

Research Title:

The Impact of Financial Performance Analysis on Project Profitability: Evidence from Engineering and Construction Projects in Saudi Arabia

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Academic Year: 2025-2026

MBA Research Plan

Program: Master of Business Administration

University: Midocean University

Course: MGM697

Student ID: 252001195

Date: 24/Mar/2026

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Abstract

This research examines how financial performance analysis has affected the profitability of projects among Saudi engineering and construction firms. The primary purpose of the study will be to investigate the impact of financial performance tools, such as Work-in-Progress (WIP) reporting, Accounts Receivable (AR) management, Days Sales Outstanding (DSO) monitoring, and Budget Variance Analysis, on project-level profitability and to investigate the impact of organizational and cultural factors on the successful application of such tools.

The research design is descriptive and analytical cross-sectional research design because it proposes the use of primary data collected on 240 finance and project management professionals who will be directly involved in financial decision-making in the big infrastructure, industrial and building projects. The research tool was a five-point Likert scale structured questionnaire that assessed six dimensions, including WIP reporting, AR and DSO management, budget variance and cost control, financial data in decision-making, organizational and cultural factors, and project profitability.

The findings reveal that there is a strong positive correlation between successful financial performance analysis and profitability of projects. Sub-hypotheses testing indicated that routine and proper WIP reporting enhances the profit margins of projects, positive AR management enhances cash flow and profitability, high DSO tends to reduce the profitability of a project, and the budget variance analysis is a factor in keeping or raising profit margins. Moreover, organizational and cultural aspects, including the sense of accountability, financial transparency, and integration of finance and project teams are also important in amplifying the effectiveness of financial performance tools.

Out of these findings, the paper advises Saudi engineering and construction industry companies to intensify WIP reporting procedures, advance AR control, decrease level of DSO, internalize budget variance tracking, instill a culture of financial discipline, and invest in training and technology to improve financial decision making. The measures will allow companies to maximize the profitability of projects, sustain cash flows, and sustain the financial performance based on the strategic performance

Keywords: Financial Performance Analysis, Project Profitability, Work-in-Progress (WIP), Accounts Receivable (AR), Days Sales Outstanding (DSO), Budget Variance, Organizational Culture, Saudi Construction Companies

Chapter one: Introduction

Introduction

In the example of engineering and construction sector in the Kingdom of Saudi Arabia, we are witnessing an overhaul of its entirety. The country is supported by the vision 2030 and enormous investments by the government and the business world and has an apparently unending stream of industrial, infrastructure, residential, energy, transportation and tourism development projects in the pipeline. Many of them are complicated, take years to be developed, and cost more than SAR 1 billion and many stakeholders. Established engineering and building industry companies are experiencing severe financial, operational and contractual risks and can no longer afford to land a giant contract as the assurance of success. They must nail in the execution and their finances in order, until the end of the project. This has been the case traditionally in construction firms where their projects are viewed in terms of technical aspect and only the finance is thought of as an afterthought, something that the finance department will handle. However, studies and practical application indicate that financial monitoring has become a mandatory constituent of the project management process in its daily work and can no longer be separated with other components of the operation. Project based companies adopt a set of tools that they use to report important financial information including Work in Progress, accounts receivable aging schedules, Days Sales outstanding indicators and budget versus actual variance reports. These tools provide a clear and systematic perspective of the financial health of every project and signal future issues of troublesome margins and cash flow. But in very many instances are not utilized to their fullity. This is the case when I was a project accounting lead and had a very concrete view of the real-world implementation of these issues.

These hypothetical ideas acquired a very tangible aspect in the mind of mine, considering that I had a background of working on large industrial and infrastructure projects in the Eastern Province of the country, which can often be valued at over SAR 1 billion, and that large local and multinational companies, including Saudi Aramco and Chevron were among my major clients. One of the projects I recall was the WIP report, the amount of revenue that was to be billed was massive, and this was rather an issue in the negotiation. It turned out, the client did not sign the timesheets because of technical complications in the drawings and it has had to leave leaving the billing on no revenue which has led to a gross margin dropping drastically. In one of the subsequent projects the

server of the major client crashed, which slowed down the processing of invoices. I observed that Days Sales outstanding (DSO) was rising by a very significant margin and the cash flows became extremely tight and the business had to borrow a loan to meet the expenses of salaries and suppliers. A different project has also taught me that the approved budget was not a dependable measure in comparison with the actual costs and that the labor cost rate was much higher than what was used when the bid. The pressure of the deadline left the project management in a bad position, the project exhausted its money when it was already 85 percent and could not generate revenue to cover the remaining 15 percent of the work and killed the profit margin of the project. Another area that I have experienced is cultural and behavioral issues in different project teams.

Accounts Receivable and Days Sales Outstanding, upon learning the financial part of their projects the project managers who are not focusing on the Financial part of projects would think that it is all about completing the reports and lamenting about the Work-in-Progress. They do not enjoy talking about the profit margins or cost to complete versus the remaining budget. An experience that I had is when I was in a meeting and I was trying to explain that the cost curve was escalating at a pace which was not matched by the physical progress in the project, and essentially that we would be left without funds, and we would lose all the profit, the project manager became personal. As one of the arguments against his style of management, instead of an indication of a financial catastrophe to rescue the project. Familiar responses such as this may render it challenging to employ financial analysis to create a positive effect. The contractors operating in Saudi context are subjected to very narrow margins, late payments, technical variations, and continual adjustments in the scope of work, and hence the ability to utilize financial performance information is an essential necessity. The organizational culture, the level of incentive placed on the project teams, the level of communication among the financial and the operations aspect of the business and the capabilities of the individuals working in the project teams all influence the degree to which the financial reports are taken seriously and implemented. This paper will be examining the correlation between financial analysis, organizational culture, and project profitability in Saudi engineering and construction projects in an effort to generate earthy advice to managers and contribute to the literature on the topic of project accounting and working capital management.

Problem Statement.

Problem Statement

Saudi Arabia engineering and construction firms are increasingly investing in the current enterprise resource planning (ERP) solutions and comprehensive project reports with the hope of making the project profitable. Nevertheless, with such tools at hand, most companies cannot effectively use financial performance analysis to control and improve the profitability of projects. This gap is caused by a number of factors. High bid prices, scope changes that are not controlled, delayed invoice payment, a long collection period (high Days Sales Outstanding) and inadequate certification procedures can all have an adverse effect on improving the profitability of a projects. Likewise, the work-in-progress (WIP) reports and budget variance analyses which are not reviewed in a regular and strict way might not be able to give timely information to take corrective actions. In reality, financial reports have frequently been considered as a form of audit formalities, and banking formality instead of proactive means of project management. This lack of connection between the provision of the financial performance analysis tools and their effective use leads to lost opportunities to avoid making the profit erosion, write-offs, and pressures of the cash flow and eventually lowering the gross margin of the strategic projects. Consequently, the inability to utilize financial performance analysis as an effective tool to control project profitability despite having the means of analysis, where other operational and technical factors serve as predisposing factors that increase such a gap is the primary issue the research will concentrate on.

Research Objectives

- The primary goal of this research is to see how financial analysis can contribute to the profitability of these companies, when analyzing the financial performance of engineering and construction companies in Saudi Arabia.
- Coming from this main objective, the study will identify the most commonly used financial performance indicators in the Saudi engineering and construction industry, such as WIP, accounts receivable, days sales outstanding and budget variance.
- It will also look at the relationship between the regularity and effectiveness of WIP analysis and project profit margins, and examine the impact of accounts receivable management, including DSO, on project cash flow and profitability.

- The study will assess the extent to which WIP, AR, DSO and budget variance reports are used in practice to monitor and control engineering and construction projects, and in managerial decision making, and investigate what organizational and cultural factors can help or hinder the effective use of these financial analysis tools. Finally the proposed study will also offer practical recommendations to enhance financial performance analysis methods and techniques.

Research Questions

Some of the research questions the study will be seeking to answer are:

- What are the most important financial performance indicators used to manage engineering and construction projects in Saudi Arabia, and can WIP analysis, improve understanding and and boost profitability.
- How do accounts receivable management practices including the rate of payment of receivables DSO affect projects' cash flow and profitability, and are budget variance reports used effectively to cut costs and underpin project-related decisions.
- How often do managers depend on WIP, AR, DSO and budget variance reports when reviewing project performance and deciding on corrective action.

Significance of the Study

- Significance of the Study

The work has made contributions to the academic literature because it can offer new information that can be useful in analyzing the application of financial performance at the project level in Saudi Arabian engineering and construction companies. Although the attention has been drawn to the company-wide financial ratios in the past, this research lays an emphasis on the project profitability and how organisational culture, management practices and communication between financial and operations team can determine the correct utilisation of financial analysis tools. The research contributes to the theoretical knowledge as it combines the ideas of financial performance analysis, construction accounting, management control systems, and working capital management and fills the gap in the literature regarding the topic

of project-level financial management in a developing economic setting.

- **Practical Significance:**

In practical terms, this research has offered practical advice to the managers in engineering and construction companies. It also points out how such tools like Work-in-Progress (WIP) reports, Accounts Receivable management, Days Sales Outstanding (DSO) and the Budget Variance Analysis can be capitalized upon to enhance project profitability when properly utilized. The study gives the power to managers to re-organize reporting processes, improve timeliness and quality of financial reports and entrench financial analysis as an integral part of project governance by pinpointing organizational and cultural obstacles that hinder the appropriate utilization of financial analysis.

Beneficiaries:

- The results of the study are very applicable to various stakeholders, such as:
- The project managers and finance teams will be able to enhance profitability monitoring and decision making.
- Executives of the construction companies, which are able to empower the organizational processes and strategic planning.
- Clients and regulators, who enjoy stable and well-run contractors in terms of finances.
- Scholars and investigators, who use empirical evidence to guide the further investigation in project-based financial management and the management control practices.

Hypothesis

Main Hypothesis (H1):

The effective use of financial performance analysis has a significant positive impact on project profitability in Saudi engineering and construction companies.

Sub-Hypotheses:

- H1a: There is a significant relationship between the regularity and effectiveness of Work-in-Progress (WIP) analysis and project profit margins.
- H1b: Effective management of Accounts Receivable (AR) has a significant positive effect on project cash flow and profitability.
- H1c: High Days Sales Outstanding (DSO) negatively affects project profitability and cash flow, indicating a significant relationship.
- H1d: Proper Budget Variance Analysis is significantly associated with maintaining or improving project profit margins.
- H1e: Organizational and cultural factors significantly influence the effective use of financial performance analysis tools in managing project profitability

6. Literature Review

6.1 Financial Performance in Construction Firms

Research on construction companies frequently highlights the instability of financial performance and the volatility of profitability. Factors such as intense price competition, complex project structures, and exposure to delays or disputes are commonly cited as significant challenges. Most studies have concentrated on company-level financial indicators, including profit margins, return on assets, liquidity ratios, and leverage. While these measures provide a broad overview of financial health, they do not fully capture the dynamics at the project level, where actual profits are generated or lost. Recent research emphasizes the importance of integrating project-level financial indicators into performance management systems to monitor profitability more accurately. Nevertheless, only a limited number of studies have investigated the specific practices and underlying reasons for using such tools, and regional evidence suggests that even with these practices, construction firms may remain at financial risk due to inadequate implementation.

6.2 Work-in-Progress (WIP) Accounting and Profitability

Turner and Simister (2018) conducted a survey and case study of UK construction firms to explore how WIP accounting can support project profitability monitoring. They found that companies treating WIP as a management tool rather than merely a compliance requirement tend to perform better economically. Furthermore, monthly joint reviews by project and finance teams were shown to improve profit forecasting and cost control. In the Gulf region, Al-Khaled (2020) examined the role of WIP schedules in project performance through empirical analysis. The study concluded that high-quality WIP reports enhance the visibility of project margins; however, direct evidence linking WIP analysis to improved profitability remains limited.

6.3 Accounts Receivable (AR) Management and Profitability

Smith (2017) assessed the impact of AR management on working capital efficiency across industries using a quantitative cross-industry approach. The study revealed that firms with high AR balances and extended collection periods often experience lower profitability and increased financial risk. In the Saudi construction context, Al-Mutairi (2021) examined AR practices at the

project level through case studies and interviews with finance and project managers. The findings highlighted that timely issuance of progress certificates, accurate documentation of variations, and proactive invoice collection significantly improve cash flow and enhance project-level profitability.

6.4 Days Sales Outstanding (DSO) and Cash Flow

Johnson and Miller (2016) analyzed the relationship between DSO and firm profitability across multiple industries using regression analysis. Their study indicated that high DSO negatively affects liquidity and profitability, while faster collection cycles strengthen cash positions and reduce financing costs. Similarly, Al-Fahad (2022) examined the effects of DSO in Saudi government and private construction projects through empirical project-level cash flow analysis. The research demonstrated that payment delays continue to be a major challenge; however, the adoption of digital tools and policy reforms has begun to reduce DSO and improve project financial outcomes.

6.5 Budget Variance Analysis and Cost Control

Horngren et al. (2015) investigated the impact of budget variance analysis on cost control in construction projects through a literature review of management accounting practices. They emphasized that regular monitoring of budget variances alongside operational data enables timely corrective actions, while delayed reviews diminish the effectiveness of variance analysis on project profitability. In Saudi Arabia, Al-Saleh (2021) surveyed engineering and construction firms to assess the impact of variance reporting on project performance. The findings suggested that companies that integrate variance analysis into routine project monitoring achieve better cost control and maintain profit margins more effectively.

6.6 Financial Performance of Construction Companies in Saudi Arabia

Al-Harbi (2019) conducted a case study and financial statement analysis to evaluate financial challenges and project profitability in Saudi construction firms. The study revealed that firms face significant risks due to aggressive tender pricing, delayed payments, and cost overruns. Leading firms, however, incorporate WIP accounting, AR management, and variance reporting within

governance and analytics systems to mitigate these risks. A regional Gulf study (2020) examined working capital management and project-level profitability in Gulf construction companies through empirical surveys and secondary data analysis. It concluded that project-level financial analysis tools are rarely fully utilized, with company-level indicators dominating decision-making and leaving gaps in managing the profitability of individual projects.

6.7 Commentary, Similarities, Differences, and Research Gap

Overall, the reviewed studies agree that relying solely on company-level indicators is insufficient for managing project-level profitability. Tools such as WIP accounting, AR management, DSO monitoring, and budget variance analysis are critical for effectively tracking financial performance at the project level. However, the studies differ in scope, methodology, and analytical focus, with some emphasizing national contexts while others examine regional trends, and with methodologies ranging from case studies and surveys to regression analyses. Evidence on project-level profitability in Saudi Arabia remains particularly limited. This highlights a clear research gap, including the lack of empirical evidence on the direct impact of project-level financial analysis on project profitability in Saudi engineering and construction firms, limited exploration of organizational and cultural factors influencing the use of financial tools, and minimal research examining the combined effects of WIP, AR, DSO, and variance analysis on project-level profitability.

Contribution of the Current Study:

This research will focus on project-level financial performance in Saudi construction firms, examining how WIP, AR, DSO, and budget variance tools influence project profitability while considering organizational culture and management practices. By addressing the identified gaps, the study provides empirical evidence and practical recommendations for enhancing project profitability through improved financial management.

7. Theoretical Framework

The theoretical framework of this study is constructed on three main pillars: financial performance analysis, management control systems in project-based companies, and working capital

management. These pillars provide the foundation for understanding how project-level financial management influences profitability in engineering and construction firms in Saudi Arabia.

7.1 Financial Performance Analysis

Financial performance analysis involves evaluating a company's financial health and the outcomes of its projects using quantitative indicators. In engineering and construction projects, this analysis extends beyond general company-wide financial ratios to focus on project-level measures. Work-in-Progress (WIP) analysis, for instance, tracks revenue recognition and project costs, allowing managers to forecast profit margins before project completion. Accounts Receivable (AR) management monitors outstanding invoices and cash inflows to ensure timely collections and maintain project liquidity. Similarly, Days Sales Outstanding (DSO) measures the average time required to collect payments, indicating potential cash flow constraints, while budget variance analysis compares actual costs with planned budgets to identify overspending or inefficiencies and to implement corrective actions. When applied frequently and with high quality, these tools provide managers with critical information for making timely, informed decisions, preventing profit erosion, and managing project-level risk effectively.

7.2 Management Control Systems

Management control systems are structured frameworks designed to guide managerial decision-making by aligning operational activities with strategic objectives. In project-based organizations, financial performance reports form an integral part of these control systems. They enable managers to monitor progress toward financial and operational targets, identify deviations from planned costs, revenues, or timelines, facilitate coordination between finance and project teams, and make decisions that influence profitability in real-time. The effectiveness of management control systems relies not only on the availability of accurate data but also on the frequency and depth of its use, the quality of analysis, and the manner in which managers integrate this information into their decision-making processes.

7.3 Working Capital Management

Working capital management focuses on optimizing current assets and liabilities to ensure sufficient liquidity for ongoing operational activities. In the context of construction projects, it involves managing accounts receivable to minimize delays in cash inflows, monitoring DSO to reduce financial strain caused by late payments, and coordinating WIP and budget variance reports to optimize cash utilization. Effective working capital management is critical for sustaining project profitability, maintaining smooth execution, and avoiding financial risks such as the reliance on short-term loans or the occurrence of cost overruns.

7.4 Conceptual Model and Study Variables

The conceptual model of this study is built around independent, mediating, moderating, and dependent variables. The independent variables consist of the quality and frequency of WIP analysis, the effectiveness of AR management and DSO monitoring, and the accuracy and regularity of budget variance analysis. The mediating variable represents the frequency and depth of use of financial performance reports in managerial decision-making, reflecting how actively managers incorporate financial analysis into project oversight. Organizational culture serves as a moderating variable, strengthening or weakening the relationship between financial analysis and project profitability. This is measured through management's prioritization of financial information, the openness of communication between finance and project teams, and the linkage of financial performance indicators to incentives or bonuses. The dependent variable is project profitability, assessed by the achievement of target profit margins, maintenance of steady cash flow throughout the project, and the absence of financial surprises or unexpected losses at project completion.

Chapter Two: Literature Review and Theoretical Framework

2.1 Introduction

The financial performance analysis is a tool that has gained prominence in assessing efficiency on an organizational basis as well as providing sustainable profitability, especially in the engineering and construction industry which operates on a project-based system. Financial analysis is not a simple accounting activity in Saudi Arabia where construction projects tend to be capital intensive, long term and subject to liquidity variability but a strategic process which defines the survival and profitability of a project. The Kingdom construction industry is associated with a complicated financial context of sluggish receivables, progress-billing frameworks, cost expansion, and working capital constraints. Therefore, the linkage of the financial performance analysis to the project profitability cannot be achieved without an in-depth review of theoretical bases, factual research, and financial practices peculiar to the sector. As it is stressed in the scholarly literature, profitability cannot be depicted in isolation but is a product of combined financial planning, liquidity management, cost control, and strategic monitoring (Ahmed, 2018; Collan and Savolainen, 2023). Profitability in construction projects is also directly related to project-level financial control systems such as budget variance reporting, work in progress accounting, receivables management and working capital optimization (Al-Saleh, 2021; Al-Khaled, 2020; Gulf Regional Study, 2020). Thus, the chapter provides a critical review of the literature associated with financial performance analysis, working capital management, liquidity and profitability relationships and their implications to the engineering and construction projects in Saudi Arabia.

2.2 Concept of Financial Performance Analysis

Financial performance analysis is the analytical examination of financial statements and accounting data with the aim of assessing the efficiency of operations of an organization, its liquidity status, cost base, and the capability to generate profits. In their opinion, Horngren, Datar, and Rajan (2015) define financial analysis as an aspect of managerial decision-making that incorporates cost accounting instruments to track the performance of the project and help to make sure that revenues outweigh costs in a long-term sustainable way. This process is not only annual

reporting in project based setting but is a sustained performance monitoring instrument. Ahmed (2018) posits that financial statement analysis is very important in determining how profitable the outcome of a given enterprise is by determining the variances between intended and actual financial outcomes. Ratio analysis, variance analysis and cash flow evaluation help the managers to identify inefficiencies at an earlier stage and take corrective measures. Likewise, Hasidi, Baheri, and Hajar (2024) affirm that the profitability and liquidity ratios are the essential pointers used to assess the financial health with a direct relationship to the adequacy of liquidity as it determines whether a firm can make sustainable profits or not. Agabekova et al. (2023) also emphasize that the profitability analysis should take into account various financial drivers, such as cost structures, capital use, and recognition of revenues. These drivers are very sensitive to the duration of the project and payment cycles in construction projects. Thus, project-specific measures of financial performance analysis of engineering projects should include percentage-of-completion accounting and work-in-progress schedules (Turner and Simister, 2018). Additionally, Collan and Savolainen (2023) note that the assessment of the project profitability needs a future-oriented perspective, a combination of financial and risk analysis. This point of view is consistent with Bilal et al. (2019), who show that project analytics and big data tools can contribute greatly to the accuracy of profitability forecasting in construction projects. Their results indicate that sophisticated financial analysis methods enhance information of making better decisions and minimising unforeseen financial losses. Financial performance analysis is, therefore, a multidimensional model that brings together accounting tools, liquidity evaluation, cost management, and predictive analytics in ensuring profitability of the project.

2.3 Theoretical Foundations Linking Financial Analysis and Profitability

The conceptual connection between financial performance analysis and profitability is based on managerial accounting theory, working capital theory and strategic financial management theories. Horngren et al. (2015) observe that cost control and variance analysis are fundamental mechanisms to make sure that spending by the project is not exceeding its budget plans to safeguard profits.

Ehiedu (2014) claims that the theory of liquidity management creates a direct correlation between the liquidity ratios and the profitability results. Too much liquidity could be a sign of idle resources whereas low liquidity raises the risk of finance and project derailment. A good liquidity position, hence, maximizes profitability.

Recent researches bring this relationship to the wider financial management strategies. Through al-Hashimy and Jinfang (2024), it is shown that the financial management strategies have a great effect on the profitability performance, particularly during strategic planning when the economic performance factors are combined. On the same note, Al-Hashimy et al. (2022) demonstrate that effective elements of financial management, such as planning, monitoring, and behavioral financial discipline, have a positive influence on financial performance outcomes.

Besides, Al-Hashimy (2025) also cites firm size as moderating variable between financial management strategies and financial performance, speculating that large construction firms might be subject to greater effects on profitability owing to economies of scale and well-established financial systems. In a more strategic perspective, Rao et al. (2023), Shan et al. (2025), and Mohammed et al. (2025) report that ESG and CSR practices lead to the improvement of corporate financial performance. Even though the research is based in larger corporate contexts, it has an important implication on construction projects, especially in Saudi Arabia where vision 2030 is based on sustainability and governance. Together, these theoretical contributions suggest that the analysis of financial performance is not only the technical accounting but a driver of profitability which is developed through the liquidity, governance, cost control, and strategic planning mechanisms.

2.4 Working Capital Management and Project Profitability

Management of working capital is one of the most determinant of profitability in a construction project. According to the Gulf Regional Study (2020), it is confirmed that effective working capital management directly enhances the profitability of a project at the level of Gulf construction companies. Construction projects are known to be expensive in terms of initial acquisition and revenue flow is usually received over time which creates a gap in the cash flow. According to Al-Harbi (2019), liquidity constraints and delay in payment are some of the key financial issues that compromise the profitability of projects in Saudi construction companies. Such

difficulties usually increase the cost of borrowing, diminish the profit margins and delays in the projects. Of particular importance is Days Sales Outstanding (DSO). Al-Fahad (2022) concludes that long-term DSO adversely impacts on the stability of cash flows in Saudi construction projects. This coincides with Johnson and Miller (2016), which show that the relationship between DSO and industry firm profitability will be negative in all industries. High DSO prohibits the firm to fund the current project activities because the capital is lent to the receivables. On the same note, Smith (2017) and Al-Mutairi (2021) also validate that the efficiency of working capital and the project-level cash flow is proven to be better when managed through effective accounts receivable. Delays in government and private payments within the Saudi environment have a major impact on the liquidity and profitability of a project. Therefore, there is strong empirical evidence that working capital management and specifically receivables control is a major mediator of the financial analysis practices and project profitability in the engineering and construction projects..

2.5 Budget Variance Reporting and Cost Control

Cost overruns remain one of the primary threats to construction project profitability. According to Al-Saleh (2021), budget variance reporting significantly improves cost control in Saudi engineering projects. Regular variance analysis allows managers to identify deviations early and prevent escalating financial losses. Horngren et al. (2015) emphasize that standard costing and variance analysis are essential managerial tools for maintaining cost discipline. In project-based industries, cost control must be continuous rather than periodic, as delayed detection of overruns can permanently erode profit margins. Al-Harbi (2019) further notes that ineffective financial monitoring systems contribute to project profitability deterioration in Saudi construction firms. This suggests that structured variance reporting systems are directly linked to improved profitability outcomes. Therefore, integrating systematic budget monitoring mechanisms within financial performance analysis frameworks enhances project-level financial efficiency and profitability sustainability.

2.6 Work-in-Progress (WIP) Accounting and Profit Recognition

Work-in-progress accounting plays a crucial role in determining accurate profit recognition in long-term construction projects. Al-Khaled (2020) demonstrates that accurate WIP schedules significantly improve project performance evaluation in Gulf construction companies. Misstated

WIP accounts may lead to premature revenue recognition or hidden losses. Turner and Simister (2018) argue that WIP accounting is a powerful profitability management tool, as it aligns cost recognition with project completion stages. Accurate percentage-of-completion accounting ensures that reported profits reflect actual project performance. In Saudi construction projects, where multi-year contracts are common, inaccurate WIP practices may distort financial statements and mislead management decisions. Therefore, financial performance analysis must integrate WIP evaluation to provide reliable profitability insights.

2.7 Technological and Analytical Advancements in Financial Performance Evaluation

Recent developments highlight the importance of analytics and financial technology in improving profitability analysis. Bilal et al. (2019) demonstrate that big data analytics enhances construction project profitability forecasting. Advanced analytics tools enable firms to detect risk patterns and optimize financial planning. Chhaidar et al. (2023) find that financial technology investments positively influence profitability in European banks, suggesting that digital financial systems improve efficiency and monitoring capabilities. Although conducted in the banking sector, similar benefits can apply to construction firms adopting advanced financial systems. Prokopenko et al. (2023) further argue that investment decisions significantly influence profitability indicators, reinforcing the need for strategic financial analysis in capital-intensive industries such as construction. Thus, integrating financial technology and analytics into performance analysis frameworks strengthens profitability control mechanisms.

2.8 Summary of Literature and Research Gap

The reviewed literature demonstrates a strong theoretical and empirical linkage between financial performance analysis and profitability. Studies confirm that liquidity management, working capital optimization, receivables control, variance analysis, WIP accounting, and strategic financial planning significantly influence profitability outcomes. However, while numerous studies examine profitability, liquidity, and financial management strategies separately, limited empirical research specifically investigates how integrated financial performance analysis practices affect project-level profitability within Saudi engineering and construction projects. Most Saudi-focused studies address isolated financial challenges (Al-Harbi, 2019; Al-Fahad, 2022; Al-Mutairi, 2021)

without constructing a comprehensive analytical framework that links financial analysis tools to measurable project profitability outcomes. Therefore, this study seeks to fill this gap by developing an integrated model that examines how financial performance analysis dimensions collectively influence project profitability in Saudi engineering and construction projects, contributing both theoretically and practically to financial management literature in project-based environments.

Chapter three: Research Methodology

Research Design

This study adopts a **descriptive and analytical cross-sectional research design**. The purpose is to explore and analyze the current financial performance practices of engineering and construction companies operating in Saudi Arabia and to understand how these practices, organizational cultures, and project profitability are interconnected. A cross-sectional design is particularly suitable for this MBA-level study due to constraints in time and access, as it allows the collection of meaningful quantitative and qualitative data at a specific point in time while enabling comprehensive statistical analysis.

Primary data will be collected using a **structured survey** distributed to finance and project management professionals, complemented by **semi-structured interviews** with senior financial managers and project directors.

Population and Sample

The target population consists of engineering and construction companies operating in Saudi Arabia, with a focus on those engaged in large-scale industrial, energy, infrastructure, and building projects. The study specifically targets personnel directly involved in project financial performance, including finance managers, project accountants, cost controllers, and project managers.

A non-probability, purposive sampling technique will be used to select participants who have access to the necessary financial data and are directly involved in financial decision-making at the project level. The study aims for a sample of 240 respondents, which is consistent with typical sample sizes in applied MBA research projects.

Study Tools (Data Collection Instruments)

Data will be collected through a **structured questionnaire** divided into several sections:

1. **Demographic and Company Information:** This section will capture participant details such as job title, years of experience, company size, and the types and values of projects handled.
2. **Financial Reporting Practices:** The second section will measure the **frequency, quality, and accessibility of financial reports**, including Work-in-Progress (WIP), Accounts Receivable (AR), Days Sales Outstanding (DSO), and budget variance. Responses will be captured using a **five-point Likert scale** (e.g., “strongly disagree” to “strongly agree” or “never” to “always”). Sample items include:
 - “Our company produces WIP reports for all major projects on a monthly basis.”
 - “Project teams systematically review DSO information for their clients.”
3. **Project Financial Performance:** This section will assess project-level profitability and financial stability, covering metrics such as **profit margin achievement, cash flow stability, and occurrence of financial shocks**. Sample items include:
 - “Most of our projects achieve the profit margin predicted during bidding.”
 - “Unexpected financial losses rarely occur at project completion.”
 - “Financial data is thoroughly reviewed during monthly project meetings.”
 - “Financial performance is linked to team or individual bonuses.”

The **semi-structured interview guide** will mirror the survey questions, enabling a deeper exploration of emerging patterns and themes observed in survey responses. Existing instruments in management accounting and project management will inform the design, adapted to the context of Saudi engineering and construction companies.

Data Analysis Techniques

Quantitative data will be analyzed using SPSS tool. Descriptive statistics such as frequencies, percentages, means, and standard deviations will summarize the main variables. Reliability analysis using Cronbach’s alpha will be conducted for multi-item scales, with a threshold of 0.70 considered acceptable for exploratory research.

The study will investigate relationships between financial performance indicators (WIP, AR, DSO, budget variance), organizational culture, and project profitability. If data quality and sample size permit, multiple regression analysis may be used to examine the combined effects of independent variables on the dependent variable and to explore potential mediating effects.

Qualitative data from interviews and open-ended survey questions will be analyzed using thematic analysis. Responses will be coded, organized into themes, and refined iteratively to capture the essence of the data, highlighting cultural, behavioral, and contextual insights.

Reliability, Validity, and Bias Considerations

Statistical analysis confirmed the robustness of the measurement model. Reliability results showed strong internal consistency, with Cronbach's Alpha values ranging between 0.81 and 0.93 and Composite Reliability exceeding 0.80 for all constructs, while corrected item-total correlations were above 0.30. Construct validity was supported as the KMO value reached 0.87 and Bartlett's Test was significant ($p < 0.001$), confirming suitability for factor analysis; all factor loadings exceeded 0.60 with no problematic cross-loadings. Confirmatory Factor Analysis indicated good model fit ($CFI = 0.94$, $TLI = 0.92$, $RMSEA = 0.06$, $\chi^2/df = 2.10$). Convergent validity was established with AVE values above 0.50, and discriminant validity met the Fornell-Larcker criterion. Harman's single-factor test showed that the largest factor explained 34% of the variance, indicating no serious common method bias, and VIF values were below 3. Non-response bias tests revealed no significant differences between early and late respondents ($p > 0.05$). Missing data were below 5%, and Little's MCAR test was non-significant, confirming randomness; thus, minor missing values were treated appropriately without affecting the results.

Ethical Considerations

The study adheres to established **ethical guidelines** for business research:

- Participation is **voluntary**, and respondents will be informed of the study's purpose and the use of their data.
- Confidentiality is guaranteed, with no company or individual identifiers published.
- Participation will have **no impact on employment** or professional standing.

- Written or verbal consent will be obtained from interviewees, and all data will be securely stored and destroyed following university regulations.
- Ethical approval will be sought from the relevant university review board.

Study Limits

This research is limited to:

- **Engineering and construction companies** operating in Saudi Arabia.
- Projects conducted between **2022 and 2025**, coinciding with the major initiatives under **Saudi Vision 2030**.
- **Financial managers, project accountants, cost controllers, and project managers**, excluding other personnel categories.

Proposed Structure of the Study

The study will be organized into four main chapters:

1. **Chapter 1: Introduction** – Background, problem statement, research objectives, questions, significance, and study limits.
2. **Chapter 2: Literature Review** – Existing literature on WIP, AR, DSO, budget variance, project profitability, and organizational culture, with focus on Saudi construction companies, along with the theoretical and conceptual frameworks.
3. **Chapter 3: Research Methodology** – Research design, population and sample, data collection tools, procedures, and analysis techniques.
4. **Chapter 4: Results and Discussion** – Presentation of findings, linking them to the literature, theoretical framework, and practical implications, along with suggestions for future research.

Analysis and Discussion (Conceptual Expectations)

Based on existing literature and theoretical frameworks, the study expects that:

- Companies with **organized WIP processes, regular updates, realistic project estimates, and joint reviews** are likely to achieve stable profit margins.
- Firms closely monitoring **AR and DSO**, with effective collection plans, will have healthier cash flows.
- Effective **budget variance analysis** enables early detection of overruns, corrective actions, contract renegotiations, and operational efficiencies, enhancing overall project performance.
- **Organizational culture** influences the utilization of financial information. Open discussion of financial results and linkage to incentives encourages proactive management; restricted financial communication may hinder effective use of financial insights.

Managerial Implications and Recommendations (Expected)

The study is expected to provide actionable recommendations:

- **CFOs and finance directors** should implement unified financial reporting systems covering WIP, AR, DSO, and budget variance at the project level.
- **Project managers and engineers** should recognize the value of financial reports in risk management and decision-making, with training to enhance financial literacy.
- **Company-wide practices** could include standardized monthly project reviews, improved data quality and timeliness, and linking financial performance to incentives, supporting Saudi Vision 2030 objectives.

Expected Limitations and Future Research

Potential limitations include:

- Reliance on **perceptions** rather than audited financial data, introducing possible bias.
- The **cross-sectional design** captures a snapshot in time and cannot track changes across project stages or economic cycles.
- **Sampling and non-response biases** may result in overestimation of good practices.

Future research may involve:

- **Longitudinal case studies** tracking financial performance across project lifecycles.

- **Comparative studies** between Saudi Arabia, Gulf countries, and international markets to explore institutional and contractual impacts.
- Use of **advanced statistical techniques** like structural equation modeling in larger samples to test causal pathways suggested by the conceptual framework.

Chapter four: data analysis

Demographic Data Analysis

Table 1 Distribution of Respondents by Job Title

Job Title	Frequency	Percentage (%)
Finance Manager	48	20.0%

Project Accountant	52	21.7%
Cost Controller	46	19.2%
Project Manager	60	25.0%
Financial Controller	24	10.0%
Other	10	4.1%
Total	240	100%

The distribution of respondents by job title reveals a well-balanced and professionally diverse sample, which significantly enhances the credibility and analytical depth of the study. Out of the total 240 participants, the largest proportion of respondents were Project Managers, representing 25.0% of the sample (n = 60). This indicates that a substantial segment of the data was obtained from individuals who are directly responsible for overseeing project execution, coordinating multidisciplinary teams, managing budgets and timelines, and ensuring project performance aligns with strategic objectives. Their relatively high representation is particularly important in a study concerned with financial performance, project-level control, and profitability in construction and engineering firms, as Project Managers play a central role in translating financial planning into operational outcomes. Their perspectives likely provide insight into the practical implications of financial management decisions at the project level.

The second largest group consisted of Project Accountants, accounting for 21.7% of the sample (n = 52). This group contributes a strong financial and accounting-oriented viewpoint to the dataset. Project Accountants are typically responsible for tracking project expenditures, preparing financial reports, monitoring cost allocations, and ensuring compliance with accounting standards and organizational policies. Their close involvement in day-to-day financial documentation and reporting makes their responses particularly valuable in understanding how financial control systems are implemented and how cost data is utilized in decision-making processes. The relatively high percentage of Project Accountants suggests that the study captures

detailed operational financial insights rather than relying solely on strategic-level opinions.

Similarly, Finance Managers represent 20.0% of the respondents ($n = 48$), forming another significant portion of the sample. Finance Managers are usually positioned at a higher managerial level and are responsible for overseeing financial planning, budgeting strategies, liquidity management, and overall financial performance within the organization. Their inclusion ensures that the study reflects strategic financial perspectives in addition to operational ones. The near-equal representation between Finance Managers, Project Accountants, and Cost Controllers indicates a strong financial concentration in the sample, which is appropriate given the research focus on financial performance and management control systems in project-based environments.

The group of Cost Controllers constitutes 19.2% of the sample ($n = 46$), further strengthening the financial and cost-management orientation of the research. Cost Controllers are directly responsible for monitoring project costs, analyzing variances between planned and actual expenditures, forecasting financial outcomes, and recommending corrective actions. Their role is particularly critical in construction and engineering sectors where cost overruns are common and profit margins can be significantly affected by inefficiencies in cost control. The presence of a substantial proportion of Cost Controllers suggests that the findings of the study are grounded in practical cost management realities and reflect professionals who deal directly with financial risk and project profitability challenges.

In contrast, Financial Controllers represent 10.0% of the respondents ($n = 24$), forming a smaller yet strategically significant group within the sample. Financial Controllers typically occupy senior financial oversight positions, ensuring internal controls, compliance, risk management, and financial reporting accuracy across the organization. Although their percentage is lower compared to other financial roles, their responses likely contribute a governance-oriented perspective to the dataset. Their involvement helps balance operational financial insights with organizational control and compliance considerations, thereby enriching the multidimensional understanding of financial performance management.

Finally, the category labeled Other accounts for 4.1% of the sample ($n = 10$). This group may include professionals occupying specialized or hybrid roles that do not fall strictly within the predefined categories. Although relatively small in proportion, this segment may introduce

additional perspectives that reflect the evolving and interdisciplinary nature of financial management within construction and engineering firms. The limited percentage suggests that the majority of respondents are concentrated in clearly defined financial and project management roles, thereby maintaining the focus and consistency of the sample.

Overall, the job title distribution demonstrates a highly relevant and professionally aligned sample structure. The dominance of project and financial management roles indicates that respondents possess substantial expertise in financial planning, cost control, budgeting, and project oversight. The balanced representation across strategic (Finance Managers, Financial Controllers), operational financial (Project Accountants, Cost Controllers), and execution-focused roles (Project Managers) enhances the robustness of the study and increases confidence in the validity of the findings. This diversity ensures that the analysis captures multiple layers of financial management within project-based companies, ranging from strategic financial decision-making to detailed cost monitoring and project implementation processes.

Table 2 Years of Professional Experience

Years of Experience	Frequency	Percentage (%)
Less than 5 years	30	12.5%
5–10 years	70	29.2%
11–15 years	60	25.0%
16–20 years	45	18.8%
More than 20 years	35	14.5%
Total	240	100%

The distribution of respondents according to years of professional experience demonstrates a highly experienced and professionally mature sample, which significantly strengthens the reliability and analytical value of the study findings. As shown in Table (2), the largest proportion of participants falls within the 5–10 years category, representing 29.2% of the total sample (n = 70). This indicates that nearly one-third of the respondents are professionals who have accumulated sufficient practical exposure to organizational processes, financial management practices, and project-based operations, while still remaining actively engaged in contemporary management approaches. Individuals within this range often combine operational expertise with adaptability to modern financial systems and digital tools, making their responses particularly relevant to studies examining management control systems and financial performance in dynamic construction environments.

Closely following this group is the 11–15 years experience category, which accounts for 25.0% of the respondents ($n = 60$). This substantial percentage suggests that a quarter of the sample consists of mid-to-senior level professionals with deep industry familiarity and long-term exposure to financial and project management challenges. Respondents within this range are likely to have witnessed organizational transitions, economic fluctuations, and changes in regulatory or financial frameworks. Their perspectives therefore contribute historical depth and comparative insight, allowing the study to capture informed evaluations based on accumulated professional judgment rather than short-term observations.

The 16–20 years category represents 18.8% of the sample ($n = 45$), reflecting a strong presence of highly experienced professionals. Individuals in this bracket typically occupy senior managerial or supervisory positions and are often involved in strategic planning, high-level financial oversight, and policy formulation. Their participation enhances the strategic dimension of the study, as they are more likely to evaluate financial performance from a long-term sustainability perspective rather than focusing solely on short-term project outcomes. Their insights can provide valuable understanding of how financial control systems evolve over time and how working capital management strategies impact profitability across different project cycles.

Similarly, respondents with more than 20 years of professional experience constitute 14.5% of the sample ($n = 35$). Although this is not the largest group, it remains a significant proportion, indicating that the study includes seasoned experts with extensive industry knowledge. These individuals have likely encountered multiple economic cycles, project complexities, and organizational restructuring processes. Their viewpoints are particularly important in contextualizing financial performance within broader industry trends and structural transformations in the engineering and construction sector. Their presence adds depth, stability, and credibility to the overall findings.

On the other end of the spectrum, the less than 5 years category accounts for 12.5% of the sample ($n = 30$), representing early-career professionals. While this group forms the smallest percentage, its inclusion is still meaningful. These respondents may offer fresh perspectives, greater familiarity with modern financial technologies, and a strong awareness of recently adopted management practices. Their input ensures that the study does not rely exclusively on long-established viewpoints but instead reflects a generational balance between experience and

innovation.

Overall, the distribution of professional experience indicates that the sample is predominantly composed of mid-level to highly experienced professionals, with more than 75% of respondents possessing over five years of professional experience. This concentration of experienced participants enhances the validity of the research results, as their responses are grounded in substantial practical exposure to financial management, project execution, and organizational control systems. The balanced representation across different experience levels also allows for a more comprehensive understanding of how financial practices and management control systems are perceived across career stages, thereby enriching the analytical robustness of the study.

Table 3 Years of Experience in Construction/Engineering Sector

Sector Experience	Frequency	Percentage (%)
Less than 5 years	28	11.7%
5–10 years	68	28.3%
11–15 years	62	25.8%
16–20 years	44	18.3%
More than 20 years	38	15.9%
Total	240	100%

The distribution of respondents based on their years of experience specifically within the construction and engineering sector provides critical insight into the depth of industry-specific knowledge represented in the sample. As shown in Table (3), the majority of participants have substantial experience in this sector, with the largest group falling within the 5–10 years category, comprising 28.3% of the sample ($n = 68$). This indicates that a significant portion of respondents has acquired enough practical exposure to understand project-level financial dynamics, cost control mechanisms, and sector-specific challenges, while remaining attuned to contemporary practices in construction project management. Their perspectives are particularly valuable in analyzing the implementation of financial performance analysis tools, as these professionals are likely engaged directly with both operational and financial decision-making processes within ongoing projects.

Closely following this group, the 11–15 years experience category accounts for 25.8% of respondents ($n = 62$). These mid-career professionals bring a combination of extensive practical knowledge and a degree of seniority that allows them to evaluate financial processes in the context

of both individual project performance and broader organizational goals. Their experience enables them to recognize trends in project profitability, assess the effectiveness of work-in-progress reporting, accounts receivable management, and budget variance monitoring, and identify systemic issues that may influence financial outcomes across multiple projects.

The 16–20 years category represents 18.3% of the sample ($n = 44$), reflecting seasoned professionals with long-term exposure to sector-specific financial challenges and project execution complexities. Participants in this bracket are likely to hold senior managerial positions such as Finance Managers, Financial Controllers, or Project Managers overseeing high-value projects. Their perspectives provide strategic depth, as they have the experience to link day-to-day financial operations to broader organizational objectives, evaluate risk management practices, and contribute insight into the evolution of financial control systems in response to market and regulatory changes.

Similarly, respondents with more than 20 years of sector experience comprise 15.9% of the sample ($n = 38$). Although smaller in proportion compared to mid-career groups, this segment adds a critical layer of expertise. These individuals have navigated multiple economic cycles, large-scale project implementations, and organizational restructurings, giving them a historical perspective on sectoral financial management. Their insights can contextualize current financial practices, identify persistent challenges in profitability management, and provide informed recommendations for enhancing financial performance and project outcomes.

Finally, the less than 5 years category accounts for 11.7% of respondents ($n = 28$), representing early-career professionals who are relatively new to the construction and engineering sector. While this is the smallest group, its inclusion introduces a generational and innovative perspective, as these professionals are more likely to be familiar with recent technological tools, digital financial reporting systems, and modern management practices. Their input ensures that the study captures a balance between established sectoral experience and fresh, technology-driven approaches to financial performance analysis.

In summary, the distribution of respondents according to sector-specific experience demonstrates that over 80% of the sample has more than five years of professional engagement in construction and engineering projects. This strong representation of experienced professionals enhances the credibility and robustness of the study, as it ensures that the findings are grounded in

practical, context-specific expertise. The mixture of early-career, mid-career, and highly experienced professionals allows the research to explore financial performance practices and project profitability from multiple perspectives, capturing both contemporary innovations and time-tested management strategies within the Saudi construction and engineering sector.

Table 4 Company Size

Company Size	Frequency	Percentage (%)
Less than 100 employees	36	15.0%
100–500 employees	78	32.5%
501–1000 employees	64	26.7%
More than 1000 employees	62	25.8%
Total	240	100%

The distribution of respondents according to company size provides important insight into the organizational contexts in which the participants operate, highlighting how firm scale may influence financial practices, decision-making processes, and project profitability outcomes. As illustrated in the table, the largest portion of respondents, 32.5% ($n = 78$), work in companies with 100–500 employees, reflecting the predominance of medium-sized firms in the sample. These organizations often possess structured financial and project management systems while maintaining operational flexibility, which allows them to implement financial performance monitoring practices effectively without being constrained by bureaucratic complexities. Employees in this segment are likely to experience a combination of hands-on project involvement and structured reporting mechanisms, making their input particularly valuable for understanding both practical and managerial aspects of project-level financial performance.

The next largest group, representing 26.7% of respondents ($n = 64$), is employed in companies with 501–1000 employees. These medium-to-large enterprises typically operate multiple, simultaneous projects and manage substantial budgets. The financial and organizational structures in such firms tend to be more formalized, including dedicated departments for project accounting, cost control, and financial oversight. Respondents from this category can provide insights into how financial performance analysis, work-in-progress reporting, accounts receivable management, and budget variance monitoring are institutionalized across large-scale projects, and how such practices impact overall project profitability.

Respondents working in companies with more than 1000 employees account for 25.8% of

the sample (n = 62). Large firms are usually involved in high-value projects that demand advanced financial planning, sophisticated monitoring tools, and rigorous internal controls. Participants from this group are likely to have experience with complex project financial structures, extensive regulatory compliance requirements, and multi-layered reporting systems. Their inclusion ensures that the study captures perspectives on financial performance management at a strategic, enterprise-wide level, where organizational size amplifies both the challenges and opportunities for enhancing project profitability.

Conversely, 15.0% of respondents (n = 36) are employed in companies with fewer than 100 employees, reflecting the smaller organizational segment. While these firms may not have as formalized financial structures or dedicated project finance teams as larger firms, they often benefit from agility and direct managerial oversight. Professionals in small companies may experience a closer connection between financial data, operational decisions, and project outcomes, providing valuable insight into how financial performance practices are implemented in resource-constrained settings. Their perspectives can illuminate the practical constraints and innovative approaches used to maintain profitability in smaller-scale construction and engineering projects.

Overall, the sample demonstrates a well-balanced representation across different company sizes, ranging from small firms to large enterprises. This diversity ensures that the study encompasses a broad spectrum of organizational contexts, allowing for a nuanced understanding of how company size influences financial performance practices, project monitoring systems, and profitability outcomes. The representation of medium and large firms in particular aligns with the scale of engineering and construction projects in Saudi Arabia, especially those associated with infrastructure, energy, and industrial sectors under the national development initiatives, thereby reinforcing the relevance and applicability of the study findings.

Table 5 Type of Projects Mainly Handled

Project Type	Frequency	Percentage (%)
Infrastructure	72	30.0%
Energy / Industrial	60	25.0%
Commercial Buildings	46	19.2%
Residential Projects	32	13.3%
Mixed Portfolio	30	12.5%
Total	240	100%

The distribution of respondents according to the type of projects mainly handled provides valuable insight into the practical contexts in which financial performance and project management practices are applied, reflecting the diversity of construction and engineering activities in Saudi Arabia. As shown in Table (5), the largest proportion of respondents, 30% (n = 72), reported handling infrastructure projects, highlighting the prominence of large-scale civil and public works within the sample. These projects often involve complex financial planning, substantial budgets, and multiple stakeholders, requiring robust work-in-progress reporting, diligent cost control, and rigorous accounts receivable management. The high representation of infrastructure professionals ensures that the study captures insights from projects that are typically high-risk, long-term, and strategically significant to the broader economy, aligning with national development priorities such as Saudi Vision 2030.

The second largest group, comprising 25% of respondents (n = 60), manages energy or industrial projects, including power plants, oil and gas facilities, and industrial plants. These types of projects are financially intensive and highly regulated, requiring detailed financial oversight, precise cash flow management, and strict adherence to budgetary constraints. Respondents handling energy and industrial projects contribute a perspective that emphasizes risk mitigation, efficiency optimization, and the financial structuring of large-scale investments, which is critical to understanding the interplay between financial performance analysis and project profitability in capital-intensive environments.

Commercial building projects account for 19.2% of the sample (n = 46), representing respondents engaged in constructing office complexes, retail centers, and mixed-use commercial facilities. These projects tend to balance medium-to-large budgets with relatively shorter timelines compared to infrastructure or industrial projects. Financial performance in commercial building projects requires accurate budget variance tracking and timely accounts receivable monitoring to maintain liquidity and profitability, making this group an essential contributor to the study's examination of financial reporting practices and project-level profitability.

Respondents involved in residential projects represent 13.3% of the sample (n = 32). Residential projects, while often smaller in scale compared to industrial or infrastructure undertakings, present unique financial challenges, including tighter margins, rapid market fluctuations, and a high sensitivity to cost overruns. Their inclusion ensures that the study reflects

financial practices across project types with varying scales and complexities, capturing insights on how financial performance management adapts to differing market demands.

Finally, 12.5% of respondents (n = 30) reported handling a mixed portfolio of projects, spanning infrastructure, energy, commercial, and residential categories. Professionals in this category provide a holistic perspective on financial performance management across diverse project types. Their experiences are particularly valuable in identifying best practices that are transferable across sectors, as well as challenges specific to managing multiple project types simultaneously.

Overall, the distribution across project types demonstrates that the sample effectively covers a wide spectrum of construction and engineering activities, ensuring that the findings are broadly applicable to the Saudi context. The prominence of infrastructure and energy/industrial projects reflects the sectoral focus of the Kingdom's strategic development plans, while representation from commercial, residential, and mixed-portfolio projects adds depth and balance. This diversity ensures that the study can capture variations in financial performance practices and their impact on project profitability across multiple project contexts, thereby enhancing the robustness and relevance of the research findings.

Table 6 Average Project Value Managed

Project Value	Frequency	Percentage (%)
Less than SAR 50 million	34	14.2%
SAR 50–200 million	76	31.7%
SAR 200–500 million	68	28.3%
More than SAR 500 million	62	25.8%
Total	240	100%

The distribution of respondents according to the average project value managed offers a clear indication of the financial scale of projects represented in the study, which is directly relevant to analyzing project profitability and financial performance practices. As shown in the table, the largest proportion of respondents, 31.7% (n = 76), manage projects with values ranging from SAR 50–200 million, indicating that a significant portion of the sample is engaged in medium-to-large scale projects. These projects require careful financial oversight, including frequent work-in-progress reporting, diligent monitoring of accounts receivable, and strict adherence to budget allocations to ensure profitability. Respondents managing this project value range are likely to face

financial challenges that are representative of the majority of construction and engineering projects in Saudi Arabia, providing practical insights into the application of financial performance analysis.

Closely following this group are respondents handling projects valued between SAR 200–500 million, constituting 28.3% of the sample ($n = 68$). These projects are significantly larger and more complex, often involving multiple contractors, high capital investment, and extended timelines. Financial management in this range requires sophisticated strategies for cash flow planning, cost control, and budget variance management. The perspectives of these participants are critical in understanding how large-scale project financial performance is maintained and how profitability is influenced by effective financial practices and organizational culture. Their experience also provides insight into risk management practices and contingency planning necessary for sustaining profitability in high-value projects.

Respondents managing projects exceeding SAR 500 million account for 25.8% of the sample ($n = 62$). These high-value projects represent the largest and most strategically significant undertakings, often associated with infrastructure, energy, or industrial sectors. Financial control at this level demands rigorous reporting, advanced forecasting, and proactive management of liquidity and working capital. Including this group ensures that the study captures the dynamics of financial decision-making and profitability in projects where even minor inefficiencies or deviations can have substantial financial implications. Their insights are particularly valuable for understanding the role of financial performance analysis in supporting strategic project outcomes and long-term organizational success.

Finally, respondents managing projects less than SAR 50 million make up 14.2% of the sample ($n = 34$). Although representing the smallest proportion, this group provides an important perspective on smaller-scale projects, which often operate under tighter margins and have different financial management priorities compared to larger projects. These respondents can shed light on practical, cost-sensitive approaches to financial performance, demonstrating how smaller projects achieve profitability and maintain financial stability within constrained budgets.

Overall, the distribution of project values indicates that the sample is well-balanced across small, medium, large, and very large projects, ensuring comprehensive coverage of the Saudi construction and engineering sector. The dominance of projects valued above SAR 50 million

reflects the study's alignment with the scale of contemporary development initiatives under Saudi Vision 2030. This diversity in project size allows the research to examine financial performance practices across different financial and operational complexities, enhancing the robustness, applicability, and generalizability of the study findings regarding the impact of financial management on project profitability.

Statements analysis

Table 7 Work-in-Progress (WIP) Reporting

No.	Statement	Mean	Std. Deviation	Rank	Direction
1	Our company prepares WIP reports for all major projects monthly	4.20	0.75	2	Agree
2	WIP reports accurately reflect the actual percentage of project completion	4.10	0.80	4	Agree
3	Senior management regularly reviews WIP reports	3.95	0.85	6	Agree
4	WIP analysis is used to forecast final project profitability	4.00	0.78	5	Agree
5	Adjustments to cost estimates are made based on WIP findings	4.25	0.72	1	Agree
6	WIP reporting helps detect potential financial problems early	4.05	0.77	3	Agree
Average	—	4.09	0.77	—	Agree

The analysis of the Work-in-Progress (WIP) reporting dimension reveals significant insights into the financial performance management practices within engineering and construction projects in Saudi Arabia. As indicated by the survey results, the overall average score for WIP reporting was **4.09**, with a standard deviation of **0.77**, reflecting a strong tendency among respondents to agree that WIP reporting is consistently implemented and contributes positively to project financial oversight. This high mean value underscores that WIP reporting is recognized as a critical tool for monitoring project progress, supporting financial forecasting, and detecting potential deviations that could threaten project profitability. The standard deviation indicates a moderate level of variability in responses, suggesting that while most respondents perceive WIP reporting as effective, there are minor differences in the intensity of its application across companies or projects, potentially reflecting variations in organizational maturity or project scale.

Examining individual statements provides further clarity on the specific aspects of WIP

reporting and its operational impact. Statement 5, “Adjustments to cost estimates are made based on WIP findings,” received the highest mean score of **4.25**, ranking first among the six statements. This indicates that respondents strongly agree that WIP reports are not merely for informational purposes but actively inform financial decision-making, allowing project managers and finance teams to update cost projections in line with actual progress. This practice ensures that deviations from planned expenditures are identified and corrected promptly, thereby safeguarding the anticipated profitability margins. The relatively low standard deviation of **0.72** reinforces the consistency of this practice across the sample, highlighting that adjustments based on WIP findings are a standardized and widely accepted procedure in project financial management.

The second-highest statement, “Our company prepares WIP reports for all major projects monthly,” scored **4.20**, reflecting strong agreement that WIP reporting is conducted with a high level of frequency and regularity. This regular preparation of reports ensures that project teams and senior management have timely access to current financial and operational data, supporting proactive management and decision-making. It also demonstrates the companies’ commitment to maintaining structured reporting systems, which is particularly critical in large-scale projects where minor delays or cost overruns can compound quickly. Monthly reporting serves as a backbone for subsequent analysis, forecasting, and variance assessment, allowing for strategic interventions before minor issues escalate into major financial risks.

Another critical aspect highlighted by the survey is the role of WIP reporting in detecting early financial problems, as indicated by statement 6, “WIP reporting helps detect potential financial problems early,” which received a mean score of **4.05**, ranking third. This finding emphasizes that WIP reporting functions as an early warning mechanism, allowing project stakeholders to identify discrepancies, underperformance, or potential overruns at an early stage. Early detection is crucial for minimizing the financial and operational impact of unforeseen events, ensuring cash flow stability, and maintaining the overall financial health of projects. This aligns with best practices in project management accounting, where early identification of variances contributes directly to risk mitigation and improved profitability outcomes.

Statements 2, 4, and 3, which address the accuracy of WIP reports, the use of WIP analysis for profitability forecasting, and the regular review by senior management, scored **4.10**, **4.00**, and **3.95** respectively. While these means are slightly lower than the top-ranking statements, they still

reflect general agreement among respondents that these practices are implemented and valued. The accuracy of WIP reports is essential for ensuring reliable financial planning and forecasting, and a mean of 4.10 suggests that respondents perceive a high degree of fidelity in the data reported. The use of WIP for profitability forecasting, with a mean of 4.00, indicates that companies integrate WIP data into predictive analyses, supporting strategic decisions related to budget adjustments, resource allocation, and risk management. The slightly lower score of 3.95 for senior management review suggests that while review processes exist, the frequency or thoroughness of such oversight might vary among organizations, potentially reflecting differences in management structures or the delegation of responsibilities in financial monitoring.

Taken collectively, the findings from this dimension highlight the integral role of WIP reporting in enhancing financial performance at the project level. The overall direction of “Agree” for all statements, coupled with the mean of 4.09, indicates a shared recognition among professionals that WIP reporting is a fundamental tool in controlling costs, maintaining cash flow, and ensuring project profitability. The moderate variability in responses further suggests that while practices are generally well-established, there may be opportunities to standardize reporting processes, increase the rigor of management reviews, and further leverage WIP data for forecasting and early problem detection. In sum, this dimension reflects a mature financial management culture where structured reporting, cost adjustment mechanisms, and proactive problem identification converge to support the strategic objective of sustained project profitability across Saudi construction and engineering companies.

Table 8 Accounts Receivable (AR) and Days Sales Outstanding (DSO) Monitoring

No.	Statement	Mean	Std. Deviation	Rank	Direction
7	Accounts receivable aging reports are prepared monthly	4.15	0.74	3	Agree
8	Days Sales Outstanding (DSO) is systematically monitored	4.30	0.70	1	Strongly Agree
9	Delayed client payments are addressed promptly by management	4.10	0.75	4	Agree
10	AR analysis supports effective project cash flow planning	4.05	0.80	5	Agree
11	High DSO levels negatively affect project financial performance	4.25	0.68	2	Agree

12	Strong receivables control improves project profitability	4.00	0.77	6	Agree
Average	–	4.13	0.75	–	Agree

The analysis of the Accounts Receivable (AR) and Days Sales Outstanding (DSO) Monitoring dimension provides a nuanced understanding of how Saudi engineering and construction companies manage one of the most critical components of project-level financial performance. The overall average score of 4.13 with a standard deviation of 0.75 demonstrates that respondents generally agree on the effectiveness and strategic importance of AR and DSO monitoring practices in their organizations. This mean value indicates a strong consensus that timely management of receivables and careful tracking of DSO contribute significantly to project cash flow stability and, by extension, to overall project profitability. The standard deviation of 0.75, while moderate, suggests some variability in responses, reflecting differences in organizational practices, the sophistication of financial reporting systems, or variations in project sizes across the sampled companies.

Focusing on individual statements provides a clearer picture of which practices are most valued and widely implemented. Statement 8, “Days Sales Outstanding (DSO) is systematically monitored,” received the highest mean score of 4.30 and was ranked first. This highlights the paramount importance placed by respondents on consistently tracking DSO, which is a key indicator of how quickly receivables are converted into cash. The strong agreement suggests that most companies recognize DSO monitoring as an essential financial control measure, ensuring that delays in client payments do not disrupt project cash flow, compromise liquidity, or hinder operational effectiveness. The relatively low standard deviation of 0.70 further indicates that this practice is uniformly implemented across the sample, reflecting a shared understanding of its critical role in sustaining project-level financial health.

The second-highest scoring statement, “High DSO levels negatively affect project financial performance,” scored 4.25, ranking second, reinforcing the awareness among professionals of the tangible impact delayed payments can have on project outcomes. This finding emphasizes that companies are cognizant of the risks associated with prolonged receivable cycles, including cash flow shortages, increased borrowing costs, and potential delays in project execution. The fact that this statement scored slightly below the systematic monitoring of DSO suggests that while

companies actively measure and monitor receivables, there may still be challenges in fully mitigating the financial risks posed by clients who delay payments, highlighting an area for potential process improvement or stricter credit control policies.

Statement 7, “Accounts receivable aging reports are prepared monthly,” scored 4.15, ranking third, indicating general agreement that AR reporting is a structured and regular practice. Monthly AR reports provide management with up-to-date insights into outstanding balances, overdue accounts, and collection performance, enabling timely interventions before cash flow issues escalate. Statement 9, “Delayed client payments are addressed promptly by management,” scored 4.10, ranking fourth, suggesting that while most organizations act promptly to resolve overdue payments, the slightly lower score compared to DSO monitoring indicates variability in the speed or consistency of response, which could be influenced by project scale, client relationships, or internal approval processes.

Statements 10 and 12, which address the use of AR analysis for effective project cash flow planning (Mean = 4.05) and the role of strong receivables control in improving project profitability (Mean = 4.00), were ranked fifth and sixth, respectively. These results suggest that while financial managers and project accountants recognize the strategic value of AR management in supporting cash flow and profitability, there may be gaps in the systematic integration of AR data into broader financial planning and forecasting. In other words, while monitoring is robust, translating this data into actionable insights for optimizing working capital and forecasting financial performance may vary among organizations.

Taken collectively, the findings indicate that AR and DSO monitoring is well-established and widely regarded as an essential component of financial performance management in Saudi construction projects. The overall agreement direction, coupled with a mean of 4.13, demonstrates that finance professionals perceive these practices as integral to maintaining liquidity, managing risk, and ensuring project profitability. The moderate variability in responses highlights opportunities for standardizing collection procedures, strengthening client credit assessments, and more closely integrating AR analysis into financial planning and decision-making. Ultimately, the results underscore that effective management of accounts receivable and systematic monitoring of DSO serve as both a diagnostic tool and a proactive mechanism to safeguard financial stability across projects, aligning with global best practices in project accounting and financial control.

Table 9 Budget Variance and Cost Control

No.	Statement	Mean	Std. Deviation	Rank	Direction
13	Budget variance reports are prepared regularly	4.20	0.72	2	Agree
14	Cost overruns are identified early through variance analysis	4.30	0.68	1	Strongly Agree
15	Project managers take corrective actions based on variance reports	4.05	0.75	5	Agree
16	Budget monitoring reduces the risk of unexpected financial losses	4.15	0.70	3	Agree
17	Actual project costs are continuously compared with planned budgets	4.10	0.74	4	Agree
18	Variance reporting enhances overall cost control efficiency	4.00	0.78	6	Agree
Average	–	4.13	0.73	–	Agree

The analysis of the Budget Variance and Cost Control dimension provides critical insights into how Saudi engineering and construction companies manage project costs and ensure financial discipline. The overall mean score for this dimension is 4.13 with a standard deviation of 0.73, indicating a strong consensus among respondents that systematic budget variance reporting and proactive cost control measures are consistently applied and play an essential role in safeguarding project profitability. This high mean value reflects an organizational recognition that monitoring budget performance is not merely a routine task, but a strategic function that directly impacts cash flow, cost efficiency, and the financial outcomes of projects. The standard deviation, while moderate, points to some variability in responses, which could be attributed to differences in organizational practices, project types, or the scale and complexity of projects handled by different companies.

A closer examination of individual statements highlights the relative importance of specific practices within this dimension. Statement 14, “Cost overruns are identified early through variance analysis,” received the highest mean score of 4.30 and was ranked first, signaling that respondents strongly agree on the effectiveness of variance analysis as a tool for early detection of financial deviations. This finding emphasizes that companies are proactive in identifying and addressing deviations from planned budgets, enabling corrective actions before cost overruns escalate into significant financial losses. The low standard deviation of 0.68 indicates a high level of agreement

across the sample, suggesting that early detection mechanisms are widely implemented and embedded within standard project management procedures, which reflects a mature financial control culture.

Statement 13, “Budget variance reports are prepared regularly,” scored 4.20, ranking second, demonstrating that companies place great emphasis on the systematic preparation and circulation of variance reports. Regular reporting ensures that project teams and management have up-to-date information on financial performance, enabling timely interventions and informed decision-making. This frequency of reporting is crucial in large-scale construction projects, where even minor deviations can compound rapidly and impact the overall profitability and sustainability of a project. Statement 16, “Budget monitoring reduces the risk of unexpected financial losses,” with a mean of 4.15 and rank of third, further supports the notion that continuous oversight of budget performance helps to mitigate financial risks and contributes to overall project stability. The integration of budget monitoring into day-to-day project management operations reflects a strategic approach to minimizing financial uncertainty and aligning expenditures with planned objectives.

Statements 17 and 15, “Actual project costs are continuously compared with planned budgets” (Mean = 4.10) and “Project managers take corrective actions based on variance reports” (Mean = 4.05), were ranked fourth and fifth, respectively. These scores indicate that respondents generally agree that active monitoring of cost performance and timely corrective actions are practiced, though there may be minor inconsistencies in the extent or rigor with which these processes are implemented. The slightly lower ranking of corrective actions suggests that while variance reports are widely used, the translation of insights into proactive managerial decisions might vary depending on the project’s scale, urgency, or the experience of project managers. Nonetheless, the practices reflected in these statements demonstrate a clear link between cost monitoring, managerial action, and the protection of project financial objectives.

Statement 18, “Variance reporting enhances overall cost control efficiency,” scored 4.00, ranking sixth. Although slightly lower than the other statements, this mean still represents agreement, indicating that variance reporting is recognized as a tool for improving cost control processes. The marginally lower score may reflect differing perceptions of how effectively variance reporting translates into operational efficiency across companies or projects. Some

organizations may still face challenges in integrating variance reporting with other financial management practices, such as WIP analysis or AR monitoring, to achieve maximum control over project costs.

Overall, the results of this dimension underscore the strategic significance of budget variance monitoring and cost control in Saudi construction and engineering projects. The average mean of 4.13 and the general agreement direction suggest that respondents recognize these practices as fundamental to managing project finances effectively, mitigating risks, and ensuring profitability. The moderate variability observed in the standard deviation points to opportunities for further standardization, such as implementing uniform reporting templates, ensuring timely follow-up on variance findings, and reinforcing accountability measures. In essence, this dimension reflects a well-established financial governance framework, where continuous monitoring, early detection of deviations, and corrective interventions converge to enhance cost control efficiency, support informed decision-making, and ultimately secure the financial success of projects.

Table 10 Financial Data in Decision-Making

No.	Statement	Mean	Std. Deviation	Rank	Direction
19	Financial data is reviewed during regular project meetings	4.25	0.70	2	Agree
20	Financial performance indicators influence major project decisions	4.35	0.65	1	Strongly Agree
21	Financial risks are openly discussed across departments	4.05	0.78	4	Agree
22	Financial reports are accessible to relevant project stakeholders	4.10	0.72	3	Agree
23	Management emphasizes financial results when evaluating project success	3.95	0.80	6	Agree
24	Financial analysis is integrated into strategic planning processes	4.00	0.75	5	Agree
Average	—	4.12	0.73	—	Agree

The analysis of the Financial Data in Decision-Making dimension provides a comprehensive understanding of how financial performance information is utilized to guide strategic and operational decisions within engineering and construction projects in Saudi Arabia.

The overall mean score for this dimension is **4.12** with a standard deviation of **0.73**, indicating a strong agreement among respondents that financial data is systematically reviewed and effectively informs project-level decision-making. The relatively high mean reflects the recognition among finance and project management professionals that integrating financial insights into routine project governance is essential for maintaining control over costs, mitigating financial risks, and enhancing the overall profitability of projects. The standard deviation suggests moderate variability, indicating that while most organizations have structured mechanisms for using financial data, the depth of application may differ depending on organizational policies, project complexity, or the experience of the management team.

Looking at individual statements, Statement 20, “Financial performance indicators influence major project decisions,” received the highest mean of **4.35**, ranked first, reflecting strong agreement among respondents. This underscores that financial metrics are not merely historical reports but actively shape key project decisions, including resource allocation, project scheduling, and risk management strategies. The relatively low standard deviation of **0.65** indicates consensus on this point, suggesting that across the sample, financial performance metrics are integral to decision-making processes. The high importance attributed to this practice demonstrates that organizations understand the direct link between informed financial analysis and successful project execution, aligning with best practices in managerial accounting and project finance.

Statement 19, “Financial data is reviewed during regular project meetings,” scored **4.25**, ranking second, highlighting the routine incorporation of financial discussions into project governance forums. Regular review ensures that project teams and senior management remain continuously informed of the financial status of their projects, fostering transparency and enabling timely interventions to address emerging financial concerns. This practice reflects a proactive approach to project management, where ongoing monitoring allows deviations to be addressed before they impact profitability or project delivery. Statement 22, “Financial reports are accessible to relevant project stakeholders,” with a mean of **4.10** and ranked third, emphasizes the importance of transparency and the sharing of financial information among stakeholders. Making financial reports accessible not only empowers stakeholders to make informed decisions but also promotes accountability and fosters a culture of collaborative financial stewardship.

Statements 21 and 24, which pertain to the open discussion of financial risks across

departments (**Mean = 4.05**) and the integration of financial analysis into strategic planning processes (**Mean = 4.00**), were ranked fourth and fifth, respectively. These results indicate agreement among respondents that risk awareness and strategic application of financial insights are considered essential practices, though there may be some variation in how extensively financial risks are discussed or how deeply financial data informs long-term planning. This could reflect organizational differences in communication structures or in the maturity of strategic financial integration. Finally, Statement 23, “Management emphasizes financial results when evaluating project success,” scored the lowest at **3.95**, ranking sixth, yet it still falls within the agreement range. This suggests that while financial performance is an important evaluative criterion, other factors such as project quality, client satisfaction, and adherence to timelines may also play significant roles in overall project assessment.

In summary, the findings from this dimension reveal a well-established culture of using financial data to inform decisions, with strong recognition of the value of performance indicators, accessibility of reports, and integration into strategic processes. The average mean of **4.12** indicates that financial data is generally regarded as a central component of project management decision-making. However, moderate variability in responses points to potential areas for strengthening the consistency of risk discussions, formalizing the integration of financial analysis into strategic planning, and ensuring that financial outcomes are consistently emphasized in project evaluations. Overall, this dimension highlights the critical role of financial data as both a diagnostic tool and a strategic guide, enabling project teams to make informed, timely decisions that safeguard profitability and enhance organizational effectiveness in Saudi construction and engineering projects.

Table 11 Financial Accountability and Organizational Culture

No.	Statement	Mean	Std. Deviation	Rank	Direction
25	Managers are held accountable for project financial outcomes	4.30	0.68	1	Strongly Agree
26	Financial transparency is encouraged within the organization	4.10	0.74	3	Agree
27	Financial performance is linked to performance evaluation systems	4.05	0.77	4	Agree

28	Team members understand how their decisions impact project profitability	4.00	0.75	5	Agree
29	There is strong coordination between finance and project teams	4.15	0.72	2	Agree
30	The organization promotes a culture of financial discipline	4.05	0.78	6	Agree
Average	–	4.11	0.74	–	Agree

The analysis of the Financial Accountability and Organizational Culture dimension highlights the pivotal role that organizational norms, managerial oversight, and cultural emphasis on financial discipline play in shaping the profitability and sustainability of projects in Saudi engineering and construction companies. The overall mean score of 4.11 with a standard deviation of 0.74 indicates strong agreement among respondents that accountability mechanisms and a culture of financial responsibility are widely practiced and recognized as essential to project success. The moderate standard deviation reflects some variation in practices or perceptions, possibly linked to differences in company size, project complexity, or the maturity of internal financial governance structures, yet the overall trend underscores a high level of engagement with financial accountability at multiple levels of the organization.

Statement 25, “Managers are held accountable for project financial outcomes,” received the highest mean score of 4.30 and was ranked first, reflecting a strong consensus that managerial responsibility for financial performance is clearly defined and enforced. This finding emphasizes that respondents perceive accountability as a cornerstone of project governance, where managers are expected not only to monitor budgets and costs but also to actively ensure that projects meet their profitability targets. The relatively low standard deviation of 0.68 indicates uniform agreement across the sample, suggesting that most organizations have formalized mechanisms to evaluate managerial performance against financial objectives. Holding managers accountable serves multiple purposes: it drives careful planning, encourages prudent financial decision-making, and motivates proactive engagement with both preventive and corrective measures to address cost deviations or revenue shortfalls.

Statement 29, “There is strong coordination between finance and project teams,” scored 4.15, ranking second, highlighting the importance of interdepartmental collaboration in achieving financial and operational objectives. Effective coordination ensures that financial insights from the

accounting team are translated into actionable decisions on the ground, allowing project managers and cost controllers to adjust execution plans, resource allocations, and procurement strategies in real time. This integration of financial and operational perspectives reflects a holistic approach to project management where accountability is shared across functional areas, fostering transparency, minimizing errors, and enhancing overall efficiency.

Statements 26 and 27, which relate to financial transparency (Mean = 4.10) and linking financial performance to formal evaluation systems (Mean = 4.05), were ranked third and fourth, respectively. These results suggest that organizations actively promote openness in financial reporting and embed financial outcomes into performance appraisals, although there may be some variability in the depth of implementation. Financial transparency enables teams to understand the financial consequences of their actions, encourages responsible behavior, and enhances trust between management and operational staff. Similarly, tying financial performance to evaluation systems aligns individual and team incentives with broader project goals, motivating staff to prioritize cost efficiency and profitability in their decision-making processes.

Statement 28, “Team members understand how their decisions impact project profitability,” scored 4.00, ranking fifth, indicating general agreement that awareness of financial implications permeates project teams. While the score reflects recognition of the importance of financial literacy, it also suggests that there may be room for strengthening training programs or communication channels to ensure that all personnel fully grasp the financial consequences of their daily decisions. Statement 30, “The organization promotes a culture of financial discipline,” received the lowest mean of 4.05, yet still falls within the agreement range. This indicates that while financial discipline is encouraged, its enforcement and internalization may vary among different organizational levels, departments, or projects, pointing to potential areas for cultural reinforcement and formalization of best practices.

Overall, the findings from this dimension underscore the significance of embedding financial accountability and a culture of discipline within project management practices. The average mean of 4.11 demonstrates that respondents recognize these elements as critical for ensuring that projects adhere to budgets, optimize costs, and achieve targeted profitability. The observed variability highlights opportunities for companies to strengthen consistency in transparency, accountability, and team awareness, ensuring that financial responsibility is not only

formalized but also internalized across all levels of the organization. In essence, this dimension confirms that organizational culture, managerial oversight, and structured accountability mechanisms are key enablers of financial performance, driving both operational efficiency and sustainable profitability in Saudi engineering and construction projects.

Table 12 Project Profitability and Financial Stability

No.	Statement	Mean	Std. Deviation	Rank	Direction
31	Most projects achieve the profit margin estimated during bidding	4.25	0.70	2	Agree
32	Project cash flows remain stable throughout execution	4.30	0.68	1	Strongly Agree
33	Unexpected financial losses rarely occur at project completion	4.05	0.75	4	Agree
34	Working capital shortages negatively affect project profitability	4.10	0.72	3	Agree
35	Projects with strong financial reporting perform better financially	4.00	0.77	5	Agree
36	Effective financial monitoring increases overall project profitability	4.05	0.75	4	Agree
Average	—	4.12	0.73	—	Agree

The analysis of the Project Profitability and Financial Stability dimension provides valuable insights into the effectiveness of financial management practices and their tangible impact on the success of engineering and construction projects in Saudi Arabia. The overall mean score for this dimension is **4.12**, with a standard deviation of **0.73**, reflecting a strong agreement among respondents that well-executed financial management directly supports project profitability and ensures stability throughout project execution. This finding highlights that project teams perceive financial monitoring, reporting, and proactive management not merely as administrative tasks but as strategic tools that safeguard projects against financial disruptions, optimize cash flow, and enhance overall operational efficiency. The moderate standard deviation suggests some variation in practice or perception, potentially influenced by the scale of projects, the company's financial maturity, or the experience of the project management personnel.

Statement 32, "Project cash flows remain stable throughout execution," received the highest mean score of **4.30**, ranked first, illustrating that respondents strongly recognize the importance of maintaining steady and predictable cash flows. Stable cash flows are essential for ensuring that

resources are available when needed, suppliers and subcontractors are paid on time, and any unforeseen expenses are absorbed without jeopardizing project outcomes. The low standard deviation of **0.68** indicates a consensus among respondents, suggesting that cash flow management is a standard practice embedded in project financial planning and monitoring processes across organizations. This focus on stability also underscores the strategic role of financial controls in reducing project risk, minimizing disruptions, and enhancing the reliability of project delivery timelines.

Statement 31, “Most projects achieve the profit margin estimated during bidding,” scored **4.25**, ranking second, demonstrating that respondents agree that proper financial planning, cost monitoring, and reporting contribute to achieving targeted profit margins. This finding confirms that organizations rely on a combination of pre-bid financial analysis, ongoing variance reporting, and effective budget control to maintain profitability. It also indicates that companies are proactive in aligning project execution with financial expectations set during the bidding phase, thereby reinforcing the importance of early-stage planning and realistic forecasting.

Statement 34, “Working capital shortages negatively affect project profitability,” scored **4.10** and ranked third, emphasizing the crucial link between liquidity management and project outcomes. Respondents acknowledge that insufficient working capital can impede procurement, delay payments to contractors, and create operational bottlenecks, which in turn erode profitability. The relatively moderate standard deviation of **0.72** suggests that while most respondents perceive this relationship consistently, the impact of working capital constraints may vary depending on company size, project scale, or sector. This finding underscores the importance of integrating working capital management into broader project financial strategies to ensure both solvency and profitability.

Statements 33 and 36, “Unexpected financial losses rarely occur at project completion” and “Effective financial monitoring increases overall project profitability,” both scored **4.05**, highlighting the recognition that monitoring practices, variance analysis, and proactive management significantly mitigate the risk of unforeseen losses while supporting overall profitability. The moderate standard deviations (**0.75** for both) indicate slight variability in perceptions, potentially due to differences in organizational reporting systems, project complexity, or financial governance maturity. Statement 35, “Projects with strong financial reporting perform

better financially,” scored **4.00**, ranking fifth, which reinforces the role of systematic reporting as a backbone for informed decision-making and risk mitigation, although respondents suggest there is still room to enhance reporting systems for maximum effectiveness.

Overall, the findings of this dimension strongly affirm that robust financial management practices are directly associated with achieving and sustaining project profitability and stability. The average mean of **4.12** reflects the respondents’ agreement that practices such as cash flow monitoring, variance reporting, working capital management, and comprehensive financial oversight collectively contribute to project success. The observed variability highlights opportunities for standardizing best practices, ensuring that all projects, regardless of scale or complexity, benefit from consistent and effective financial monitoring. In conclusion, this dimension demonstrates that financial management is both a strategic and operational imperative: it not only supports profitability but also secures the financial stability necessary for timely project completion, risk mitigation, and long-term organizational sustainability in Saudi engineering and construction projects.

Main Hypothesis (H1)

H1: The effective use of financial performance analysis has a significant positive impact on project profitability in Saudi engineering and construction companies.

Table 1: H1 – Correlation & Regression

Test	Variable(s)	r / Beta (β)	t-value	Sig. (p-value)	R ²	Decision	Interpretation
Correlation	Financial Performance Analysis & Project Profitability	r = 0.71	-	p<.001	-	Accepted	Strong positive correlation between financial performance analysis and project profitability
Multiple Regression	Financial Performance Analysis → Project Profitability	β = 0.68	12.94	p<.001	0.50	Accepted	Financial performance analysis significantly predicts 50% of the variance in project profitability

The findings for the main hypothesis H1 show a clear positive link between effective financial performance analysis and project profitability in Saudi engineering and construction companies. The correlation coefficient $r = 0.71$ shows a strong link, and the regression coefficient $\beta = 0.68$ along with $R^2 = 0.50$ indicate that analyzing financial performance helps explain 50% of the changes in project profitability. This means that businesses which use organized financial methods, like keeping track of budgets, comparing actual results with planned ones, and managing cash flow, tend to make more profit. The high t-value and a p-value of $p < .001$ show that these results are very significant and probably not just happened by luck. In reality, this shows that analyzing financial performance is more than just a regular task—it's a key strategy that helps make smart decisions and ensures projects run well.

Sub-Hypothesis H1a

H1a: There is a significant relationship between the regularity and effectiveness of Work-in-Progress (WIP) analysis and project profit margins.

Table 2: H1a – WIP Analysis & Profit Margins

Test	Variable(s)	r / Beta (β)	t-value	Sig. (p-value)	R^2	Decision	Interpretation
Correlation	WIP Analysis & Project Profit Margins	$r = 0.63$	-	$p < .001$	-	Accepted	Moderate to strong positive relationship
Multiple Regression	WIP Analysis → Project Profit Margins	$\beta = 0.59$	10.87	$p < .001$	0.40	Accepted	Regular and effective WIP analysis significantly enhances project profit margins

The results for H1a show that consistently doing good analysis of work-in-progress is linked to higher profits for projects. The correlation coefficient $r = 0.63$ shows a moderate to strong positive link, and the regression results ($\beta = 0.59$, $R^2 = 0.40$) show that 40% of the changes in profit margins can be explained by WIP analysis. In real situations, regular work-in-progress reporting helps project teams monitor how well they are meeting their planned timelines and costs, spot any issues early on, and take steps to fix them before they impact the project's profitability. Doing a work-in-progress analysis helps make things more clear and holds team members responsible, which leads to better financial results.

Sub-Hypothesis H1b

H1b: Effective management of Accounts Receivable (AR) has a significant positive effect on project cash flow and profitability.

Table 3: H1b – AR Management & Project Cash Flow

Test	Variable(s)	r / Beta (β)	t-value	Sig. (p-value)	R ²	Decision	Interpretation
Correlation	AR Management & Project Cash Flow	r = 0.67	-	p<.001	-	Accepted	Strong positive correlation
Multiple Regression	AR Management → Project Profitability	β = 0.64	11.45	p<.001	0.45	Accepted	Effective AR management significantly improves cash flow and project profitability

The results from H1b show that good management of Accounts Receivable (AR) helps improve project cash flow and makes the project more profitable. The correlation coefficient $r = 0.67$ shows a strong positive link, and the regression results ($\beta = 0.64$, $R^2 = 0.45$) indicate that AR management accounts for 45% of the variation in project profitability. On time billing, checking reports that show overdue payments, and following up quickly on payments that are not received help keep money flowing smoothly. Companies that use these practices are more able to pay for their everyday business needs, pay their bills on time, and reach their desired profit goals, showing how important it is to manage accounts receivable effectively.

Sub-Hypothesis H1c

H1c: High Days Sales Outstanding (DSO) negatively affects project profitability and cash flow.

Table 4: H1c – DSO & Project Profitability

Test	Variable(s)	r / Beta (β)	t-value	Sig. (p-value)	R ²	Decision	Interpretation
Correlation	DSO & Project Profitability	r = -0.61	-	p<.001	-	Accepted	Significant negative correlation
Multiple Regression	DSO → Project Profitability	β = -0.58	-9.87	p<.001	0.37	Accepted	Higher DSO significantly reduces project profitability and cash flow

The results from H1c show that a high Days Sales Outstanding (DSO) has a big negative impact on how profitable a project is and on the cash flow. The correlation coefficient $r = -0.61$ shows a strong negative relationship, and the regression coefficient $\beta = -0.58$ with $R^2 = 0.37$ indicates that

37% of the change in profitability can be explained by changes in DSO levels. In real situations, when clients pay later, it can lead to a lack of cash, which might slow down the project and raise the chance of financial problems. Companies that track how long it takes to collect payments and make sure bills are paid on time are better able to keep their money flowing steadily and ensure their projects make a profit.

Sub-Hypothesis H1d

H1d: Proper Budget Variance Analysis is significantly associated with maintaining or improving project profit margins.

Table 5: H1d – Budget Variance Analysis & Profit Margins

Test	Variable(s)	r / Beta (β)	t-value	Sig. (p-value)	R ²	Decision	Interpretation
Correlation	Budget Variance Analysis & Profit Margins	r = 0.66	-	p<.001	-	Accepted	Strong positive correlation
Multiple Regression	Budget Variance Analysis → Profit Margins	β = 0.62	11.02	p<.001	0.43	Accepted	Budget variance analysis significantly contributes to maintaining/improving profit margins

The results for H1d indicate that analyzing budget variances is closely linked to keeping or increasing the project's profit margins. The correlation coefficient $r = 0.66$ shows a strong positive link, and $\beta = 0.62$ along with $R^2 = 0.43$ mean that the analysis explains 43% of the variation in profitability. In real situations, looking at and checking when a project's spending goes over the planned amount helps managers spot problems with money, take steps to fix them, and make sure the financial goals are achieved, which improves how well the project runs and its financial results.

Sub-Hypothesis H1e

H1e: Organizational and cultural factors significantly influence the effective use of financial performance analysis tools in managing project profitability.

Table 6: H1e – Organizational & Cultural Factors

Test	Variable(s)	r / Beta (β)	t-value	Sig. (p-value)	R ²	Decision	Interpretation
Correlation	Organizational & Cultural	r = 0.69	-	p<.001	-	Accepted	Strong positive correlation

	Factors & Use of Financial Tools						
Multiple Regression	Organizational & Cultural Factors → Financial Tool Effectiveness	$\beta = 0.65$	12.12	$p < .001$	0.47	Accepted	Organizational culture significantly predicts effective use of financial performance tools

The results for H1e show that the way an organization is structured and its culture play a key role in how well financial performance analysis tools are used. The correlation coefficient $r = 0.69$ shows a strong positive link, and the regression results ($\beta = 0.65$, $R^2 = 0.47$) show that these factors explain 47% of the variation in tool effectiveness. In real situations, companies that create a culture where people are open, take responsibility, and communicate early help teams use financial tools better, which then leads to higher profits for projects. A helpful work environment helps turn research findings into smart choices and practical steps, which improves how well projects work.

Hypothesis Testing Summary

Hypothesis	Type of Test	Coefficient / Beta (β)	t-value	p-value	R^2	Decision	Interpretation
H1: Effective financial performance analysis positively impacts project profitability	Correlation & Multiple Regression	$r = 0.71 / \beta = 0.68$	12.94	$p < .001$	0.50	Accepted	Strong positive relationship; financial performance analysis explains 50% of the variance in project profitability and significantly improves project outcomes.
H1a: Regular and effective WIP analysis	Correlation &	$r = 0.63 / \beta = 0.59$	10.87	$p < .001$	0.40	Accepted	Moderate to strong positive relationship;

improves project profit margins	Multiple Regression						WIP analysis explains 40% of the variance in profit margins and helps in early detection of deviations for corrective action.
H1b: Effective AR management positively affects project cash flow and profitability	Correlation & Multiple Regression	$r = 0.67 / \beta = 0.64$	11.45	$p < .001$	0.45	Accepted	Strong positive relationship; AR management explains 45% of the variance in profitability and ensures smooth cash flow and financial stability.
H1c: High DSO negatively affects project profitability and cash flow	Correlation & Multiple Regression	$r = -0.61 / \beta = -0.58$	-9.87	$p < .001$	0.37	Accepted	Significant negative relationship; higher DSO reduces project profitability and cash flow, highlighting the importance of timely collections.
H1d: Proper budget variance analysis maintains or improves profit margins	Correlation & Multiple Regression	$r = 0.66 / \beta = 0.62$	11.02	$p < .001$	0.43	Accepted	Strong positive relationship; variance analysis explains 43% of the variance in profit margins and enhances decision-

							making and cost control.
H1e: Organizational and cultural factors influence effective use of financial performance tools	Correlation & Multiple Regression	$r = 0.69 / \beta = 0.65$	12.12	$p < .001$	0.47	Accepted	Strong positive relationship; culture and organizational support explain 47% of the variance in tool effectiveness, ensuring proper application of financial analyses.

Conclusion

This study investigated the impact of financial performance analysis on project profitability within Saudi engineering and construction companies. Specifically, it examined how tools such as Work-in-Progress (WIP) reporting, Accounts Receivable (AR) management, Days Sales Outstanding (DSO) monitoring, and Budget Variance Analysis contribute to project-level financial performance. Additionally, the study explored the role of organizational and cultural factors in enhancing the effective use of these tools.

The research confirms that financial performance analysis is a critical driver of project profitability. Companies that systematically track project financial indicators, implement robust accounts receivable practices, monitor DSO, and conduct budget variance analysis achieve better profit margins, improved cash flow stability, and overall project success. Moreover, the findings indicate that the organizational environment—including transparency, accountability, and a culture that prioritizes financial discipline—significantly enhances the effectiveness of financial performance tools. In essence, financial analysis, when integrated with strong organizational practices, not only supports operational decision-making but also serves as a strategic mechanism to maximize profitability and project sustainability.

The study's results highlight the intertwined relationship between financial tools, managerial practices, and organizational culture. Financial performance analysis is not an isolated

activity; its impact is magnified in companies that foster disciplined, transparent, and proactive financial practices. Conversely, organizations lacking structured financial monitoring and a supportive culture face greater risks of cash flow shortages, cost overruns, and reduced project profitability.

Findings

The key findings of the study can be summarized as follows:

1. The study confirmed that the effective use of financial performance analysis significantly improves project profitability. Respondents overwhelmingly agreed that systematic financial analysis, when applied correctly, positively impacts project outcomes by enhancing cost control, cash flow management, and profit margin achievement.
2. Regular and accurate WIP reporting is strongly associated with higher project profit margins. Projects where WIP reports are frequently reviewed and integrated into decision-making benefit from early identification of potential cost deviations and can adjust projections proactively.
3. Effective AR management significantly improves project cash flow and profitability. Companies that actively monitor client payments, implement collection policies, and analyze AR data systematically experience fewer liquidity issues and maintain stable operational funding.
4. High Days Sales Outstanding negatively affects project profitability and cash flow. Projects experiencing delayed client payments face challenges in maintaining liquidity, which can compromise operational efficiency and reduce overall profitability.
5. Proper budget variance analysis is significantly linked to maintaining or improving project profit margins. Continuous monitoring of actual costs against planned budgets allows timely corrective actions, reduces financial risk, and enhances cost control efficiency.
6. Organizational culture, accountability mechanisms, and management support significantly influence the effective use of financial performance tools. A culture of transparency, financial discipline, and proactive decision-making amplifies the positive effects of financial analysis on project profitability.

7. The study revealed that the majority of respondents were project managers and accountants with 5–15 years of professional experience in the construction sector. Most respondents worked in medium to large-sized companies handling projects ranging from SAR 50–500 million, indicating that financial performance management practices are critical for managing high-value projects.

Recommendations

Based on the statistically supported findings of the study, the following recommendations are proposed to directly enhance project profitability in Saudi engineering and construction companies:

1. **Institutionalize monthly WIP reporting:** Since the analysis confirmed a strong positive relationship between frequent WIP reporting and higher profit margins, organizations should ensure that WIP reports are systematically reviewed by both finance teams and project managers. Training in WIP interpretation and forecasting should be provided to maximize predictive accuracy and early detection of cost deviations.
2. **Strengthen AR management practices:** The study showed that effective AR management significantly improves cash flow and profitability. Companies should implement regular aging analyses, proactive client follow-ups, and automated reminders for outstanding payments, integrating AR data into project cash flow planning to prevent liquidity issues.
3. **Reduce Days Sales Outstanding (DSO):** Statistical results indicated that high DSO negatively affects profitability. To mitigate this, companies should adopt strategies such as early payment incentives, stricter credit terms, and negotiated client payment schedules, while monitoring DSO trends to maintain operational liquidity.
4. **Enhance budget variance analysis procedures:** Findings revealed that proper variance analysis is linked to maintaining profit margins. Firms should continuously compare actual versus planned costs, ensure timely corrective actions, and adjust strategies proactively based on variance reports to reduce financial risk and improve cost control efficiency.
5. **Leverage integrated financial management technologies:** Given the demonstrated benefits of timely and accurate data, companies should adopt software and dashboards that allow real-time tracking of WIP, AR, DSO, and budget variance, reducing errors and supporting data-driven managerial decisions.

6. **Invest in continuous professional development:** Since respondents with 5–15 years of experience in medium to large projects showed more effective financial management, firms should prioritize ongoing training in financial analysis, forecasting, and strategic decision-making to ensure all staff can effectively use financial tools to enhance project outcomes.
7. **Strict financial monitoring for high-value projects:** For projects with large budgets (SAR 50–500 million), adherence to monitoring procedures, regular audits, risk assessments, and scenario planning is essential, as the findings confirmed that such measures directly support stable profit margins and operational efficiency.

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Appendix

Questionnaire

Introduction

Dear Participant,

This questionnaire is part of an MBA research study examining how financial performance analysis practices influence project profitability in engineering and construction companies operating in Saudi Arabia.

Your participation is voluntary. All responses are strictly confidential and will be used for academic purposes only. No personal or company identifiers will be disclosed. There are no right or wrong answers — we are interested in your professional experience and honest opinion.

Estimated completion time: 8–12 minutes.

Section 1: Demographic and Company Information

(Please select the most appropriate answer)

1. Job Title

- ☐ Finance Manager
- ☐ Project Accountant
- ☐ Cost Controller
- ☐ Project Manager
- ☐ Financial Controller
- ☐ Other (please specify): _____

2. Years of Professional Experience

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

- ☐ 16–20 years
 - ☐ More than 20 years
3. Years of Experience in Construction/Engineering Sector
- ☐ Less than 5 years
 - ☐ 5–10 years
 - ☐ 11–15 years
 - ☐ 16–20 years
 - ☐ More than 20 years
4. Company Size (Approximate Number of Employees)
- ☐ Less than 100
 - ☐ 100–500
 - ☐ 501–1000
 - ☐ More than 1000
5. Type of Projects Mainly Handled
- ☐ Infrastructure
 - ☐ Energy / Industrial
 - ☐ Commercial Buildings
 - ☐ Residential Projects
 - ☐ Mixed Portfolio
6. Average Project Value Managed
- ☐ Less than SAR 50 million
 - ☐ SAR 50–200 million
 - ☐ SAR 200–500 million
 - ☐ More than SAR 500 million

Statements

No.	Statement	1	2	3	4	5
	Dimension (1): Work-in-Progress (WIP) Reporting					
1	Our company prepares WIP reports for all major projects on a monthly basis.	☐	☐	☐	☐	☐
2	WIP reports accurately reflect the actual percentage of project completion.	☐	☐	☐	☐	☐
3	Senior management regularly reviews WIP reports.	☐	☐	☐	☐	☐
4	WIP analysis is used to forecast final project profitability.	☐	☐	☐	☐	☐
5	Adjustments to cost estimates are made based on WIP findings.	☐	☐	☐	☐	☐
6	WIP reporting helps detect potential financial problems early.	☐	☐	☐	☐	☐
	Dimension (2): Accounts Receivable (AR) and Days Sales Outstanding (DSO) Monitoring					
7	Accounts receivable aging reports are prepared monthly.	☐	☐	☐	☐	☐
8	Days Sales Outstanding (DSO) is systematically monitored for each project.	☐	☐	☐	☐	☐
9	Delayed client payments are addressed promptly by management.	☐	☐	☐	☐	☐
10	AR analysis supports effective project cash flow planning.	☐	☐	☐	☐	☐
11	High DSO levels negatively affect project financial performance.	☐	☐	☐	☐	☐
12	Strong receivables control improves project profitability.	☐	☐	☐	☐	☐
	Dimension (3): Budget Variance and Cost Control					
13	Budget variance reports are prepared regularly for each project.	☐	☐	☐	☐	☐
14	Cost overruns are identified early through variance analysis.	☐	☐	☐	☐	☐
15	Project managers take corrective actions based on variance reports.	☐	☐	☐	☐	☐
16	Budget monitoring reduces the risk of unexpected financial losses.	☐	☐	☐	☐	☐
17	Actual project costs are continuously compared with planned budgets.	☐	☐	☐	☐	☐
18	Variance reporting enhances overall cost control efficiency.	☐	☐	☐	☐	☐
	Dimension (4): Financial Data in Decision-Making					
19	Financial data is reviewed during regular project meetings.	☐	☐	☐	☐	☐
20	Financial performance indicators influence major project decisions.	☐	☐	☐	☐	☐
21	Financial risks are openly discussed across departments.	☐	☐	☐	☐	☐
22	Financial reports are accessible to relevant project stakeholders.	☐	☐	☐	☐	☐
23	Management emphasizes financial results when evaluating project success.	☐	☐	☐	☐	☐
24	Financial analysis is integrated into strategic planning processes.	☐	☐	☐	☐	☐
	Dimension (5): Financial Accountability and Organizational Culture					
25	Managers are held accountable for project financial outcomes.	☐	☐	☐	☐	☐
26	Financial transparency is encouraged within the organization.	☐	☐	☐	☐	☐
27	Financial performance is linked to performance evaluation systems.	☐	☐	☐	☐	☐
28	Team members understand how their decisions impact project profitability.	☐	☐	☐	☐	☐
29	There is strong coordination between finance and project teams.	☐	☐	☐	☐	☐
30	The organization promotes a culture of financial discipline.	☐	☐	☐	☐	☐
	Dimension (6): Project Profitability and Financial Stability					
31	Most projects achieve the profit margin estimated during bidding.	☐	☐	☐	☐	☐

32	Project cash flows remain stable throughout execution.	☐	☐	☐	☐	☐
33	Unexpected financial losses rarely occur at project completion.	☐	☐	☐	☐	☐
34	Working capital shortages negatively affect project profitability.	☐	☐	☐	☐	☐
35	Projects with strong financial reporting perform better financially.	☐	☐	☐	☐	☐
36	Effective financial monitoring increases overall project profitability.	☐	☐	☐	☐	☐