 Projects in Saudi Arabia

Studies have identified various critical success factors for construction projects. These included time, cost, quality, safety, client's satisfaction, employees' satisfaction, cash-flow management, profitability, environment performance, learning and development, etc. [40]. However, the majority of the past research have extensively focused on the three major factors for success in construction industry, which included cost, time, and quality [41]. It has been elicited that over 70% of public construction projects in Saudi Arabia have experience delays [42]. Various risk factors and challenges explaining the time and cost overruns for these projects have been uncovered. Baghdadi and Kishk [43] identified risk factors in the context of external, internal, and force majeure in aviation 54 construction projects, which were causing duration delays as well as cost overruns. Furthermore, the causes of the cost and time overruns factors differ between various projects/buildings. For instance, when comparing the delay factors between road infrastructure and building projects, a recent study [49] found that the major critical delay factors for road infrastructure projects included inadequate contractor experience and payment delays to the contractor, while the shortage of materials and financial difficulties of contractor were most salient for building projects. For tall building projects, the major causes of delay and cost overruns identified in [50] included "client's cash flow problems/delays in contractor's payment", "contractor's financial difficulties", and "poor site organization and coordination between various parties". Another study focusing on regular manufacturing and building construction [17] identified delays in progress payments, difficulties in financing the project by contractor/manufacturer, slowness in decision making, late procurement of materials, and delay in approving design documents as the major causes of cost and time overruns. The findings have revealed issues in the client/contractor relationship and tender allocation process, which may help industry experts and government agencies in future plans to mitigate the risks identified in this study. With uncertainty continuing due to the COVID-19 pandemic and the opening of the markets, future studies could focus on investigating the force majeure risks and the impact these have on the relationships between the stakeholders and supply chain systems in the Saudi Arabian construction industry. To achieve sustainable development, client-, contractor-, and labour-related risks must be effectively managed.

BIM Impact on Construction Project Time Using System-6 Dynamics in Saudi Arabia's Construction

On the other hand, the interdependencies of the factors that impact the BIM capabilities were examined using a Partial Least Square Structural Equation Model (PLS-SEM) [16] and System Dynamics (SD) [17]. At the same time, Tu et al. [18] evaluated the status of BIM performance in the building phase by studying the interactions among the factors that impact the BIM system using SD. Moreover, most BIM studies have focused on the challenges that hinder BIM performance in such sectors. Moreover, some researchers found that these challenges included delay risk factors that hindered the BIM construction projects, such as ineffective planning and scheduling [19]. This finding, in turn, led to the question: What is the association between the BIM implementation and the construction project delay factors? According to BIM studies, e.g., [10,20–22], it is generally known that

BIM implementation contributes to a reduction in construction project delays. Some studies revealed that the delay reduction rate percentages reached savings of 5% to 10% [23]. Nur Sholeh et al. [24] stated that BIM led to a reduction in planning time of 50%, and in some studies, it reached up to 50%. Accordingly, this study intends to raise users' awareness of using BIM by calculating the effect of BIM on Saudi building project delays. Additionally, with limited for Risk Management studies investigating BIM impact using advanced techniques like SD, this study seeks to convince industry practitioners to use BIM globally by highlighting its advantages.

The key findings demonstrated a relationship between the usage of BIM and the decline in construction building project delays. This result aligns with other studies worldwide, such as in Indonesia's construction industry and the industries of India, the UK, and others. This research showed that the average reduction in project delays caused by BIM use compared to projects without BIM was 14.47%. This result is consistent with previous studies on reducing project delays by 5 to 10% [23] and 50% [24]. The findings also showed that the delay factor with the maximum BIM influence was poor site management and supervision by contractors (F7), as shown in Table 5. The work of subcontractors or suppliers (F9) and ineffective scheduling and planning by the contractor (F5) are the second and third largest project delay factors affected by BIM, respectively. As shown in Table 5, BIM can reduce these factors by 16.83% and 16.36%, respectively. However, the minimum reduction rate of the BIM impact of 11.67% was due to the lack of contractor experience and managerial skills.

Construction Cost-Influencing Factors: Insights from a Survey of-7 Engineers in Saudi Arabia

The study employs statistical analysis, including Pearson's chi-squared test, to demonstrate associations between demographics, project characteristics, and cost-influencing factors. The findings suggest the need for refined project management practices, enhanced technical training, and the implementation of digital technologies such as Construction 4.0 to mitigate cost-related risks. This research provides significant insights for construction professionals and policymakers seeking to enhance cost management within the Saudi construction sector, thereby contributing to the ongoing development initiatives aligned with Saudi Arabia's Vision 2030.

The findings in this study reveal that inadequate management of projects, contracts and communication is the most significant factor contributing to cost overruns. Additional significant factors included inadequate cost estimation, poor planning and scheduling design errors, and a lack of technical knowledge among professionals. In contrast, factors such as currency exchange rate fluctuations and social and cultural influences were regarded as having a limited impact, probably owing to the distinct economic stability and cultural context of Saudi Arabia.

The findings highlight the importance of enhancing project management practices, implementing advanced cost estimation techniques, and using cutting-edge tools for planning and scheduling. Moreover, the results indicate that encouraging a culture of knowledge sharing and mentorship within the construction industry could significantly enhance cost efficiency. The extensive experience of senior engineers can significantly contribute to minimizing errors and improving project outcomes.

This study has resulted in several findings that require further study to provide a comprehensive overview of construction cost-influencing factors in Saudi Arabia. These future studies may include understanding the limited impact on construction costs of both currency exchange rate fluctuations and social and cultural influences. Due to the regional variations within Saudi Arabia, it would be beneficial to examine the differences across regions or project types in the Risk Managements of construction costs. This comparison could also be made with other countries that have similar economic and cultural contexts.

Moreover, there is a need to investigate how digital technology adoption may affect the cost of construction in Saudi Arabia and which of these technologies have the highest

potential for cost reduction. In addition, longitudinal studies to track the evolution of cost factors over time with the adoption of these technologies would provide valuable insights. Sustainable development is a necessity these days; therefore, research on the role of sustainability-related factors and their influence on construction costs is another interesting topic for future studies

Multivariate Analysis of Factors Influencing Construction Costs-8 in Saudi Arabia

This study employs a dual-method approach combining Principal Component Analysis (PCA) and Analysis of Variance (ANOVA) to comprehensively analyze the factors influencing construction cost during the construction phase in Saudi Arabia. Utilizing survey data collected from 1076 engineers working in the construction industry of Saudi Arabia, PCA identified three key components: project management and technical deficiencies, (2) external and regulatory influences (1) and (3) financial and economic risks. Meanwhile, the ANOVA examined differences in the perception of those factors across several demographics and project-specific characteristics. Findings highlight critical areas where focused intervention could improve cost management practices. Combining these results, this study presents an integrated framework for construction industry stakeholders with helpful recommendations. This integrated analysis provides a robust framework for construction professionals and policymakers to prioritize cost management strategies, in accordance with Saudi Arabia's Vision 2030 goals to encourage a resilient and efficient construction industry. This study presents an integrated framework that offers helpful recommendations for stakeholders of the construction industry in Saudi Arabia. This was done by utilizing a multivariate analysis of factors influencing construction costs in Saudi Arabia, including PCA and ANOVA. The PCA findings identified three key components: project management and technical deficiencies, external and regulatory influence, and financial and economic risks. ANOVA revealed significant differences in the perception of these factors according to demographics and project-specific characteristics, providing a detailed understanding of the influence of stakeholder diversity and project context on cost drivers. For example, experienced professionals viewed financial risks as more critical, civil engineers were more affected by regulatory complexities, and infrastructure projects faced higher financial and safety issues than other types of projects. This contributes to the literature by offering a structured clustering of cost factors rather than analyzing them individually. Thus, providing a data-driven and stakeholder-centered framework design for the Saudi Arabian construction industry. These findings will enhance previous research as well as provide construction stakeholders, such as project managers, contractors, developers/owners and policymakers with a practical tool to prioritize initiatives, optimize resource allocation, and establish effective cost control measures. Ultimately, this study promotes a transition toward more analytical, evidence-based cost management practices to enhance efficiency within the rapidly growing construction industry of Saudi Arabia.

Risk Management Impact for Roadworks in the Kingdom of Saudi Arabia -9

This research aimed to identify the most critical risk factors confronting the execution activities of roadway construction projects (RCPs) in Saudi Arabia. A survey instrument containing 39 critical risk factors affecting RCP activities employed and delivered to the participants. The data was analyzed using SPSS software. The probability affected the RCPs' objectives (time, cost, and quality), and the risk severity were determined. Time and cost percentages of each activity weighed. The anticipated rates of time and cost overruns discovered. Results showed that the cut and fill of earthwork had the greatest representation, with 34% for time and 32% for cost. Contrariwise, the road safety and roadway furniture had the least percentage representation among all activities. Results indicated that an overall time overrun of 33% was done in (15-20) % of all executed projects. While the participants indicated that (5-15) % of the projects had an overall cost overrun of 31%

This paper aimed at identifying the most critical risk factors confronting the primary execution activities connected with global roadway construction projects (RCPs) in the Kingdom of Saudi Arabia, as well as their impact on the time, cost, and quality of each activity and the project. The results summarized in the following points:

As for preliminary preparation before starting the project, the results indicated that the -1 existence of problematic soil along the roadway is the key risk factor index for time, cost, and quality. In addition, the existence of horizontal or vertical obstacles in the roadway route and inaccurate soil investigations have a great effect.

As for earthworks (cut/fill) to achieve the design levels of the roadway, the results -2 indicated that the inexperience of the engineer's staff and other personnel was the key risk factor for time. While non compliance with codes, an inexperienced QA/QC team, and the inexperience of the engineer's staff and other personnel were the key risk factors for cost and quality.

As for the construction of sub-base and base layers, the results indicated that delay in -3 each of the delivery of crushed stone and placing the next road layer, which causes erosion of the existing layer and the use of sufficient compaction equipment capacity to achieve the required compaction were the key risk factors for time, cost, and quality.

As for the execution of bituminous layers, the results indicated that poor batch plant -4 control and a shortage of skilled workers and technicians were the main risk factors for time and cost. While the use of poor-quality raw materials and the shortage of skilled workers and technicians is the key risks to quality.

The agreement between the risk factor indices (RFIT, RFIC, and RFIQ) evaluated, and -5 the relationship between the three indices shown to be significant. The strongest correlation found between (RFIT and RFIC).

Examining the impact of risk -10 management practices on sustainable project performance in the construction industry: the role of stakeholder engagement

This study investigates the impact of risk management practices on sustainable project performance, specifically focusing on the mediating role of stakeholder engagement in the construction industry within emerging economies. It examines how risk identification, assessment, and mitigation contribute to sustainability's environmental, economic, and social dimensions. Utilizing data collected from construction project managers involved in sustainability-driven projects, the findings confirm that all three risk management practices significantly enhance sustainable project performance. Furthermore, stakeholder engagement through communication, collaboration, and decision-making involvement plays a crucial mediating role strengthening the effectiveness of risk management strategies in achieving sustainability goals.

This study analyses the correlations among risk management methods, stakeholder involvement, and sustainable project performance in emerging economies. The investigation utilized Structural Equation Modelling (SEM) to evaluate the direct and indirect correlations among the variables, while Confirmatory Factor investigation (CFA) was employed to validate the measurement model. The research examined the impact of risk management methods on sustainable project performance by mediating stakeholder engagement. Mediation analysis employing bootstrapping was utilized to examine the indirect impacts, offering

an in-depth investigation of the mechanisms connecting risk management methods to sustainability outcomes (Hair et al., 2019)

This research provides strong evidence for the positive impact of risk management practices on sustainable project performance with stakeholder engagement playing a key mediating role. The study's findings contribute to the growing body of knowledge on sustainability in project management by emphasizing the importance of risk identification, assessment, and mitigation in achieving environmental, economic, and social sustainability goals

The key takeaway from this study is that stakeholder participation is essential for maximizing the effectiveness of risk management practices, ensuring that sustainability objectives are met throughout the project lifecycle. By involving stakeholders in communication, collaboration, and decision-making, projects are more likely to achieve sustainable outcomes, especially in resource-constrained emerging economies

Risks and Challenges Associated with NEOM Project in -11 Saudi Arabia: A Marketing Perspective

the study of which is essential to effectively design , and implement marketing and promotional strategies. Considering the large scale and scope of the project, the purpose of this study is to identify and evaluate the major contexts and associated risks in accordance with the planned city's objectives. An online questionnaire-based survey was used to collecting data related to the severity of the risks identified and classified in a literature review. A purposive sampling approach was adopted to select experts from various governmental institutions to participate in the study. A final sample of 417 expert participants was achieved from various ministries and departments in Saudi Arabia. Eleven risk factors and challenges were identified, including design challenges, as well as legal, contractual, operational, force majeure, human resources, financial, technological, political, environmental, and sociocultural risks. Risks related to human resources (mean impact = 4) and technology factors (mean impact = 4), as well as contractual risks (mean impact = 3.9), were identified to be very high, whereas environmental (mean impact = 2.7), legal (mean impact = 2.5), and force majeure (mean impact = 2.2) risks were identified to be of low severity. Managing mega projects requires effective planning and implementation along with risk identification and mitigation mechanisms. In addition, it is essential to manage various influencing factors (especially government decisions) in the process of implementation to achieve success

This study identified and evaluated various types of risks and challenges associated with NEOM. However, there are few limitations observed in this study. First, this study adopted a survey instrument for data collection. Using additional methods, such as case study comparison and qualitative interviews can lead to collection of quality data, which can enable improved analysis and classification of risks. In addition, the sample consisted of experts from Saudi Arabian government departments. Including additional international experts could have helped to analyze risks from various perspectives. With a lack of existing literature in the context of risks associated with mega projects, the findings and limitations of this study can contribute to future research. The findings in this study can have practical implications and decision makers in with analysis or risks, development of risk-mitigation plans to ensure smooth implementation of mega projects such as NEOM, and in designing marketing and promotional strategies, as well as business ethics codes for NEOM. In addition, this study has theoretical implications, as the findings from this study can be used for future research in project management and marketing studies related to NEOM

A STUDY ON THE IMPACT OF THE RELATIONSHIP -12 BETWEEN RISK MANAGEMENT AND THE DEVELOPMENT OF CONSTRUCTION PROJECTS IN THE KINGDOM OF SAUDI ARABIA

The main objective of this research is to study the effect of the relationship between risk management and the development of construction projects in the Kingdom of Saudi Arabia

The questionnaire that was directed to the participants was developed according to the research design, methodology and data. This survey includes two main sections. The first section inquired about the organization's risk management procedure. In the second section, the survey tries to determine whether the project they went through met the success criteria, according to criteria factors that were identified for the success of the construction project included in 7 the questionnaire. The number of distributed questionnaires reached 230, and 200 respondents were retrieved, at 87.4%. The results of the present study indicate that there is an effect between both risk identification and risk assessment on the development and success of the project, the time limit, the planned budget, and the ability to comply with the technical specifications. While there is no influence between assessing risk and avoiding lawsuits or claims. The study also indicated an impact of responding to risks on the success of the project, meeting the scope of work, the time specified, and achieving quality standards

Key words: project; Effect; Risk Management; Building projects; Success and development; Personnel perspective

The literature review revealed a lack of studies related to the construction environment for construction projects in the Gulf region specifically during the construction phase, and helped create a research gap that for Risk Management the goal and objectives of this research. She also assisted in the first phase of this investigation, which consisted in identifying the risk factors related to construction projects and classifying them into six categories based on interviews with professional practitioners. Moreover, the literature review aided in the design of the mathematically and statistically evaluated questionnaire to measure the research objectives and conclude the research objective

risk management in construction industry in Saudi Arabia-13

Risk management can be generally described as a systematic means of observing areas of risk and identifying how these risks should be treated. It is a management tool which aims at determining the causes of risk and uncertainty, evaluating their impact, and creating appropriate risk management responses. An effective risk management method can not only help to understand the types of risks to be faced, but also in managing these risks that might occur in different phases of a project. Due to its growing significance, today, risk management has been accepted as an essential requirement in most industries and for which a set of techniques have been created to manage the impacts that might be brought by the potential risks (Patrick XW Zou et al)

Majority of the contractors regardless of grades are considering risk management in their business operation and have been conducting risk management for more than 5 years

Different personnel are responsible for risk management in the organization among contractors regardless of grades in Saudi Arabia varying from project manager, cost estimator, planner etc with majority of personnel in grade 1 and grade 3 contractors involved in risk management for more than 5 years while the personnel for grade 2 are

varying in regard to their experience in the area of risk. Very few grade 1 and grade 2 contractors have a separate risk management department established in their organization for dealing with project risk with very few personnel employed while none of the grade 3 contractors have considered this department. Majority of contractors regardless of their grades are carrying out risk management on all projects irrespective of the cost, time and size throughout the life cycle of the project due to long term Risk Management cost savings and they are quick and more competent in

handling risk
with grade 3 contractors also considering risk management due to complexities of the
projects

Identification and Ranking the Most Significant Risks of the Mega-14 Construction Projects in Saudi Arabia

Megaprojects are a large-scale project with an expensive cost and long time schedule, this
unique kind of projects are
usually given their infamous reputation as it is often result in undesired outcomes same as
enormous cost overruns and
time extensions. In a lot of cases of undesired outcomes, we can predict that it is due to not
managing megaprojects
characteristics as skillfully as required and wrong combination of that characteristics which
lead to a disaster. Improper
managing the different managerial aspects of mega projects is reflecting a failure in the
achievement of the project
requirements especially in case of risk managements where we can say that, Mega projects
is resulting a Mega risk. Risk
management is currently considered to be a mandatory part of project management in
general and an integral part of
successful project management while the main aspect which is projects management is
different from megaprojects than
in other types of projects (small- and medium-scale projects) as in case of megaproject the
management is more complex and complicated due to the size and complexity of that kind
of projects. In this research the author studied the Risk Management in the Mega
construction projects in the kingdom of Saudi Arabia (KSA) and the main objective of this
research was to apply the best ways of managing the risk in case of mega construction
projects starting from identifying the most significant risks which impact this kind of
project in KSA and then analyze the identified risk qualitatively to determine its impact in
the project objective and to find out the most significant 15 risks after the ranking of the
identified risk depending on the risk importance index of every risk the research resulted in
identifying 57 risks and categorize those risks in 2 main groups and 8 subgroups one of
them is related the mega construction projects characteristics and then the most important
risks has been determined

Key words: Mega Project, Risk Management, KSA, Risk Identification, Risk Analysis,
Risk Ranking, Qualitative
analysis, Construction Industries

In this research the author aim to put an add
value to the mega project risks literature, and bring as
much as possible of the risks which may impact
negatively the mega projects in Saudi Arabia and
prioritizing those identified risks according to its effect
throughout the calculation of risk Importance Index RII
depending on the mentioned equations # 2, 3, & 4 [27]
the field survey was the supportive methodology to
collect the data and the analyses it as following
Risks were defined through the participation of
experts in project management in different disciplines
where data collection techniques were used, and
literature reviews were conducted to identify the most
effective risks, and interviews were conducted with 30
experts in managing mega projects, and accordingly the
risks under study were identified

Driving Sustainable Disaster Risk Reduction: A Rapid Review of the Policies and -15 Strategies in Saudi Arabia

This article presents a comprehensive rapid review of the current disaster risk reduction
efforts in Saudi Arabia, a country exposed to a variety of hazards such as extreme (DRR)
heat, droughts, floods, dust, and sandstorms, along with threats from terrorism and
violence. Employing a rapid review approach, our aim was to provide timely insights into
DRR strategies, with an emphasis on the unique geographical and socio-political context of
Saudi Arabia. This study serves as a valuable reference for similar hazard-prone regions
worldwide. Our review encompasses Saudi Arabia's progress in key areas, such as
improving building codes and infrastructure, developing early warning systems, raising
public awareness, and strengthening emergency response capabilities. While Saudi Arabia
has made commendable strides in implementing international best practices for DRR, our
review also identified specific areas where further development and enhancement are

needed
These include the need for more sophisticated early warning systems, expanded public awareness campaigns, and continual enhancements in emergency response capabilities. This review offers key insights into the challenges and opportunities within Saudi Arabia's DRR efforts, highlighting the steps that Saudi Arabia has taken towards resilience. Drawing from specific examples of past disasters, our findings shed light on practical considerations for improving disaster risk management, with the potential to inform Management policy, enhance public awareness, and contribute to building a safer and more resilient future in Saudi Arabia

Keywords: disaster risk reduction; building infrastructure; early warning systems; public awareness; emergency response capabilities; community-based disaster preparedness
In conclusion, this review highlights Saudi Arabia's commendable progress in aligning its DRR strategies with international best practices. The key areas of success include the enforcement of stringent building codes, the development of advanced early warning systems, and the cultivation of broad public awareness and community-based preparedness. The country's strides in these areas underscore a significant commitment to fostering resilience in the face of diverse hazards

However, the journey towards enhanced disaster resilience is ongoing. The future focus areas for Saudi Arabia include leveraging emerging technologies for more sophisticated warning systems, developing engaging public awareness initiatives, and continually refining its emergency response capabilities. Furthermore, there is considerable potential for greater community involvement, facilitating grassroots resilience that can substantially contribute to its national DRR goals

This review emphasizes the importance of continuous investment in resilience-building initiatives and the necessity of drawing from past experiences, current insights, and future aspirations. The process of disaster risk reduction is a journey—a journey Saudi Arabia is taking confidently and proactively. As Saudi Arabia continues this voyage, it can serve as a valuable model for other nations, demonstrating that a commitment to DRR is not just about safeguarding the present, but about investing in a safer, more resilient future

Research Delimitations (Scope of the Study)

.Time Scope: The study covers the period from 2020 to 2025

.Geographical Scope: The focus is on construction companies operating within the Kingdom of Saudi Arabia

.Subject Scope: The study is limited to risk management practices related to construction projects

Research Methodology

.Type: Descriptive and analytical

.Approach: A combination of quantitative and qualitative methods

.Data Collection Tools: Questionnaires and semi-structured interviews

.Study Sample: Project managers, risk managers, and engineers working in Saudi construction companies

.Data Analysis Methods: Statistical analysis using SPSS, and thematic analysis of interview data

Theoretical Framework

.Key concepts of risk management

.Classification of risks in construction projects

.Theories and strategies of risk management

.Project management in the context of Saudi Vision 2030

.The relationship between risk management and project success

Review of Related Literature

.A study on risk management in the UAE construction sector

- .A case study of a governmental construction project in Saudi Arabia
- .International research on the impact of risk management on project performance

Conceptual Framework

- :Includes definitions of the following key terms
- .Risk Management, Project, Success, Vision 2030, Construction Companies

Proposed Chapters of the Study

- Chapter One: General Introduction and Research Framework
- Chapter Two: Theoretical Background
- Chapter Three: Literature Review
- Chapter Four: Research Methodology
- Chapter Five: Results and Analysis
- Chapter Six: Recommendations and Conclusion

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Expected Results

- .A noticeable gap between current practices and ideal implementation of risk management
- .A need for institutional capacity-building in risk management among construction firms
- .A proposed framework tailored to the Saudi context for improving risk management

Expected Recommendations

- .Development of clear internal policies for risk management
- Training of engineering and administrative staff in risk assessment and mitigation techniques
- Integration of risk management in the planning and execution phases of construction projects

Preliminary References

- :The research will rely on
- .Academic books and references in project and risk management
- .Governmental reports and Vision 2030 project documentation
- .Published studies from databases such as Scopus and Google Scholar

Conclusion

This proposal serves as the foundation for a comprehensive study aimed at addressing a critical knowledge gap in risk management practices within a vital sector. The anticipated findings of this research are expected to contribute to improving the performance and efficiency of construction projects in Saudi Arabia and support the achievement of Vision 2030's national development goals

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