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Research Project

The Effect of Shifting from Traditional Methods to Agile Methodologies on
Project Performance: A Field Study on Tech Projects in Saudi Arabia

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ABSTRACT

Background: The shift from traditional project management methodologies to Agile practices has gained substantial momentum, especially in the technology sector. Agile frameworks are known for their adaptability, stakeholder engagement, and iterative feedback loops, making them suitable for dynamic project environments. This study explores the impact of transitioning from traditional to Agile project management methodologies on the performance of tech projects in Saudi Arabia—a region undergoing rapid digital and organizational transformation.

Purpose and Objectives: The primary objective of this research is to examine how the adoption of Agile methodologies affects project outcomes in comparison to traditional approaches. It aims to identify the extent of Agile implementation, assess the quality of service under both methodologies, evaluate the level of transition, and analyze their combined effect on project performance.

Methodology: A structured quantitative approach was used, involving a survey of 51 respondents engaged in tech-related project management across Saudi Arabia. The questionnaire measured seven variables, including implementation levels, quality of service, transition intensity, and project performance. Statistical techniques such as descriptive analysis, Pearson correlation, and multiple regression were used to interpret the data. The reliability of each construct was confirmed using Cronbach's Alpha, with values ranging from 0.705 to 0.976.

Key Findings: The findings indicate a strong positive correlation between the actual implementation of Agile methodologies and enhanced project performance. The study revealed that 84% of respondents observed higher quality of service under Agile compared to traditional methods. The regression analysis showed a strong positive relationship between Agile implementation and project performance, with standardized beta coefficients reaching as high as 0.998. The mean score for Agile project execution was 4.58 out of 5, indicating very high engagement. Furthermore, 76% of participants agreed that Agile improved team responsiveness and communication, and 72% reported faster delivery cycles post-transition. The regression analysis revealed statistically significant relationships between several independent variables and project performance. The actual implementation of Agile methodologies (AIAPMA) demonstrated the strongest impact, with a standardized beta coefficient of 0.998 and a t-value of 9.245 ($p < 0.001$), indicating a highly significant positive effect. Similarly, the level of transition from traditional to Agile approaches (LTTAAM) showed a substantial influence ($\beta = 0.895$, $t = 5.094$, $p < 0.001$), as did the impact of the transition itself (ITT) with $\beta = 0.787$, $t = 5.894$, $p < 0.001$. Other variables including the quality of Agile service (QSAPMA), quality of traditional methods (QSTPMA), and implementation of traditional approaches (AITPMA) also showed significant positive coefficients ranging from 0.545 to 0.977, all with p-values ≤ 0.002 . These results confirm that Agile methodology, when well-implemented, has a powerful,

statistically supported effect on improving project performance in the Saudi tech sector.

Conclusion: Agile project management offers a transformative advantage for tech projects in Saudi Arabia. Organizations that manage the transition effectively are more likely to experience improved performance outcomes. This study underscores the need for structured Agile adoption strategies and highlights its broader implications for project success across evolving industries.

CHAPTER I: INTRODUCTION

1.1. Background of the Study

Over the past two decades, project management has evolved, notably in tech companies. Companies traditionally employed linear project management methodologies like the Waterfall model, which emphasizes requirements collecting, design, implementation, testing, and maintenance. Our tactics worked when scope, requirements, and results were clear and consistent throughout the project (Warner & Wäger, 2019). Technology has rapidly advanced, bringing complexity and uncertainty that traditional models cannot handle. Meeting increased demands for faster delivery, consumer contact, and adaption requires flexible and responsive techniques. Popular agile methods stress iterative development, cross-functional cooperation, and change responsiveness (Wafa et al., 2022). Complex project management has been simplified by Scrum, Kanban, and SAFe. Agile delivers functional components in sprints, unlike Waterfall. Reevaluating and revising project goals and deliverables meets client needs. Agile development stresses stakeholder participation, including end-users and clients (Sultan et al., 2024). A continual feedback loop increases product quality, time-to-market, and customer satisfaction. Agile project management is gaining popularity in tech-heavy areas like software development (Serman et al., 2015).

Vision 2030 in Saudi Arabia necessitates Agile methods. This strategy seeks to diversify the economy, reduce oil dependence, and promote innovation, digital transformation, and operational excellence across all sectors. Contemporary project management methods that encourage agile thinking, adaptive planning, and continuous improvement are helping public and private companies attain these aims (Sharma, 2022). Agile methods boost Vision 2030's productivity, accountability, and customer focus. More Saudi Arabian organizations are using Agile project management to innovate, compete, and create value (Sami Salem Alzahrani, 2023). Although agile approaches have numerous advantages, transitioning from older ones is tough. Agile deployment is hindered by organizational change resistance. Many companies' strict processes and cultural norms collide with Agile. Leadership mistrust, staff reluctance to take on new roles, and a general fear of change can cause resistance (S, 2017). Agile adoption also requires qualified workers who understand and apply Agile principles. Poor training and experience may impede teams from maximizing Agile principles, resulting in poor results or project failure (Sabeti et al., 2019).

Many companies use hybrid Agile models that integrate Agile and traditional practices. Hybrid methods offer flexibility and a transitional path, but they can also confuse, misalign, and inconsistency (Reghda et al., 2024). A team using Agile software development but Waterfall documentation and reporting may disappoint and reduce productivity. These challenges illustrate the importance of clear communication, strong leadership, and a supportive corporate culture for Agile transformation (Rasnacis & Berzisa, 2017b). Another problem is measuring project performance during and after Agile. Agile methods stress

flexibility, client collaboration, and incremental value delivery, therefore budget, schedule, and scope may not fully represent their benefits. Velocity, customer satisfaction, team morale, and cycle time are needed to evaluate Agile methods. Firms used to traditional performance indicators may struggle to create and track KPIs. Agile's effects on time, cost, quality, and customer satisfaction must be studied to transform organizations (Rasnacis & Berzisa, 2017a).

Saudi Arabia needs to understand how Agile affects project success. As more enterprises modernize and contribute to national development, agile practices must work locally. Cultural, legislative, and organizational factors may effect Agile adoption differently in Saudi Arabia. Hierarchical decision-making, stiff protocols, and poor Agile training may limit workflow integration. Thus, local case studies and data-driven analysis are essential to understand Agile adoption and Saudi best practices (Pettit et al., 2019). The COVID-19 pandemic has accelerated digitization, making agile and resilient project management more important for businesses. Traditional project management is failing owing to remote work, virtual communication, and market changes. Agile teams can react quickly, supply continually, and engage stakeholders despite geographical and temporal constraints. Agile's popularity has increased its adoption across industries, underlining the necessity to evaluate its effects on project performance (Nicola et al., 2020).

Agile has replaced Waterfall in project management to suit technology and commercial objectives. Agile's flexibility, stakeholder interaction, and incremental delivery have transformed project management in fast-paced, uncertain contexts. Agile adoption in Saudi Arabia promotes Vision 2030's industry-wide innovation and operational excellence (Mokhtar & Khayyat, 2022). Corporate resistance, talent shortages, and hybrid implementation hinder Agile adoption. Agile approaches' effects on project performance must be studied in context to maximize their benefits. Organizations can make informed judgments, alter Agile adoption strategies, and increase project success and sustainability (Mohammad R. Kabli, 2019).

1.2. Problem Statement

Despite Agile's growing popularity in Saudi Arabia's technology sector, many organizations still employ traditional project management approaches or partially use Agile. Traditional and Agile techniques often generate hybrid project settings with conflicting practices, objectives, and performance measures. Agile project management transforms business culture, team roles, leadership, and stakeholder participation, not just technologies or methods (Moghaddasi et al., 2025). Traditional methods emphasize predictability, careful planning, and sequential job completion, while agile emphasizes adaptability, cooperation, and continuous improvement. In incomplete or poorly understood Agile enterprises, these philosophies can produce conflict and uncertainty. Implementation confusion can lead to misplaced goals, inefficient processes, and poor project results (Mishra et al., 2021).

Saudi Arabia's cultural, organizational, and structural barriers hinder Agile project management. Hierarchical decision-making, rigorous procedures, and clear lines of authority are regional business norms. Agile promotes flat teams, self-organization, and decentralized decision-making, which may violate corporate rules (Maha Al-Yahya et al., 2021). Cultural differences can limit Agile adoption and effectiveness if not managed adequately. Senior leadership ignorance of Agile ideas, lack of experienced Agile practitioners, and absence of formal training programs also limit implementation. Many Saudi Arabian firms apply Agile superficially or inconsistently without understanding its basic concept (Linde et al., 2021).

Agile methods are renowned for their flexibility, delivery speed, and client pleasure, despite these drawbacks. Agile promises improved response to changing requirements and stakeholder interaction, which appeals to the fast-paced technology sector where innovation and customer demands change swiftly. There is minimal information on Saudi Arabia, yet agile works internationally. Most Agile adoption literature is based on Western case studies and may overlook Saudi Arabia's challenges, possibilities, and successes (Lemon & Verhoef, 2016). This study addresses a major gap in academic and practical knowledge about Agile transformation in the Kingdom. Little is known about how Agile adoption affects project time, cost, quality, and stakeholder satisfaction in Saudi Arabia. Without localized understanding, organizations may fail to justify Agile transformation, quantify its return, or identify its stages. Some organizations experience variable Agile performance due to poor implementation, lack of support, or internal resistance. These anomalies necessitate a thorough assessment of how Agile improves Saudi Arabian project outcomes (Lekatsas, 2024).

Thus, Saudi firms' ignorance of Agile project management's real-world effects is the fundamental issue. Little is known about performance improvements and the internal and external barriers of this shift. These difficulties are examined to see how well Agile techniques improve project outcomes and the main adoption hurdles. The findings will help Saudi Arabian Agile practitioners, project managers, and decision-makers. This study will improve flexible, efficient, and innovative project execution frameworks in the Kingdom by adding to project management best practices (Leite & Braz, 2016).

1.3. Project Aim

The primary aim of this research is to investigate how the transition from traditional project management methods to Agile methodologies influences the performance of technology projects in Saudi Arabia. The study seeks to evaluate key performance indicators such as time, cost, quality, and customer satisfaction in Agile versus traditional or hybrid environments. It also aims to identify the specific challenges and success factors associated with Agile adoption within the Saudi context. By doing so, the research intends to provide actionable insights for organizations striving to enhance project outcomes through Agile transformation.

1.4. Research Objectives

The study seeks to achieve the following objectives:

- ❖ To examine the differences between traditional and Agile project management methodologies in the context of technology projects.
- ❖ To evaluate the impact of Agile methodologies on project performance, particularly in terms of time, cost, quality, and customer satisfaction.
- ❖ To identify the key challenges encountered during the transition from traditional to Agile project management.
- ❖ To assess the readiness of Saudi organizations to adopt Agile methodologies based on organizational, technical, and cultural factors.

1.5. Research Questions

The study seeks to answer the following research questions:

- ❖ What is the impact of the shift from traditional methods to Agile methodologies on project performance in technology projects in Saudi Arabia?
- ❖ What are the key differences between traditional and Agile project management approaches?
- ❖ What challenges do organizations face during the transition to Agile methodologies?
- ❖ How prepared are Saudi technology organizations to implement Agile methodologies?
- ❖ Does the impact of Agile methodologies on project performance differ based on the type or size of the organization?

1.6. Significance of Study

This study could benefit academic research and project management practice, especially in Saudi Arabia's fast changing technology sector. Understanding the ramifications of switching from traditional project management approaches to Agile methodology is crucial as firms embrace digital transformation and innovation in line with Vision 2030. Agile approaches have been widely studied and embraced in Western countries, but little research has examined how they work in Saudi Arabia's distinct cultural, organizational, and operational setting. This study fills that gap by providing actual evidence and contextual analysis that represent Saudi organizations' realities, making its findings more relevant and applicable (Abdelmalek, 2024). Project managers, executives, and decision-makers contemplating or implementing Agile will find the report useful. This research examines how Agile techniques affect project performance indicators like cost efficiency, time management, product quality, and customer happiness to help firms choose project management strategies. By recognizing the obstacles and barriers companies face throughout this transformation, stakeholders may create more effective change management plans, training programs, and support systems tailored to their needs. Thus, the findings can improve Agile deployments and project outcomes (Abdullah Albarq & Qureshi, 2018).

A non-Western, developing economy's insights into Agile project management add to scholarly literature. It informs global project management best practices by showing how Agile approaches can be adapted to varied cultural and organizational situations. It also provides a platform for comparative studies on Agile adoption in similar locations, exploring its implications across socio-economic and cultural situations (Abdulmajeed et al., 2024). This study is important because it combines theory and practice by giving empirical data and contextual understanding to improve Saudi Arabian project management. It supports national modernization and innovation goals and advances international knowledge of Agile approaches and their use in varied organizational settings (Ahimbisibwe et al., 2015).

1.6.1. Managerial Relevance

Technology professionals and decision-makers in Saudi Arabia face both possibilities and obstacles while switching to Agile project management. This study shows how Agile approaches affect project performance measures like time, cost, quality, and customer satisfaction, making it managerially relevant. Understanding these consequences is essential for strategic decision-making in a fast-paced technological context (Alawairdhi, 2016). Managers can utilize the information to determine if Agile techniques meet their organizational and operational goals. The research also highlighted Agile transition problems include reluctance to change, lack of training, and difficulty integrating Agile into hierarchical institutions. The study helps build better change management and staff development strategies by recognizing these impediments (AlGhamdi, 2019). This study also helps decision-makers assess Agile transformation ROI. It provides evidence-based knowledge to assist companies allocate resources and prioritize projects that improve outcomes. It also helps team leaders implement Agile best practices including cross-functional cooperation, stakeholder engagement, and continuous learning (Ali et al., 2024). This report integrates project management transformation with national priorities for technology enterprises pursuing Vision 2030's innovation and operational excellence goals. It also shows how Agile techniques can boost organizational agility and responsiveness in a competitive, fast-changing industry. The insights can help Saudi leaders negotiate Agile adoption, reduce implementation risks, and improve project management frameworks (Alotaibi & Almudhi, 2023).

1.6.2. Scientific Relevance

By applying Agile techniques to Saudi Arabia, this work contributes to academic literature. Agile project management research is abundant, but most of it was generated in Western, developed nations with different cultural norms, organizational structures, and economic dynamics than Saudi Arabia. This study fills a major literature vacuum by concentrating on an emerging economy undergoing fast digital transition. Localized assessment of Agile's impact on project performance provides a more inclusive and internationally relevant understanding of Agile methodology (Alsahli et al., 2016). Scientifically, the

study tests theoretical frameworks in a new situation, validating or refining Agile models. It examines how organizational culture, leadership styles, and employee preparation affect Agile deployment. These findings can assist scholars comprehend Agile theory's boundary conditions—what works, what doesn't, and when. This research's data can be compared to other regions' for cross-cultural and cross-industry project management studies (AlSaied et al., 2025). Additionally, the paper suggests a Saudi-specific theoretical model that can be used for future empirical research in similar situations. Researchers studying Agile adoption in new markets or culturally diverse settings might use this study as a benchmark. The research advances academic knowledge and helps create more adaptive, culturally-aware Agile frameworks by integrating regional perspectives into global Agile discourse. This improves implementation tactics across varied organizational and geographic situations (Alsari et al., 2020).

1.7. Research Hypotheses

1.7.1. Main Research Hypothesis

- ❖ **H₀ (Null Hypothesis):** Transitioning from traditional project management approaches to Agile methodologies has **no significant effect** on the performance of technology projects in Saudi Arabia.
- ❖ **H₁ (Alternative Hypothesis):** Transitioning from traditional project management approaches to Agile methodologies has a **significant effect** on the performance of technology projects in Saudi Arabia.

1.7.2. Sub-Hypotheses with Corresponding Null Hypotheses

Hypothesis 1

- ❖ **H1:** The Agile project management approaches **positively affects** the performance of technology projects.
- ❖ **H₀₁:** The Agile project management approaches has **no significant effect** on the performance of technology projects.

Hypothesis 2

- ❖ **H2:** The traditional project management approaches **positively affects** the performance of technology projects.
- ❖ **H₀₂:** The traditional project management approaches has **no significant effect** on the performance of technology projects.

Hypothesis 3

- ❖ **H3:** The actual implementation of Agile project management approaches **positively influences** the performance of technology projects.
- ❖ **H₀₃:** The actual implementation of Agile project management approaches has **no significant influence** on the performance of technology projects.

Hypothesis 4

- ❖ **H4:** The actual implementation of traditional project management approaches **positively influences** the performance of technology projects.
- ❖ **H₀₄:** The actual implementation of traditional project management approaches has **no significant influence** on the performance of technology projects.

Hypothesis 5

- ❖ **H5:** The level of transition from traditional approaches to Agile methodologies is **positively associated** with improved performance of technology projects.
- ❖ **H₀5:** The level of transition from traditional approaches to Agile methodologies is **not significantly associated** with improved performance of technology projects.

Hypothesis 6

- ❖ **H6:** The impact of the transition from traditional to Agile project management **mediates** the relationship between the level of transition and project performance.
- ❖ **H₀6:** The impact of the transition from traditional to Agile project management **does not mediate** the relationship between the level of transition and project performance.

1.8. Theoretical Framework

Agile approaches can affect project performance in technology-based businesses, according to project management theories, organizational change theories, and service quality models. To explore Agile transformation's complicated aspects in Saudi Arabia's expanding technology industry, this multidisciplinary study uses project management science, organizational behavior, and systems theory (Alsubaie, 2022). This study uses Project Management Theory to describe project planning, execution, and evaluation. The Waterfall paradigm, which emphasizes linear planning, exact scopes, and sequential execution, molded project management theory. This approach operates in predictable, stable situations with few request changes. Traditional models are often too rigid and inflexible for the increasing complexity and speed of technical innovation, especially in IT. Agile project management addresses this issue by encouraging iterative development, adaptability, customer collaboration, and adaptable planning. Scrum and Kanban follow Contingency Theory, which states that the best project management method depends on the project's context and circumstances (Alturise, 2020).

Lewin's Change Management Theory's three stages—unfreezing, modifying, and refreezing—support this study. This hypothesis helps explain how Saudi Arabian enterprises adopt Agile project management. The “unfreezing” stage involves admitting present procedures are inadequate and preparing the organization for change. The “changing” phase involves adopting and implementing Agile methodologies, while the “refreezing” phase requires incorporating new processes into the organization's culture and structure. This theory describes Agile transformation resistance, adaptability, and consolidation (Altuwaijri & Ferrario, 2021). Along with Lewin's approach, Kotter's 8-Step

Change provides a clearer organizational change path. This method involves creating urgency, forming a guiding coalition, creating a vision, articulating it, motivating action, producing short-term wins, consolidating gains, and ingraining new approaches in culture. For Agile adoption, Kotter's methodology defines organizational preparedness, leadership commitment, and cultural alignment. Change management reduces resistance and promotes Agile methods (Altuwaijri & Ferrario, 2022).

This research also relies on Parasuraman, Zeithaml, and Berry's Service Quality (SERVQUAL) Model. This methodology assesses service quality utilizing reliability, assurance, tangibles, empathy, and responsiveness. This study compares traditional and Agile project management service quality using SERVQUAL. Based on client and team member ratings, the study examines whether Agile project management methods are superior than traditional ones. This helps determine how perceived quality inequalities effect project cost, time, quality, and client satisfaction (Badran & Abdallah, 2024). The study also incorporates Systems Theory, which views an organization as a complex, interconnected system where one portion affects the whole. Companies that adopt Agile change project processes, team roles, communication, decision-making, and stakeholder engagement. Systems Theory advocates integrating corporate culture, structure, and external environment into Agile transformation. Understanding the dynamic relationships between conceptual framework factors like Agile implementation, service quality, and transition's impact on project performance requires this theoretical approach (Bin-Hezam et al., 2018).

TAM and IDT explain changing human and organizational behavior. TAM describes how customers adopt new technologies based on utility and ease of use. This is especially true for traditional project teams introduced to Scrum boards, sprints, and stand-ups. Innovation Diffusion Theory by Everett Rogers describes how new ideas and technologies move across businesses. Adoption factors include relative benefit, compatibility, complexity, trialability, and observability. Agile transformation adoption across teams and departments is explained by these hypotheses (Dingsøyr et al., 2012). This study proposes numerous ideas to explain Agile transformation and project performance. Project Management Theory distinguishes Agile from traditional techniques. Companies can grasp transitions with Lewin and Kotter's change management theories. SERVQUAL assesses service quality, while Systems Theory contextualizes organizational change. Finally, behavioral and innovation theories like TAM and IDT explain how society and humans effect Agile adoption. Project management research can benefit from these theories' examination of Saudi Arabia's technology sector's difficult Agile transformation (Elseknidy et al., 2024).

CHAPTER 2: LITERATURE REVIEW

Project management has evolved to meet the requirement for adaptability, speed, and performance in dynamic business situations. Traditional project management methods like the Waterfall model stress linear and sequential phases—planning, execution, and closure—making them suited for projects with established needs. This strategy provides extensive documentation and management, but it struggles to adapt, especially in technology-driven sectors where needs change often (Hossinger et al., 2019). Due to these constraints, agile methods arose. Agile encourages iterative development, customer collaboration, and flexible planning, as stated in the 2001 Agile Manifesto. Scrum, Kanban, and SAFe are popular because they allow teams to respond quickly to changing client needs and deliver functional outputs in shorter cycles (Jabri et al., 2023). Agile improves stakeholder satisfaction, team productivity, and time-to-market ((Huber, 2020).

Agile outperforms traditional methods in dynamic and inventive situations, according to comparative research. Augustine et al. (2005) note that Agile teams produce better results with more collaboration and feedback. Chow and Cao (2008) cited manager support, team capacity, and organizational culture as Agile adoption success factors (Kineber et al., 2024). Agile techniques are growing in the Middle East and Saudi Arabia, especially in line with Vision 2030's focus on digital transformation and modernization. According to Kingdom studies, Agile adoption in government and private IT enterprises has improved responsiveness and product quality (Alzahrani, 2023). Cultural and organizational issues including hierarchical structures and change resistance continue to hinder Agile deployment (Alenezi & Faisal, 2022). According to Alghamdi et al. (2022), many Saudi IT firms are adopting Agile, however the shift is typically partial and uses a mix of Agile and traditional processes. This transitional condition might cause project team confusion and performance problems. The effectiveness of Agile depends on its adoption, implementation depth, and organization transformation readiness.

Agile techniques are gaining popularity, but few research examine their effects on Saudi Arabian technology project performance. Most study focuses on Agile or Western environments. Localized research on how switching from traditional to Agile methodologies affects time, cost, quality, and customer satisfaction in Saudi IT projects are lacking (Kurniawan, Budiastuti, et al., 2020). This study provides Saudi empirical insights to address that gap. It applies global knowledge to Kingdom culture, organization, and technology. The study compares traditional and Agile approaches and examines how the transformation process affects performance.

2.1. Overview of Project Management Methodologies

Due to the increasing complexity and needs of modern projects, especially in technology, project management approaches have grown dramatically. Linear and process-driven models like Waterfall were frequently used for organized

planning, execution, and delivery. Traditional models are based on consecutive phases, where progress is linear from start to finish. They work well for projects with clear needs, few changes, and predictable settings (Lalic et al., 2022). The global corporate landscape has become more dynamic and uncertain, especially in technology-driven industries, and old approaches have been criticized for their rigidity and lack of adaptability. Agile project management methods emerged from this, offering flexibility, iteration, and collaboration. Agile frameworks like Scrum, Kanban, and SAFe emphasize continuous improvement, stakeholder engagement, and fast value delivery. Agile encourages short development cycles (sprints), constant feedback, and empowered cross-functional teams to react fast to changing customer needs and market situations (Lechler & Yang, 2017). Many firms have combined Agile and traditional techniques to provide flexibility and structure in recent years. Transitional contexts where organizational, cultural, or technical restrictions prevent complete Agile adoption often use these approaches. As Saudi Arabia pursues its Vision 2030 goal of digital transformation and innovation, public and commercial sectors are interested in upgrading project management (Leite & Braz, 2016).

2.1.1. Traditional Project Management Approaches

Structured project execution has used Waterfall project management. In manufacturing and construction, linear, sequential processes require completion of each project step (initiation, planning, execution, monitoring, and closing) before going on. Waterfall requires meticulous planning, documentation, and strict project criteria. This method works well when scope and requirements are stable and unlikely to alter because reverting is discouraged or expensive (Lekatsas, 2024). The traditional model's roadmap and timescale help stakeholders understand project deliverables, processes, and results. It is preferred for physical infrastructure, regulatory compliance, and other projects where errors are costly or risky. Predictability and structure assure quality, cost control, and risk management with traditional approaches (Linde et al., 2021). Saudi Arabian companies prefer formal processes, clear authority boundaries, and centralized decision-making, including hierarchical project management (Lemon & Verhoef, 2016). Traditional methods work, but they have downsides, especially in dynamic and inventive environments like software development and technological initiatives. Lack of flexibility is a major issue. Since the paradigm relies on initial demands and planning, changes are difficult once implementation begins. This rigidity usually leads to inefficiencies, rework, or a product that no longer meets user needs in rapidly changing circumstances. Mismatched expectations or dissatisfaction with the finished product may result from front-loaded stakeholder involvement and limited involvement during development (Maha Al-Yahya et al., 2021).

Traditional project management is failing in Saudi Arabia's technology sector, which is being shaped by Vision 2030's innovation and digital transformation goals. Government and large-scale infrastructure projects use

traditional methods because to their complexity and danger, but software, IT services, and other fast-growing firms may not. Many organizations pick outdated methods due to cultural familiarity, regulatory expectations, and lack of exposure to different techniques (Mishra et al., 2021). Traditional project management's top-down, command-and-control style can also stifle creativity, cooperation, and speed, which are crucial in competitive tech Change aversion and a lack of Agile skills or leadership make Agile adoption challenging for many organizations, especially those with large bureaucracies. Some companies are creating hybrid models that combine Agile agility with traditional control and predictability (Moghaddasi et al., 2025). In conclusion, fast-paced, customer-centric technology projects are challenging structured project management methodologies like the Waterfall model. Traditional approaches dominate legacy systems and conservative industries in Saudi Arabia, although there is a growing awareness of the need for more flexible and responsive alternatives. Companies considering Agile or hybrid techniques to fulfill modern project demands must grasp traditional project management's function and limits (Mohammad R. Kabli, 2019).

2.1.2. Agile Project Management Approaches

Waterfall is used in structured project execution. Linear, sequential manufacturing and construction processes need completion of each project step (initiation, planning, execution, monitoring, and close). Waterfall demands careful planning, documentation, and project requirements. This strategy works best when scope and requirements are steady and reverting is discouraged or expensive (Mokhtar & Khayyat, 2022). Traditional model roadmaps and timescales assist stakeholders comprehend project deliverables, processes, and results. It's best for physical infrastructure, regulatory compliance, and other risky or expensive projects. Traditional methods ensure quality, cost control, and risk management through predictability and structure. Formal processes, defined authority boundaries, and hierarchical project management are preferred in Saudi Arabia (Nicola et al., 2020).

Traditional methods work, but they have drawbacks in creative areas like software development and technology. Limited flexibility is a key issue. After implementation, paradigm shifts are challenging since they depend on initial demands and preparation. This rigidity frequently causes inefficiency, rework, or a product that no longer matches user needs under fast changing circumstances. Front-loaded stakeholder involvement and insufficient development involvement may lead to mismatched expectations or product dissatisfaction (Pettit et al., 2019). Vision 2030's innovation and digital transformation goals are transforming Saudi Arabia's technology sector, but traditional project management is failing. Because of their complexity and hazard, government and large-scale infrastructure projects utilize traditional procedures, but software, IT services, and other fast-growing enterprises may not. Cultural familiarity, regulatory

expectations, and lack of exposure to other approaches lead many firms to choose obsolete ways (Rasnacis & Berzisa, 2017a).

Top-down, command-and-control project management can also impede innovation, teamwork, and speed, which are essential in competitive tech. Change aversion and a lack of Agile skills or leadership make Agile adoption difficult for many organizations, especially huge bureaucracies. Some firms are combining Agile agility with control and predictability (Reghda et al., 2024). Finally, fast-paced, customer-centric technology initiatives challenge Waterfall-based project management. Traditional approaches dominate Saudi Arabia's legacy systems and conservative industries, but there is a rising understanding of the need for more flexible and responsive alternatives. Companies contemplating Agile or hybrid methods to meet modern project demands must understand traditional project management's restrictions (S, 2017).

2.1.3. Hybrid Models and Transitional Strategies

As organizations adapt to demanding project environments, hybrid project management systems combine traditional and Agile strengths. These models help when neither traditional nor Agile approaches work. Hybrid methods can help highly regulated, hierarchical, or Agile-newbie organizations migrate from Waterfall to Agile. Hybrid approaches offer flexibility and control to meet organizational and stakeholder needs (Saber et al., 2019). Hybrid models integrate Waterfall planning, documentation, and governance with Agile iterative development, stakeholder feedback loops, and team autonomy. Agile approaches may be used for execution but traditional methods for high-level planning and requirement formulation. Development teams sprint using Scrum or Kanban, however project phases may be scheduled consecutively. This technique provides strategic oversight and risk management while speeding up and adapting operational delivery cycles (Sami Salem Alzahrani, 2023). Many Saudi Arabian enterprises have institutional or cultural barriers to Agile transformation, making hybrid approaches crucial. Agile's decentralized, team-driven style may clash with Saudi companies' top-down decision-making. Finance, oil and gas, and government have regulatory or contractual requirements that demand detailed planning and milestone tracking. This hybrid method helps these organizations maintain compliance and supervision while incorporating Agile's responsiveness and innovation (Sharma, 2022).

The hybrid model helps manage change gradually. Instead of a risky full-scale Agile transformation, organizations can try Agile approaches in specific teams or departments while maintaining controls. Gradual adoption handles change resistance, trains staff incrementally, and builds internal competence before implementing Agile enterprise-wide. It also allows leadership assess and adapt Agile processes in the organization (Stermann et al., 2015). Hybrid models have downsides. Mixing attitudes can dispute stakeholder expectations. Agile teams embrace flexibility and shifting demands, whereas senior management expects consistency and schedules. Governance-execution misalignment can

impair efficiency, communication, and benefits. Strong coordination, clear position descriptions, and regular communication across all organizational levels are needed to execute a hybrid strategy (Sultan et al., 2024). Measurement of hybrid model project performance is difficult. Traditional metrics like budget variance and schedule adherence may not capture Agile's iterative value. Agile metrics like velocity and burndown charts may confuse traditional executives. Integrated performance frameworks that use quantitative and qualitative indicators to assess process efficiency and outcome effectiveness can bridge this gap (Wafa et al., 2022). Finally, hybrid project management systems offer a practical and flexible solution for organizations switching to Agile. They balance control and agility to enable innovation and compliance and governance. Hybrid models are viable and strategic in Saudi Arabia, but cultural and institutional barriers may prevent Agile implementation. They need careful preparation, corporate purpose alignment, and the ability to handle two paradigms' complexity to succeed. Understanding these dynamics helps organizations improve project performance and modernize project management (Warner & Wäger, 2019).

2.2. Theoretical Perspectives on Project Management Performance

Theoretical project performance analysis helps evaluate project management methods. Time, cost, quality, and customer satisfaction are used to evaluate performance in traditional and Agile environments. These indicators are defined and measured differently depending on the management strategy and organizational environment. This section discusses theoretical frameworks that explain how methodology, team dynamics, and environment affect project performance (Abdelmalek, 2024). One popular project management philosophy is the Iron Triangle, which balances time, money, and scope (sometimes with quality as a key component). This strategy resembles traditional methods that emphasize control and set deliverables. However, the Iron Triangle has been criticized for being excessively inflexible and not considering stakeholder value or adaptability, two crucial Agile performance factors (Abdullah Albarq & Qureshi, 2018). Agile project management emphasizes working software, customer collaboration, and change reactivity to improve performance. The team's capacity to adapt, deliver value, and maintain pace is measured as well as technical performance. This emphasizes product quality and team wellness for a holistic vision of success (Abdulmajeed et al., 2024). Performance outcomes also depend on organizational theory. According to Contingency Theory, a methodology's effectiveness depends on project size, complexity, and organizational structure. Systems Theory emphasizes the interconnection of people, processes, and technology, enabling broader performance evaluation (Ahimbisibwe et al., 2015).

2.2.1. Project Success Criteria (Time, Cost, Quality, Satisfaction)

Success definition and measurement are priorities in project management research and practice. The "Iron Triangle"—time, cost, and quality—has traditionally judged success. Project success was meeting deadlines, budgets, and

requirements. Although straightforward and measurable, this paradigm has been criticized for not reflecting the complete value a project may bring, especially in complex, adaptive contexts like software development and digital transformation initiatives (Alawairdhi, 2016). Time remains a crucial performance metric. Good planning, coordination, and execution lead to on-time projects. Traditional project management needs strict scheduling and milestone monitoring to meet deadlines. Timelines are more flexible with agile methods. Sprint-based agile teams prioritize functional components over systems. Agile frameworks favor progress and time-to-value over deadlines. While absolute completion timescales are less rigid, incremental value is often better in fast-changing environments (AlGhamdi, 2019).

Traditional success indicators include cost control. Efficiency and management are key to cost-effective initiatives. Traditional techniques set budgets during planning and track variances throughout the lifecycle. Agile financial logic differs. Budgets are allocated every sprint or release and examined in short cycles for real-time changes. While less predictable from a financial planning perspective, this allows for more reactivity and cost-effectiveness as priorities shift (Ali et al., 2024). Both traditional and Agile methods value quality, although their definitions differ. Traditional project management limits quality assurance to final testing or reviews. Quality is built into agile development. Continuous integration, TDD, and peer reviews find mistakes earlier and improve. Agile prioritizes customer-defined quality and feedback loops to satisfy users (Alotaibi & Almudhi, 2023).

Recently, project success depends on client satisfaction. Delivering a project on time and within budget is no longer adequate if customers are unsatisfied or the solution doesn't meet their evolving expectations. Agile methodologies like Scrum prioritize customer feedback and collaboration to deliver value throughout the process. However, traditional approaches sometimes include few clients after needs are assessed, resulting in delivery and expectation mismatches. Regular Agile reviews and demos close this gap and enable real-time improvements (Alsahli et al., 2016). Industry, organizational maturity, and culture determine Saudi project success. Time and cost may still dominate government or infrastructure projects due to strict rules. Many technology startups and companies support Vision 2030's innovation and efficiency goals and are using Agile success standards that stress adaptability, customer satisfaction, and long-term value generation (AlSaied et al., 2025).

Project success often involves many factors. The Project Success Framework (PSF) and Project Excellence Model emphasize team performance, strategic alignment, stakeholder involvement, and long-term business impact, according to researchers. Such frameworks provide a more nuanced view of success, especially in hybrid or transitioning firms that use Agile and traditional methods (Alsari et al., 2020). Overall, project success factors go beyond time, money, and scope. Agile methods added flexibility, customer value, and iterative

feedback to performance. Saudi Arabian companies adopting Agile must understand and follow these improved success indicators to profit from modern project management (Alsubaie, 2022).

2.2.2. Frameworks Linking Methodology and Performance

Project management methodologies and performance have been studied in academia and industry. Various theoretical frameworks explain how conventional, Agile, or hybrid methodology affects efficiency, quality, cost control, team productivity, and stakeholder satisfaction. To link project management to strategic goals and environmental conditions, organizations must comprehend these frameworks (Alturise, 2020). A key project management theory, the Contingency Theory, states no single strategy works. Instead, project size, complexity, uncertainty, team skills, and corporate culture influence approach. This theory suggests that Waterfall is better for well-defined requirements and low uncertainty, while Agile is better for dynamic scenarios with constantly changing requirements. Many empirical studies suggest that methodology-context fit greatly predicts project success. Saudi Arabian organizations vary in structure and maturity, hence Contingency Theory helps evaluate performance (Altuwaijri & Ferrario, 2021). Another common method, the Project Management Maturity Model (PMMM), measures maturity by processes, governance, and continual improvement. Performance often improves with maturity. Iterative planning, cross-functional collaboration, and data-driven decision-making may mature agile teams. Agile methods improve performance through flexibility, stakeholder participation, and reaction (Arif Ali Khan et al., 2024).

Although not a performance methodology, the Agile Manifesto contains ideas that implicitly link Agile methodologies to performance. The values “working software over comprehensive documentation” and “customer collaboration over contract negotiation” emphasize speed, adaptability, and value. These concepts inspired SAFe, DAD, and LeSS (Large-Scale Scrum), which link Agile methods to strategic goals, enterprise alignment, and quantifiable results. These solutions address scalability for large Saudi Arabian organizations adopting Agile at scale (Badran & Abdallah, 2024). Project managers link performance indicators to company goals using the Balanced Scorecard (BSC). Agile techniques let the BSC track innovation, learning, customer satisfaction, internal process efficiency, cost, and time. Organizations can evaluate project methodologies' short- and long-term strategic value with this multi-perspective view (Bin-Hezam et al., 2018). Systems theory explains methodology-performance links. This idea states that teams, tools, methods, and culture must align for the system (or project) to work. When converting from traditional to Agile methodologies, Systems Theory suggests altering one component (e.g., Agile tools) involves modifying others (roles, communication, decision-making structures). Despite being "Agile," neglecting to manage these interdependencies may hurt performance (Dingsøyr et al., 2012).

Finally, Agile adoption boosts project performance, especially in technology sectors, according to study models. Digital transformation is a Saudi national goal, making these findings relevant. Success requires leadership support, team experience, training, and company culture, not just methodology (Elseknidy et al., 2024). In conclusion, many frameworks show how project management affects performance. Examples include contingency-based, maturity, Agile scaling, and systemic. Saudi firms facing the complexity of project delivery and transformation can choose and adapt techniques to improve performance using these frameworks (Eman Altameem, 2015).

2.2.3. Organizational and Cultural Context in Saudi Arabia

In Saudi Arabia, organizational and cultural factors substantially impact project management approaches and performance. Understanding this context is critical for comparing traditional versus Agile methods, especially considering Vision 2030's economic upheaval. Saudi Arabia diversifies and innovates by investing in technology, infrastructure, and public sector reform. Agile methodologies are modernizing management in organizations. Project management solutions are used differently throughout this change due to cultural and organizational differences (Hajli et al., 2017). Most Saudi organizations, especially public sector and significant corporations, have hierarchical structures with centralized decision-making, clear authority lines, and reporting routes. Traditional project management emphasizes linearity, role clarity, and top-down control. Here, predictability, accountability, and conformity with laws or internal policies are crucial. Construction, energy, and government projects that value planning and regulatory control still use Waterfall (Hossinger et al., 2019).

Agile methods promote decentralization, self-organizing teams, and iterative decision-making in highly structured environments. Flexibility, trust, open communication, and cross-departmental collaboration make Agile work. These values may conflict with Saudi Arabian values including deference to authority, avoidance of direct disagreement, and limited cross-functional communication. Process, mentality, and organizational culture transformation for transparency, continuous feedback, and adaptive learning are common in agile implementation in the Kingdom (Huber, 2020). Saudi organizations confront transformation resistance. Employees and middle managers may reject Agile implementation due to a lack of understanding, fear of losing control, or uncertainty about new tasks and expectations. This is especially true in enterprises where success has typically been tied to following procedures rather than innovating. Change is complicated by a lack of agile training. For Agile to thrive, organizations must upskill teams, coach executives, and realign performance evaluation measures to meet Agile values (Ibrahim et al., 2018).

Although difficult, Saudi Arabia has strong Agile enablers. Vision 2030 requires government and business digital transformation, innovation, and efficiency. Agile pilot and scaling are available from the DGA and Smart City programs like NEOM and the Red Sea Project. Agile mindsets are being adopted

by younger professionals and technology organizations, signaling a generational shift toward collaborative and iterative work. International organizations' Saudi Arabian headquarters effectively adopt Agile, adapting global best practices (Iriarte & Bayona, 2020). Hofstede's National Culture Dimensions explain these tendencies. Power Distance reveals that Saudi Arabia prefers traditional hierarchical administration and centralized control. Also shown is the preference for rules and processes over uncertainty. Without deliberate adjustment, these traits can limit Agile adoption. Strong collectivism in the country may enhance Agile's team-oriented ethos if applied well (Jabri et al., 2023). In conclusion, Saudi Arabia's organizational and cultural environment substantially affects project management. Agile is growing as part of the national push for modernization and innovation, even while traditional methods dominate many sectors. Agile encourages organizations to overcome cultural and structural barriers, invest in training and leadership development, and adopt hybrid or bespoke methods to adapt to new ways of working. This knowledge is needed to evaluate Saudi methodology-performance links (khormi et al., 2024).

2.3. Quality of Service in Project Management

QoS is crucial for assessing project management approaches and their effects on project performance. Both traditional and Agile project environments measure service quality by how well the project management approach satisfies stakeholder expectations, delivers consistently, and facilitates collaboration and communication throughout the project. Agile stresses flexibility, stakeholder interaction, and continuous feedback to deliver value, while traditional techniques emphasize process control, documentation, and scope. These methods produce different service quality (Kineber et al., 2024). SERVQUAL measures service quality based on reliability, responsiveness, assurance, empathy, and tangibles, which can be used to project management. These variables are increasingly utilized to evaluate project managers' effectiveness, team response, and stakeholder communication. Traditional methods measure QoS by how well processes are followed and how well the end result matches initial criteria. QoS in Agile contexts may emphasize delivery speed, adaptability, and project cooperation (Kurniawan, Budiastuti, et al., 2020). Project success in Saudi Arabia's fast-growing technology sector depends on project management quality. Understanding how service quality differs between traditional and Agile processes and how it affects performance is crucial when organizations switch to Agile. Agile may improve service quality in dynamic circumstances, depending on organizational culture, team maturity, and Agile implementation (Kurniawan, Manurung, et al., 2020).

2.3.1. Quality of Service in Agile Project Management

QoS in Agile project management goes beyond deadlines and budgets. Scrum, Kanban, and SAFe improve service quality dynamically and quantifiable by emphasizing customer value, team communication, frequent iterations, and change reactivity. Agile emphasizes team adaptability to changing client needs

and constant participation throughout the project, unlike traditional techniques that judge service quality by tight adherence to plans and paperwork (Lalic et al., 2022). Agile environments can assess service quality using customized models like SERVQUAL, which measures reliability, responsiveness, assurance, empathy, and tangibles. Agile methods increase reliability by providing working product increments and tracking progress. Agile teams must quickly address stakeholder feedback, changing demands, and technology. Daily standups, sprint reviews, and retrospectives increase transparency and responsiveness (Lechler & Yang, 2017). Well-defined, adaptable procedures ensure agile assurance. The Product Owner, Scrum Master, and development team reassure stakeholders that each member knows their role. Agile detects and fixes bugs early in development using TDD, continuous integration, and automated testing. These methods improve technical quality and stakeholder trust in the team's delivery (Leite & Braz, 2016).

Agile's customer cooperation emphasises empathy, a non-quantifiable but important service quality component. Frequent customer and stakeholder engagement ensures the product fits needs, not outdated standards. Agile teams test user stories, get sprint feedback, and prioritize by customer value. Contact promotes developer-stakeholder relationships, improving satisfaction and alignment (Lekatsas, 2024). Agile uses Kanban boards, burn-down charts, and task tracking systems. The tools boost visibility, educate stakeholders, and show professionalism and control. Even while Agile reduces paperwork, real-time data and communication boost project transparency and user confidence (Lemon & Verhoef, 2016). Agile service quality is essential for Saudi Arabia's technology sector's Vision 2030 goals of innovation, operational excellence, and digital transformation. Many Saudi companies are adopting agile for customer-centricity and innovation. Agile's collaborative service delivery suits digital projects that must adjust swiftly to technological and market changes (Linde et al., 2021).

High-quality Agile services require several enablers. Agile training, mature teams, organizational preparation, and leadership support are examples. Agile may not satisfy service quality requirements without these qualities. A team without Agile experience may struggle with sprint planning, backlog prioritization, and collaborative communication, resulting in inconsistent service delivery. Partial Agile deployment in hybrid or transitioning firms might dilute advantages and mislead service expectations without structural support (Maha Al-Yahya et al., 2021). Finally, Agile improves project management services. Continuous delivery, iterative improvement, and stakeholder interaction make agile responsive, trustworthy, and satisfying. Agile's service quality offers it an edge in Saudi Arabia's IT sector, where adaptation and innovation matter (Mishra et al., 2021).

2.3.2. Quality of Service in Traditional Project Management

Traditional project management quality of service (QoS) depends on planning, methods, scope, budget, and deadlines. Service quality has typically

been measured by control, predictability, and documentation. The Waterfall method stresses these. Service quality is often measured by how well a project team follows the original criteria and manages risk, resources, and scope within a framework (Moghaddasi et al., 2025). SERVQUAL applies reliability, responsiveness, assurance, empathy, and tangibles to known approaches. Traditional sequential project management is reliable. Document, schedule, and monitor requirements gathering, design, implementation, testing, and deployment. Building, government procurement, and large-scale infrastructure projects demand predictability and compliance, thus stakeholders trust traditional methods because operations are closely monitored and deviations are minimal (Mohammad R. Kabli, 2019). Traditional approaches slow response. Reworking earlier stages is costly and time-consuming, thus changes are discouraged once a project plan is approved and execution begins. This limitation might impair service quality when stakeholder needs alter or problems arise. Agile can swiftly adapt to requirements or scope changes, unlike traditional methods (Mokhtar & Khayyat, 2022).

Traditional procedures guarantee well. Detailed planning, responsibilities and duties, milestone-based progress, and extensive documentation reassure stakeholders. Senior management, clients, and regulators may prefer this strategy for clarity and auditability. This promise meets accountability and formality standards in service delivery in Saudi Arabia, where hierarchical organizational structures and compliance-driven cultures are common (Nicola et al., 2020). Traditional methods may lack empathy. Most stakeholder interaction happens during planning and requirement-gathering, limiting project input. The final product may be technically correct but not meet the client's changing needs due to this gap. Lack of frequent touchpoints hampers project ability to adapt and appreciate client requirements during development (Pettit et al., 2019). Project charters, Gantt charts, progress reports, requirement documents, and risk registers are traditional project management's strengths. These tangible benefits improve professionalism and accuracy, especially in structured documentation countries like Saudi Arabia. These resources help stakeholders assess progress and identify project risks, enhancing governance trust (Rasnacis & Berzisa, 2017a).

Traditional project management dominates Saudi Arabian enterprises, notably huge infrastructure, construction, and oil-and-gas projects. Long-term planning, control, and documentation satisfy regulators and companies. When dealing with known elements and predetermined outcomes, traditional approaches are trusted to ensure service quality (Rasnacis & Berzisa, 2017b). As the Kingdom executes Vision 2030, which emphasizes innovation, agility, and digital transformation, traditional technology is failing. IT, software, and digital services projects require iterative feedback, shorter delivery cycles, and customer collaboration, whereas traditional project management may degrade quality (Regghda et al., 2024). Finally, organized, compliance-driven enterprises benefit from trustworthy, assured, and tangible traditional project management.

Dynamic, customer-centric projects may limit its response and empathy. Some Saudi enterprises use traditional methods, yet their service quality in fast-changing areas may disappoint stakeholders. Traditional project management methods' quality of service increases technology project performance in structured contexts that value control and predictability (S, 2017).

2.4. Implementation Practices and Project Performance

A project management methodology's efficacy and impact on project performance depend on its implementation. The theoretical benefits of Agile and traditional systems are widely documented, but actual results vary greatly depending on how they are used. Methodology selection, procedures, tools, roles, training, organizational preparation, and cultural alignment are all part of implementation. This section supports assumptions H3 and H4 by examining how Agile and traditional project management affect project performance (Saber et al., 2019). Partial, inconsistent, or poorly managed implementation causes problems in many businesses, not the approach. Some firms adopt Agile terminology and tools without adopting its concepts, resulting in “Agile in name only.” Traditional project management might fail in adaptable situations when rigid techniques are used. Methodology-execution gaps cause inefficiency, stakeholder dissatisfaction, and poor results (Sami Salem Alzahrani, 2023). How well a technique is adapted to the project environment and if teams are adequately taught and supported during implementation affects project performance—measured by time, cost, quality, and stakeholder satisfaction. Depending on how well they implement their project management approach, Saudi Arabian organizations at different digital maturity levels may have diverse results (Sharma, 2022).

2.4.1. Implementation of Agile Project Management and Its Effect on Performance

Agile project management can enhance delivery, client satisfaction, and quality if implemented properly. Agile requires mental and cultural change, not just technology or processes. Adoption success depends on team structure, leadership support, Agile training, stakeholder involvement, and framework (Scrum, Kanban, or SAFe). Agile improves project performance, especially in fast-paced, innovative industries like software development and digital services (Warner & Wäger, 2019). Agile adoption requires cross-functional, self-organizing teams that can make decisions and alter plans based on input. In sprints, these teams deliver small yet useful product increments. Daily stand-ups, sprint reviews, and retrospectives foster transparency, accountability, and improvement. Early detection of issues reduces project failures and rework with this iterative method (Wafa et al., 2022). Effective Agile adoption demands leadership. Senior managers should promote Agile values and let teams experiment. They must also lower organizational obstacles, enhance resource access, and realign performance measurements to prioritize collaboration over

schedules. In Saudi Arabia, where hierarchical structures prevail, Agile principles require leadership (Sultan et al., 2024).

Agile training and mentorship are essential for deployment. Migration from traditional approaches requires time and help with agile roles, ceremonies, and a shift from output-based to outcome-focused work. Many Agile programs fail because corporations skip this essential stage, causing process inconsistency and team confusion. Saudi Arabian companies experiencing early Agile transformation may have trouble finding Agile coaches and mentors (Sterman et al., 2015). Implementing agile requires tool adoption. Popular backlog management, workflow visualization, and progress monitoring tools are Jira, Trello, and Azure DevOps. Tools facilitate cooperation, openness, and performance tracking but do not ensure success. Teams and management use agile metrics like velocity, burn-down charts, and cycle time to evaluate performance and decide on scope, capacity, and process efficiency (Sharma, 2022). Many Saudi IT organizations cite performance gains from Agile adoption. Faster time-to-market, better customer alignment, stronger team morale, and more predictable value delivery. Agile works in fintech, digital service providers, and Vision 2030-aligned government innovation divisions. Industry and organization size affect agile deployment maturity (Sami Salem Alzahrani, 2023).

Change resistance, poor training, leadership buy-in, and Agile values-performance evaluation system incompatibility hamper adoption. Agile is occasionally accepted in name without offering teams the freedom or structure they need. Agile's potential to grow is limited by partial or superficial adoption, which causes frustration and poor performance (Saber et al., 2019). Agile project management implementation dramatically affects project performance. Agile training, leadership support, team autonomy, and organizational alignment promote responsiveness, stakeholder involvement, and project quality. Agile can assist Saudi Arabia accomplish Vision 2030's digital transformation goals if implemented carefully (S, 2017).

2.4.2. Implementation of Traditional Project Management and Its Effect on Performance

Traditional project management methodologies like Waterfall depend on execution quality and consistency. Project management traditionally entails careful planning, phases, linear workflows, and strict documentation. In projects with precisely defined scope, needs, and limits that are unlikely to change, these approaches can generate highly controlled, predictable, and measurable results. Misaligned stakeholder expectations, poor planning, or strict adherence in dynamic situations can impair project performance (Reghda et al., 2024). Traditional project implementation requires preparation. Create project charters, requirements, timelines, budgets, and risk management procedures. These documents underpin project monitoring and control, ensuring deliverables. Saudi Arabian construction, engineering, and government contracts may necessitate this technique due to legislation or customer expectations. Traditional planning

defines scope, budgeting, and schedule, boosting stakeholder confidence and reducing uncertainty (Rasnacis & Berzisa, 2017b). Structured governance and reporting are conventional implementation strengths. Project managers track progress, manage resources, and notify stakeholders regularly. Gantt charts, WBS, and EVM track milestones and accountability. These tactics help manage time, cost, and quality—model performance measures (Rasnacis & Berzisa, 2017a).

Traditional implementation demands a stable project environment. Stiff traditional models can hurt performance in dynamic or uncertain situations. Waterfall prevents mid-project scope changes without costly rework or delays. In adaptive industries like IT and digital services, slow, bureaucratic change control methods fail (Pettit et al., 2019). Saudi Arabian sectors that need project predictability, compliance, and control use traditional implementation. Many oil and gas, construction, and infrastructure industries adopt Waterfall because it matches their operational models and regulations. Documentation and hierarchical authority reflect cultural norms of formality, respect for authority, and procedural regularity in these industries (Nicola et al., 2020). However, many hurdles can prevent implementation. Poor early stakeholder participation, inaccurate risk assessment estimates, and limited role definitions cause scope creep and inefficiency. Traditional project management restricts customer input to the beginning and end, which can lead to mismatches between results and client expectations. In technological projects where user needs change quickly, lack of feedback usually leads to rework or dissatisfaction (Mokhtar & Khayyat, 2022).

Traditional implementation performance can be improved by stage-gate reviews, integrated change management plans, stakeholder participation, and performance audits. To increase execution, project managers need risk analysis, communication planning, and scope control training. Traditional methods can deliver quality, cost effectiveness, and schedule adherence when applied routinely (Mohammad R. Kabli, 2019). In conclusion, standard project management practices boost performance in stable, regulated environments but damage it in fast-changing ones. Large, regulatory-bound Saudi Arabian ventures may benefit from these strategies, while creative or fast-paced firms may not (Moghaddasi et al., 2025).

2.5. Transitioning from Traditional to Agile Methodologies

Moving from traditional project management to Agile requires a major organizational and cultural change. Agile methods stress adaptability, iterative development, and stakeholder interaction, while Waterfall emphasizes planning, predictability, and linear execution. Many organizations are considering Agile transformation due to the constraints of old models as they face pressure to innovate and respond to changing market needs, especially in the technology and digital sectors (Mishra et al., 2021). This change goes beyond new tools and terminology. Moving to Agile demands rethinking teamwork, decision-making, and success measurement. Transformation entails changing processes, roles,

leadership styles, communication norms, and, crucially, organizational culture. Agile requires cross-functional collaboration, decentralized decision-making, and regular customer feedback, which can be difficult to accomplish in hierarchical, formal, and documented environments (Maha Al-Yahya et al., 2021). Vision 2030 emphasizes digital transformation, innovation, and private sector efficiency in Saudi Arabia. Many Saudi companies, especially in technology, are using Agile to increase delivery, customer happiness, and project outcomes. However, this move is complicated and sometimes faced with resistance, uncertainty, and hybrid implementations that combine Agile and traditional approaches (Linde et al., 2021).

2.5.1. Drivers and Barriers to Agile Transition

Strategic, operational, and commercial factors encourage Agile adoption. Many firms employ agile frameworks to fulfill the requirements for speed, adaptability, and client involvement in technology-driven industries. But this change is hard. To adapt, organizations must understand Agile adoption drivers and barriers (Lemon & Verhoef, 2016). Time-to-market accelerates Agile transformation. Fast-changing businesses like software development, digital services, and fintech often benefit from early value delivery. The iterative agile approach helps teams launch functional components incrementally for faster feedback and market responsiveness. The Saudi Arabian Vision 2030 organizations need this speed to keep up with global innovation and enable digital transformation (Lekatsas, 2024). Growing client satisfaction is another factor. Agile frameworks include clients in development and promote stakeholder participation and continuous delivery. This reduces mismatched consequences and increases user-focused products. In Saudi Arabia's fast-growing customer-facing sectors like telecommunications and digital banking, timeliness is crucial (Leite & Braz, 2016).

Flexibility boosts motivation. Post-start requirements plague traditional project management. Agile teams respond to shifting priorities. This matters in complex, unpredictable situations with poor long-term predictability (Lechler & Yang, 2017). Organizations face several Agile problems. Organizational transformation resistance is common. Agile involves a shift from command-and-control to servant leadership and silos to cross-functional collaboration. Many hierarchical Saudi firms without strong leadership and cultural change initiatives find this difficult (Lalic et al., 2022). Lack of Agile training is another issue. Many firms adopt agile without understanding its concepts or potential. Using Agile tools without values might lead to shallow implementation. Teams can automate Agile routines without participation, transparency, or improvement (Kurniawan, Manurung, et al., 2020).

Another difficulty is Agile values not matching organizational practices. Agile may be hampered by budgeting, procurement, HR, and compliance. Agile requires scope and resource flexibility, which may conflict with funding cycles. Agile teams may have to use traditional procedures without major changes,

decreasing their efficacy (Kurniawan, Budiastuti, et al., 2020). Culture matters too. In Saudi Arabia, where companies emphasize authority, formal reporting, and risk aversion, agile's informal, flexible, and decentralized style can be disruptive. To bridge this culture divide, leadership training, internal communication initiatives, and localised Agile methodologies must be introduced gradually (Kineber et al., 2024). Last, IT infrastructure can aid or hinder Agile transition. Agile requires task tracking, version control, automated testing, and continuous integration. Organizations without these traits may struggle with Agile operational efficiency (Khormi et al., 2024). Overall, Agile is chosen for speed, adaptability, client engagement, and innovation. These benefits require an organization to overcome cultural, structural, and educational challenges. Successful Saudi enterprises must adopt new methods and foster an Agile culture (Jabri et al., 2023).

2.5.2. Measuring the Level of Transition and Its Organizational Impact

To determine how well Agile concepts are embedded in an organization and how they effect project performance, the transition from traditional to Agile methodology must be measured. Transition levels range from modest adoption to organizational change. Agile principles, practices, roles, tools, and culture have replaced or incorporated traditional project management systems. Organizations may discover gaps, assess readiness, and anticipate Agile adoption performance by understanding this level (Iriarte & Bayona, 2020). Agile maturity frameworks evaluate Agile transition. Team autonomy, stakeholder involvement, iterative planning, continual feedback, and adaptive learning are assessed in these Agile approaches. Organizations can track their development using the AMM and SAFe maturity levels. These models can assess teams, divisions, or enterprise-wide adoption, providing qualitative and quantitative transformation insights (Ibrahim et al., 2018). Transition levels can also be indicated by Agile project management, Scrum Master and Product Owner roles, sprint planning and retrospectives, and Jira or Trello integration. In mature Agile organizations, transparency, trust, cooperation, and continuous delivery support these criteria. Lower transition teams may use Agile tools but maintain hierarchy and processes (Huber, 2020).

The shift touched several organizational sectors. Teams that implement Agile have higher morale, faster feedback loops, and more ownership and accountability. Cross-functional, autonomous teams are more productive and innovative. Well-migrated organizations have faster delivery cycles, better customer alignment, and higher project stakeholder satisfaction (Hossinger et al., 2019). An insufficient or inconsistent transition may produce friction between Agile and traditional practices. Agile teams may sprint for supervisors that want milestone Gantt charts. Although agile needs iterative planning and financial flexibility, procurement and finance departments may still use annual budgeting cycles. Contradictions can cloud, impede, and invalidate Agile (Hajli et al., 2017). Saudi Arabia has a mix of old and modern company cultures, making Agile transformation assessment critical. Technology startups and digital organizations

may adopt Agile faster, but larger companies—especially in oil, construction, and public sectors—may implement Agile selectively or in isolated teams. As Vision 2030 promotes digital transformation, businesses must adopt Agile and measure institutionalization (Eman Altameem, 2015).

Teams and stakeholders can track progress via feedback, Agile audits, performance dashboards, and surveys. Frequent transition assessments might reveal areas that need training, leadership support, or structural change. Project managers and executives can link transition operations to cycle time, quality, and customer satisfaction using these KPIs (Elseknidy et al., 2024). Finally, project performance depends on Agile adoption. Deep organizational integration of Agile values, not practice modifications, is needed for Agile transformation. Effectively measuring transition level insights helps firms bridge intention and impact (Dingsøyr et al., 2012).

2.5.3. The Relationship Between Transition and Project Outcomes

Researchers and practitioners must examine how adapting to Agile project management influences project outcomes. From minimum or pilot-phase Agile adoption to enterprise-wide change improves project success. Agile integration gradually impacts time-to-market, cost control, product quality, stakeholder satisfaction, and team productivity. As change advances, agile concepts increase these characteristics (Bin-Hezam et al., 2018). Businesses may observe little performance improvements at low Agile transition levels due to poor implementation or shallow revisions. Without changing mindset or method, agile language can be used. A centralized squad may hold daily stand-ups or sprints with strict time. This technique, often labeled “Agile in name only,” rarely works since empowerment, adaptability, and customer collaboration are not completely applied (Badran & Abdallah, 2024).

As transition increases, organizations institutionalize Agile ideals like iterative development, decentralized decision-making, continuous improvement, and customer-centric design. Teams gain independence, Scrum Master and Product Owner positions are created, and methods emphasize frequent software or product delivery. At this stage, organizations claim speedier delivery, greater customer service, engaged staff, and decreased rework and failure rates. Agile's flexibility lets projects satisfy stakeholder expectations and adjust scope and priority (Arif Ali Khan et al., 2024). Global and regional research and case studies—including Saudi Arabia—show that fully committed Agile organizations perform better. Saudi technology businesses have reduced project lifecycles and improved client satisfaction with Scrum and SAFe. Agile's frequent delivery and stakeholder feedback are crucial in fast-changing industries like digital banking and e-commerce (Altuwaijri & Ferrario, 2022).

This positive relationship is not linear or automatic. The organization must address cultural, structural, and leadership concerns before Agile can improve results. A company may use Agile yet not empower teams or include stakeholders. Due to Agile goals not aligning with traditional supervision

processes, project outcomes may stagnate or worsen. Thus, Agile methodologies' integration into the organization's procedures, culture, and values matters more than adoption (Altuwaijri & Ferrario, 2021). Numerous local factors affect Saudi project success after Agile transformation. Organisational maturity, regulatory environment, authority, and communication cultural norms. Companies that value transparency, iterative planning, and continual learning do better. Despite partial reforms, hierarchical companies that reject decentralization may not benefit from Agile (Altuwaijri & Ferrario, 2021).

For optimal results, Saudi enterprises must commit to entire Agile transformation, including leadership development, team training, performance assessment realignment, and organizational redesign. For sustainable and scalable project management, agile must be suited to their industry and culture (Alturise, 2020).

2.6. Mediating Role of the Transition's Impact

The impact of firms switching from traditional to Agile project management approaches is crucial to understanding performance improvements. This impact often mediates the transition level-project performance link. Thus, organizational, structural, and team-level changes from Agile adoption increase outcomes. Assessing Agile transformation's benefits requires understanding this mediating role (Abdelmalek, 2024). When a third variable—the influence of the Agile transition—mediates the effect of an independent variable (e.g., Agile transition level) on a dependent variable (e.g., project performance), mediation occurs. This may include changes in team dynamics, decision-making authority, communication patterns, customer involvement, or leadership responsibilities. Inside changes affect how well teams deliver projects (Abdullah Albarq & Qureshi, 2018). The shift to Agile frequently increases autonomy, responsiveness, and customer focus. These impacts improve team performance by improving efficiency and adaptability. However, a poorly managed shift can cause confusion, role conflict, and uneven workflows, which may negate Agile's benefits (Abdulmajeed et al., 2024). The move can be especially significant in Saudi Arabia's hierarchical business environment. Cultural norms, leadership styles, and organizational preparation determine whether the transformation is meaningful or superficial (Ahimbisibwe et al., 2015).

2.6.1. Conceptualizing the Impact of Transition on Project Teams and Structure

Moving from traditional to Agile project management impacts teams, decisions, and work structure beyond procedures. This transformation impacts project performance by changing team dynamics, roles, leadership, communication, and collaboration models. These structural and behavioral changes must be understood to evaluate Agile adoption's impact on project success (Alawairdhi, 2016). Hierarchical teams with limited autonomy and sequential task execution are typical of traditional projects. Project managers supervise planning, allocation, tracking, and reporting. Team members meet tight

timeframes and scope. It works well in low-change, high-regulatory environments but is inflexible in fast-paced, customer-driven companies (AlGhamdi, 2019). Collaboration, autonomy, and shared accountability in cross-functional, self-organizing teams are agile principles. Scrum Master and Product Owner replace project managers; team decides. This modification accelerates decision-making, adaption, and problem-solving. It lets team members brainstorm, experiment, and respond quickly. These changes improve team morale, innovation, and accountability, improving project performance (Ali et al., 2024).

Also, Agile affects communication structures. Daily stand-ups, sprint planning, and retrospectives replace established reporting lines and status meetings in agile teams. These gatherings encourage dialogue, learning, and problem-solving. Changing technology initiatives require better communication between technical teams and business stakeholders to ensure transparency and alignment (Alotaibi & Almudhi, 2023). Redefining leadership is another key influence. Agile leaders are servant leaders who remove obstacles, promote cooperation, and build trust and learning. This differs from command-and-control project contexts, especially hierarchical cultures like Saudi Arabia. The transformation requires a culture shift toward empowerment and distributed authority and violates leadership norms (Alsahli et al., 2016). Organizational structures change. Agile implementations use value stream-based architectures to connect teams with customer needs or product lines rather than functional areas. This restructuring speeds deliveries and meets market expectations. Saudi companies supporting Vision 2030's digital transformation are experiencing these developments in e-commerce, finance, and digital public services (AlSaied et al., 2025).

Effective transition management determines the benefits of these changes. Confusion, duplicated effort, and resistance can result from unclear, inconsistent, or unsupported Agile roles and structures. Teams may encounter delays, conflict, and poor performance due to increased workloads. The shift affects whether Agile enhances project outcomes (Alsari et al., 2020). Leadership, training, and cultural alignment help Saudi Arabian Agile transformations improve team responsiveness, collaboration, and customer focus. Companies that invest in change management, rebuild teams on Agile principles, and provide continuous mentorship are more likely to enhance speed, quality, and customer satisfaction (Alsubaie, 2022).

2.6.2. Mediation Effects in Organizational Change and Innovation

Organizational research uses mediation to describe how a third variable impacts another. Transitioning from traditional to Agile project management mediates how Agile adoption affects project performance. Mediation is crucial in organizational transformation and innovation, because interconnected parts and processes shape outcomes (Alturise, 2020). Organizational change theories stress intermediate changes in structures, culture, procedures, and behaviors to achieve

targeted transformation. Kurt Lewin's Change Management Model (unfreezing–changing–refreezing) and Kotter's 8-Step Change Model suggest that organizational integration of new ideas determines change success. In an Agile transformation, Scrum or Kanban alone won't improve performance without iterative planning, cross-functional cooperation, and feedback. Actions or impacts boost performance (Altuwaijri & Ferrario, 2021). Organizational learning and absorptive aptitude mediate new practices and organizational effectiveness, according to innovation literature. Agile requires companies to take in new procedures, discard old ones, and implement them. Lessons learned through experimenting, teaching, and team reflection improve results, not strategy. Agile organizational learning links technique and performance through improved cooperation, openness, and faster feedback loops (Arif Ali Khan et al., 2024).

Empirical Agile adoption research agree. Research shows that Agile's performance hinges on transition management. Leader commitment, team preparation, process alignment, and cultural compatibility affect Agile success. The "impact" of the transformation depends on empowered teams, clear duties, and better communication. These traits improve speed, quality, and customer satisfaction (Badran & Abdallah, 2024). Saudi Arabia needs mediation. Transformational businesses sometimes combine Agile and conventional methods. In such cases, performance gains come from internal transformation rather than Agile adoption. In a hybrid model team, responsiveness, collaboration, and accountability may boost performance. High Agile adoption may not improve performance if the organization resists behavioral change or lacks structure (Bin-Hezam et al., 2018). Understanding mediation helps companies prioritize change. Organizations can quantify Agile effectiveness by focusing on team dynamics, decision-making, and stakeholder engagement rather than the methodology. This information improves change management, leadership development, and training, boosting transformation success (Dingsøyr et al., 2012).

2.6.3. Transition Impact as a Mediator Between Methodology and Performance

To evaluate Agile transformation, one must consider the transition impact as a mediator between Agile adoption and project performance. Many organizations measure Agile success by adoption rates or team usage of Agile tools, however these indicators do not guarantee greater results. Transition effects on internal team behavior, organizational procedures, and stakeholder relationships impact performance. So, the transition channels the methodology's performance effect (Elseknidy et al., 2024). Agile transformation adoption measures how well an organization has implemented Agile principles, methods, and technologies. Use Scrum or Kanban boards, sprint planning, retrospectives, Product Owners, Scrum Masters, Jira or Trello. Only surface transitions are shown. Without behavioral and structural changes, Agile adoption may be

superficial and not productive (Eman Altameem, 2015). Transition generates real change. Examples include self-organizing teams, silos breaking down, real-time communication, and stakeholder engagement. These impacts boost creativity, reactivity, and customer focus. A team that regularly retrospectives and acts on lessons learned would improve. The final result better fulfills real-time demands and expectations when stakeholders are involved throughout a project (Jabri et al., 2023).

This internal change relates Agile level technique to project success. Agile adoption without knowing its full implications is usually ineffective. If culture and habit change, even small adoption can enhance performance. Improvements in performance come from internal changes caused by technique adoption (Khormi et al., 2024). Many Saudi organizations still use hierarchies and formal structures, which amplifies the transformation impact. Implementing and managing Agile methodologies is crucial to success because they challenge traditional practices like centralized authority, rigid planning, and little client touch. Preparing teams, training leaders, changing evaluation methods, and aligning cultural values can improve project delivery, quality, and stakeholder satisfaction (Kurniawan, Budiastuti, et al., 2020). Researchers and practitioners can use SEM or regression analysis to assess how the transition impact variable affects Agile adoption and performance. Surveys can assess transition impact by assessing behavioral changes, team autonomy, communication quality, and customer involvement. Mediators can be linked to delivery speed, cost control, product quality, and customer feedback to demonstrate their impact (Lechler & Yang, 2017).

2.7. Research Gap

Agile methods are widely used and academically studied, but their consequences in different cultural and organizational contexts, such as Saudi Arabia's fast-changing technology sector, remain unknown. Agile is a popular alternative to Waterfall, although the literature is heavily oriented toward Western perspectives, where Agile frameworks have been investigated, implemented, and appraised. Western-centricity limits non-Western generalization (Leite & Braz, 2016). Saudi organizational structures, leadership styles, communication norms, and employee expectations differ substantially from European and North American ones. Agile implementation in the West may not work in the Kingdom, where hierarchical institutions, centralized decision-making, and risk aversion are usual. These inconsistencies make it hard for Saudi companies to evaluate Agile approaches' applicability, scalability, and success using international case studies (Linde et al., 2021). There is very minimal statistical and analytical research on Agile's impact on Saudi Arabian project performance. Cognitive or qualitative case studies dominate agile research, which is insightful but not generalizable for evidence-based management decisions (Maha Al-Yahya et al., 2021). There is insufficient field-based, quantifiable data on project outcomes including time, cost, quality, and customer satisfaction before and after Agile implementation in

Saudi technology. That need is addressed by this field study of 51 Saudi Arabian IT project specialists from various sectors. Strong statistical analysis using this dataset provides more concrete and transferable insights for academic theory and managerial practice (Moghaddasi et al., 2025).

Transitioning from conventional to Agile is understudied. Agile's advantages over previous methods are well-documented, but few consider transformation. Organizational transitions often involve considerable changes in procedures, culture, leadership, communication, and performance measurement (Mokhtar & Khayyat, 2022). Many companies, especially those with conventional methods, change gradually. It mixes Agile and traditional methods in companies, sometimes happily, sometimes chaotically. Conflict, miscommunication, and role confusion can affect project outcomes. Thus, the transition is a major organizational change that impacts performance in various ways, not only vocabulary or tools (Nicola et al., 2020). Critical research is needed on the transition's involvement in methodology and project performance. Transition level and impact are independent and mediating variables in this study. We can determine if Agile improves performance and project success using these constructs. These variables can determine if Agile or organizational changes during the shift improved performance (Rasnacis & Berzisa, 2017b).

In addition to transformation, project management service quality is understudied. Traditional project success evaluations use "Iron Triangle"—time, money, and scope. This approach ignores stakeholder service quality and project user experience. Agile methods stress continuous delivery, feedback loops, and customer collaboration, making them suitable for high-quality service (Sultan et al., 2024). Few studies compare Agile and traditional methods for service quality, especially in non-customer-centric sectors or cultures. To close this gap, this study uses tailored SERVQUAL criteria to measure service quality in Agile and conventional systems. It examines how service quality influences performance and whether Agile's benefits apply in Saudi Arabia (Warner & Wäger, 2019). A thorough, multi-variable model to evaluate project management technique and results is rare. According to many research, an organization either adopts Agile or not. Simple perspectives disregard implementation quality, organizational readiness, and tools and procedures (AlSaied et al., 2025). The more comprehensive framework in this study includes six independent variables: Agile service quality, traditional service quality, Agile implementation, traditional techniques implementation, transition degree, and transition impact. These variables extensively examine project performance factors. A more accurate and nuanced understanding of the methodology-performance link than binary models (Alotaibi & Almudhi, 2023).

Limited emphasis has been paid to hybrid agile adoption. Saudi enterprises in regulated industries like finance, energy, and government may struggle to adopt agile. Many companies use traditional project management but selectively embrace Agile approaches for teams or departments for compliance or structural

reasons (Alsari et al., 2020). Hybrid models are rarely studied but useful for many firms. To offer practical recommendations, one must understand how these integrated approaches effect project performance, employee happiness, and organizational agility. The merits, cons, and success aspects of hybrid scenarios are examined in this paper (Altuwaijri & Ferrario, 2021; Badran & Abdallah, 2024). The literature offers few Saudi Arabia-specific Agile implementation tips. Most prescriptive advice is based on global best practices that may not match the Kingdom's social, economic, and institutional environment (Dingsøyr et al., 2012). Vision 2030 emphasizes digital transformation, thus businesses require localized insights. Saudi data and recommendations to address local firms' cultural, regulatory, and organizational issues fill this gap. Agile transformation executives seeking project performance can benefit intellectually and practically from these approaches (Elseknidy et al., 2024).

In conclusion, research gaps are complex. Geography, culture, methodological rigor, transitional analysis, service quality assessment, model sophistication, and practical relevance are discussed. To fill these gaps, this quantitative, field-based study explores how Agile approaches effect project performance in Saudi Arabia's technology sector (Hajli et al., 2017). This research integrates multiple variables, local data, and a deep grasp of the transformation process to make a unique and significant contribution to academic literature and Agile methodology in the Middle East (Huber, 2020).

2.8. Conceptual Model

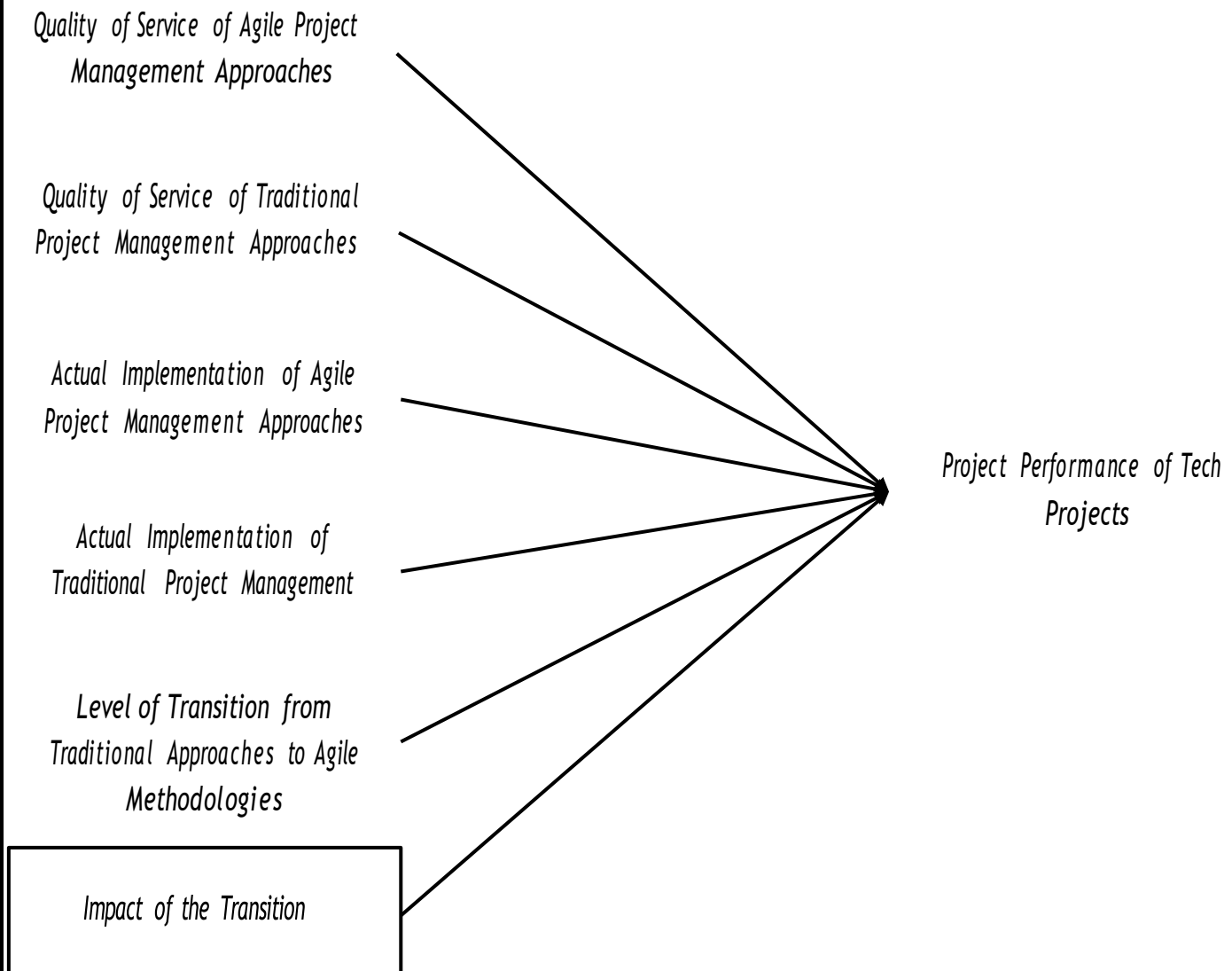


Figure 1: Conceptual Framework/Model of the Study

The conceptual framework of this study is designed to examine the impact of transitioning from traditional project management methods to Agile methodologies on the performance of technology projects in Saudi Arabia. It builds upon a multi-variable structure that integrates six independent variables, each representing key aspects of project management approaches and their transformation. The central dependent variable is project performance, which is evaluated based on changes experienced after shifting methodologies. This framework is critical in understanding not only whether Agile improves outcomes but also how the transition itself affects those outcomes. One of the primary independent variables is the quality of service of Agile project management approaches. This variable assesses the effectiveness, flexibility, and

responsiveness of Agile practices such as Scrum or Kanban in delivering project outcomes. Agile is known for promoting collaboration, faster delivery, and adaptability to change, which may significantly influence project performance. In contrast, the quality of service of traditional project management approaches serves as a comparative benchmark. Traditional methodologies, like the Waterfall model, emphasize linear planning and predictability. By including both Agile and traditional quality measures, the framework allows for a comparative analysis of how each methodology supports project objectives such as timeliness, budget control, and customer satisfaction.

Additionally, the framework includes variables that examine the actual implementation of both Agile and traditional project management approaches. These variables evaluate how well each methodology is applied in practice within organizations. This includes aspects such as employee training, use of relevant tools (e.g., Jira for Agile), and overall organizational readiness. Proper implementation plays a crucial role in determining the success of any methodology, and assessing this helps distinguish between conceptual adoption and practical application. The inclusion of both Agile and traditional implementation variables allows the framework to account for residual practices from older methods that may still influence performance outcomes.

Another key element is the level of transition from traditional to Agile methodologies. This variable measures how structured, supported, and inclusive the transition process is within an organization. A successful transition often requires careful planning, managerial support, and engagement from project teams. Difficulties in this phase, such as resistance to change or lack of training, can hinder the realization of Agile's potential benefits. The impact of the transition is also treated as a standalone variable to capture the overall effect of the methodological shift. It considers perceived improvements in product quality, reductions in execution time and cost, and increases in team adaptability.

All six independent variables are hypothesized to influence the project performance of tech projects, the dependent variable of the study. Project performance is measured by key success indicators such as product quality, customer satisfaction, budget adherence, and responsiveness to change. By analyzing the relationships among these variables, the framework provides a holistic view of how shifting methodologies—from planning and training to execution and outcomes—contribute to project success.

In summary, this conceptual framework offers a comprehensive approach to evaluating the shift from traditional to Agile methodologies. It combines quality assessment, practical implementation, transitional processes, and their impacts to provide insight into best practices for managing technology projects in a rapidly evolving environment.

CHAPTER 3: RESEARCH METHODOLOGY

This chapter describes the research strategy and methodology used to examine how Agile project management strategies affect technology project performance in Saudi Arabia. The method utilized to collect and analyze data from technology workers addresses the study's objectives and hypotheses in a structured and systematic manner. The study describes existing practices and examines key variable correlations using a descriptive and analytical research design. Descriptive research examined respondents' demographic and organizational characteristics, while analytical methods examined relationships between Agile deployment, service quality, transition dynamics, and project performance. This dual method is suitable for research that investigate “what is” and “why it matters” in real life. A quantitative research strategy was chosen to collect numerical data from a large sample utilizing a structured questionnaire. This method objectively measures project performance based on six independent variables: Agile methodology quality of service, traditional methodology quality of service, actual Agile implementation, actual traditional implementation, transition level, and transition impact.

The study targets Saudi Arabian technology project managers, systems analysts, software developers, and team members. These experts work for public and commercial enterprises who have switched to Agile project management. They were chosen for their project execution and process change experience. Since the study targeted project management experts, non-probability purposive sampling was used. In a master's study, 51 respondents were sufficient for preliminary quantitative analysis. To improve tech sector generalizability, the sample includes a variety of roles, experience levels, and organizational structures. Data was collected via a self-administered questionnaire. Section A contained demographic information, Section B contained Likert-scale statements assessing Agile and traditional methods, the transition process, and their perceived impact, and Section C contained open-ended questions to gather qualitative insights into challenges and recommendations. Based on SERVQUAL and other models, the survey instrument was built to fit the study's conceptual framework.

The questionnaire was evaluated by academic supervisors and piloted with a small sample of professionals for clarity, validity, and relevance before dissemination. The final instrument was disseminated electronically with enough time for responders to complete the survey. SPSS was used for descriptive and inferential statistics. Demographic data and response trends were summarized using means, frequencies, and standard deviations. In Cronbach's Alpha reliability study, results above 0.70 indicated construct internal consistency. Multivariate analysis was used to examine variable

relationships. Correlation study examined the independent variables' effects on project performance. Multiple linear regression analysis determined how well each independent variable predicted project performance. This enables hypothesis testing and identification of project success factors.

Academic advisers and practitioners reviewed the tool to ensure content validity for research. Aligning survey items with theoretically grounded literature topics supported construct validity. Saudi Arabia's technology industry specialists from diverse sectors and project kinds were sampled to improve external validity. We considered ethics throughout the research procedure. The academic goal of the study, confidentiality of responses, and voluntary participation were explained to participants. Data was securely saved and used for academic reasons without personal identification. This study's methodology was developed to give a reliable and contextually appropriate examination of Agile transformation's impact on Saudi Arabia's technology industry project performance. A systematic questionnaire, standardized measurement scales, and rigorous statistical analysis provide strong evidence to support or reject the hypotheses and provide significant project management insights.

3.1. Research Design

The research design is the approach and structure used to integrate the study's components logically. This descriptive and analytical study examined how switching from traditional to Agile project management strategies affected Saudi Arabian technology project performance. The descriptive portion of the design describes and summarizes demographics, occupational roles, experience, and organizational kinds of the study population. It also shows how commonly Agile processes are used in Saudi tech projects and how Agile is perceived compared to older methods. Descriptive statistics provide a baseline for more thorough assessments of sample trends and patterns. Analytical design allows variable correlations to be explored. This study compares project performance to six independent variables: Agile methodology quality, traditional methodology quality, actual implementation of Agile and traditional methods, level of transition, and impact of transition. The analytical part of the design tests hypotheses and assesses variable connections using correlation analysis and multiple regression. Descriptive and analytical designs were adopted to ensure a complete knowledge of the study problem. It lets you exhibit existing practices and perspectives and draw conclusions about Agile transformation's causative or predictive effects on performance. This makes the design suited for both exploratory and confirmatory study goals, adding depth and validity to the findings.

3.2. Research Approach

To answer research questions and fulfill study goals, the research approach determines data collection, analysis, and interpretation. This study used

quantitative methods. Quantitative research emphasizes objective measurements and statistical, mathematical, or numerical analysis of survey or questionnaire data. Studies that test hypotheses and evaluate variables benefit from it. The study's problem—to assess the impact of switching from traditional project management methods to Agile methodology on Saudi Arabia's technology projects—led to the quantitative approach. This is why quantitative approaches are best: the researcher may collect standardized data from a large sample of respondents, analyze it using statistical tools, and draw conclusions based on empirical evidence. Quantitative methods are clear, precise, and repeatable, unlike qualitative ones, which include subjective interpretations and in-depth interviews.

This method allowed the study to operationalize "project performance," "transition level," and "implementation quality" into quantitative variables. A structured questionnaire utilizing a 5-point Likert scale gave respondents numerical numbers for their responses on each variable. To answer research questions and test hypotheses, frequencies, means, standard deviations, correlations, and regression coefficients were calculated from these numerical values. The quantitative approach provides objectivity and permits findings to be extended to a larger population—at least within the Saudi technology sector—if the sample is representative. Since 51 tech project professionals participated in the study, the quantitative data is solid enough to facilitate statistical analysis and provide useful insights to theory and practice.

3.3. Target Population

The target population is the total group of people or entities with defined characteristics relevant to a study subject from whom a sample is taken. This study targets Saudi Arabian technology experts in project management, systems development, and software engineering. These people have direct or indirect experience switching from Waterfall to Agile project management methods like Scrum, Kanban, or hybrid frameworks. This population was chosen because it fit the research goals. Saudi Arabia's Vision 2030 program to improve the economy through digital transformation and innovation is increasingly focused on technology projects. Thus, public and private enterprises are researching or transitioning from sequential project management to iterative Agile frameworks. These organizations' experts may discuss Agile implementation, transition problems, and project performance effects. The population includes project managers, systems analysts, software developers, product owners, team leads, and Agile coaches. These personnel develop and execute initiatives, making their experiences and perspectives crucial for judging methodological shifts. Importantly, the target population includes startups, established private firms, and public institutions. This variability makes the study more thorough and helps explain Agile implementation strategies in Saudi tech. The complete

population is large, but a well selected sample (described in the next section) ensures representative data while keeping feasibility and focus.

3.4. Sample Characteristics

This survey sampled 51 Saudi technology project specialists. Purposive sampling was used to choose the sample based on study objectives-aligned criteria. This strategy is suitable for studies that need input from experts, such as project management and Agile transformation experts. The respondents ranged in age, gender, education, job title, and experience. Participants were male and female tech workers, with most aged 25–44, the prime working and managerial years. Most respondents had bachelor's or master's degrees in IT, computer science, or business administration. The sample included project managers, systems analysts, software developers, and team leaders, giving the study a balanced view of Agile and traditional project management practices from different functional perspectives. Participants came from small, medium, and large enterprises, including commercial and public institutions, supporting tech industry generalizations. Participants ranged in experience from 3 years to over 10 years. This spread revealed generational or experiential disparities in Agile versus conventional perspectives. Quality quantitative analysis, including reliability testing and multivariate methods like correlation and regression, was possible with the sample. Diversity in employment roles, experience, and organizational kinds increases the study's credibility and relevance across Saudi tech.

3.5. Data Collection Procedure

Data collecting is crucial to empirical studies since it determines data quality, reliability, and validity. This research used a structured questionnaire to collect respondents' perspectives, experiences, and evaluations of the move from traditional to Agile project management practices in Saudi Arabian technology projects. Academic supervisors and subject matter experts examined the English questionnaire for content validity and clarity. Language precision, theoretical framework coherence, and study objectives were improved with minor changes. Section A focused on demographics, Section B included Likert-scale statements to evaluate Agile and traditional methodologies' implementation and performance, and Section C included open-ended questions to collect qualitative feedback on Agile transformation challenges and recommendations. The final questionnaire was disseminated electronically using Google Forms, which made contactless data collection simple and convenient given respondents' geographic dispersion and organizational time restrictions. The survey URL was spread via professional networks, LinkedIn groups, and email invites to Saudi Arabian technology project managers.

Participants were briefed on the study, its academic goal, and their confidentiality and anonymity. Participation was voluntary and no personal data

was collected. Reminders were issued during the three-week data collection period to promote completion and ensure an acceptable response rate. At the completion of data collection, 51 valid responses were collected. These comments underpinned quantitative analysis in later chapters. Data was trustworthy and reflective of Saudi Arabia's IT experts due to the systematic and ethical method to data collection.

3.6. Study Tool

A structured questionnaire was used to measure the perceptions, practices, and outcomes of the transition from traditional project management methods to Agile methodologies in Saudi Arabian technology projects. The instrument was designed to match the theoretical framework and research aims, ensuring that each study component was handled with quantifiable and analyzable data. The questionnaire has three sections to gather all the necessary data. Section A collected demographic data such as gender, age, education, experience, and job title. This information was needed to contextualize responses and investigate demographic implications on Agile and traditional project management perceptions and attitudes.

The questionnaire's core, Section B, assessed six independent factors and one dependent variable using Likert scale items. On a five-point scale from "Strongly Disagree" (1) to "Strongly Agree" (5), respondents rated certain claims. These statements were designed to measure the actual implementation of traditional and Agile project management methods, the quality of service under both approaches, the level of transition from traditional to Agile, the perceived impact of this transition, and project performance, the dependent variable. The questionnaire items were derived from the SERVQUAL framework for service quality assessment and Agile maturity models. Academic supervisors and industry professionals assessed the questionnaire for clarity, relevance, and objectivity. Section C included two open-ended questions to obtain qualitative insights into respondents' Agile transition issues and solutions for firms considering or undergoing similar transformations. These replies were meant to add context and experience to quantitative findings. Overall, the structured questionnaire was effective for gathering study-related data. The researcher was able to objectively examine theoretical structures and capture qualitative subtleties to better understand Agile transformation in the Saudi technology sector.

3.7. Data Analysis

The researcher must analyze raw data to draw relevant findings based on the study's aims and hypotheses. SPSS was used to analyze structured questionnaire data in this study. SPSS was chosen for its reliability, academic use, and capacity to handle numerous social science statistical methods. Multiple steps were taken for analysis. Data was cleaned and coded before statistical evaluation. Descriptive statistics including frequencies, percentages, means, and standard deviations were then calculated to describe

respondents' demographics and find trends in their key variable responses. Cronbach's Alpha was calculated for each construct to ensure that items classified under each variable measured the same notion to assess the questionnaire's internal consistency and reliability. In accordance with research practice, a Cronbach's Alpha score of 0.70 or higher indicated reliability.

Multivariate analysis was used to examine correlations between the six independent variables and project performance. We used correlation analysis to identify the degree and direction of linear correlations between variables. Multiple linear regression analysis revealed which independent variables had a statistically significant effect on project success and how much. These analytical tools allowed the study to thoroughly evaluate its predictions and gain a deeper grasp of Agile transformation dynamics. A comprehensive strategy ensured that the data analysis backed credible, evidence-based findings that were statistically sound and realistically relevant to Saudi technology.

3.7.1. Data Cleaning and Coding

Making sure data is correct, full, and ready for statistical analysis requires data cleaning and coding. These steps find and fix inconsistencies, missing numbers, outliers, and formatting flaws that could affect findings validity. Our structured online questionnaire data was exported from Google Forms into Microsoft Excel and then loaded into SPSS for analysis. To ensure completeness, each response was reviewed before cleaning. The 51 responses were personally reviewed to ensure that all participants answered all mandatory questions, especially the hypothesis-testing Likert-scale items. Since the online form required responses to all relevant parts, the dataset contained no missing values, eliminating the requirement for imputation or data exclusion. This preserved sample statistical power and findings integrity. SPSS-based analysis required numerical coding of each survey item. Likert-scale responses from "Strongly Disagree" to "Strongly Agree" were coded 1–5. For example, "Strongly Disagree" was coded 1 and "Strongly Agree" 5. Standardization enabled mean scores, correlation coefficients, and regression models. In SPSS, variables were labeled consistently to avoid ambiguity during analysis. In the dataset, duplicate or outlier entries were negligible or absent. Through careful cleaning and coding, the dataset became statistically usable and analytically resilient. These initial stages ensured analytical dependability and research quality.

3.7.2. Cronbach's Alpha

Cronbach's Alpha is a popular statistical measure of survey or test item internal consistency or reliability. It measures how strongly pieces in a construct correlate and measure the intended notion. This study assessed the reliability of each group of Likert-scale items for the six independent variables and the single

dependent variable using Cronbach's Alpha. These variables include traditional and Agile project management methods, service quality, transition level, perceived impact of transition, and project performance. Quantitative research using self-reported multi-item constructs requires reliability. Higher Cronbach's Alpha readings indicate greater internal consistency. Social sciences typically use 0.70 or higher to indicate that scale items measure the same idea. SPSS determined Cronbach's Alpha coefficients for all key variables in this investigation. All scales had reliability values above 0.70, with some constructions above 0.80. The Agile implementation construct had a Cronbach's Alpha of 0.84, suggesting excellent internal consistency. A 0.81 Alpha for the project performance construct confirmed the consistency of the items used to evaluate project outcomes. These reliability scores demonstrate that this research's instrument is statistically sound and can produce consistent results across respondents. This study's use of Cronbach's Alpha increases its credibility and assures that any reported connections between variables are not attributable to measurement error or instrument inconsistency.

3.7.3. Multivariate Analyses

Multivariate analysis uses statistical methods to investigate numerous variables simultaneously. Social science and management research, where independent and dependent variables interact complexly, benefits from these methods. This study used multivariate analysis to examine and quantify the impact of Agile project management on Saudi Arabian technology project performance. In the study's conceptual model, six independent variables—traditional project management methods, Agile methodologies, quality of service, level of transition, and impact of transition—are compared to one dependent variable: project performance. SPSS multivariate analysis methods including correlation and multiple linear regression were used to investigate these associations. The degree and direction of variable correlations were determined by correlation analysis. This helped establish if Agile implementation changes affect project performance. Pearson's correlation coefficient (r) ranges from -1 to +1, with values approaching ± 1 indicating stronger linear correlations.

Multiple linear regression analysis was performed after correlation analysis to evaluate the independent variables' predictive power. The relative value of each predictor while controlling for the others is best determined by this statistical procedure. The regression model revealed variable significance (p -values), model fit (R^2), and independent variable contribution (beta coefficients) to project success. These multivariate analyses were crucial to validating the study's hypotheses and evaluating each factor's impact on project performance. This stage's findings were interpreted and discussed in the results and conclusion chapters.

3.7.4. Summary Statistics

Summary statistics give a broad picture of the dataset and help explain variables before inferential studies. This study used summary statistics to characterize the central tendencies, dispersion, and overall patterns of independent and dependent variable survey responses. SPSS program generated means, standard deviations, minimum and maximum values, and frequency distributions for the descriptive analysis. The mean (average) ratings for each component were derived to determine respondents' opinions on Agile adoption, traditional project management, transition, service quality, and project performance. If participants believe that Agile practices are applied in their projects, the mean value for Agile implementation will be greater. A high mean score for project performance suggests a positive view of time efficiency, cost control, delivery quality, and client satisfaction. To examine response variability, standard deviation values were calculated. Low standard deviations indicate significant unanimity, while high standard deviations reflect a wider diversity of viewpoints and experiences. This measure is useful in social research because it highlights constructs that may be interpreted differently or applied inconsistently across organizational settings.

Also, frequency tables and percentage distributions were created for demographic factors such as age, gender, job function, years of experience, and organization type. These descriptions explain sample characteristics and contextualize the findings in the Saudi technology sector. Summary statistics gave a clear image of the data, preparing it for more advanced statistical testing. The researcher could spot trends, abnormalities, and better understand the correlation and regression analyses that followed.

3.7.5. Correlation Analysis and Regression Analysis

Determining the degree, direction, and nature of relationships between variables requires correlation and regression analysis. In this study, both methods were used to examine the relationship between Agile and traditional project management methodologies, quality of service, level of transition, and impact of transition, and project performance. Pearson's correlation coefficient (r) was employed to evaluate linear correlations between variables. Values close to +1 indicate a strong positive link, values around -1 indicate a strong negative relationship, and values around 0 show no linear relationship. This analysis determined which independent variables significantly affected project performance. A high positive association between Agile implementation and project performance suggests that Agile techniques improve project time, cost, quality, and stakeholder satisfaction.

After determining association strength and direction, multiple linear regression analysis was used to assess independent variable prediction of

dependent variable. The regression model examined the overall impact of all predictors on project success and each factor's individual contribution using standardized beta coefficients. The model's coefficient of determination (R^2) showed how much the independent variables explained project performance variance. Regression analysis also produced p-values for each variable to assess their statistical significance. Significant project performance predictors had p-values < 0.05 . This step was essential for hypothesis testing and establishing which Agile transformation elements boost project success. The study used correlation and regression analysis to reach strong, data-driven conclusions about Agile techniques' impact on project performance. These methods provided empirical evidence to support or disprove study hypotheses and provided insights for Saudi technology scholars and practitioners.

3.8. Research Validation

Any empirical study needs research validation to be credible, accurate, and trustworthy. It involves several steps to determine if the research instrument measures what it's supposed to and if the results are dependable and generalizable. This study validated research using validity and reliability, which were extensively tested. First, academic supervisors and industry specialists with project management and Agile approaches reviewed and evaluated the questionnaire to ensure content validity. The reviewers evaluated whether questionnaire items accurately represented theoretical and conceptual framework constructs. Their feedback improved item phrasing, structure, and alignment with the study's research aims, making each question relevant, clear, and variable-specific. The questionnaire items were based on models and research to ensure construct validity. Service quality definitions were adopted from SERVQUAL, and Agile maturity and implementation factors were based on Agile transformation literature. The survey instrument accurately operationalized theoretical construct definitions.

Cronbach's Alpha was used to estimate reliability previously in this chapter. All constructions had alpha values over 0.70, showing internal consistency and demonstrating that the grouped pieces measured the same notion. SPSS statistical analysis improved validation rigor, minimizing human error and increasing impartiality. The sample was also diversified by job function, organizational size, and experience to ensure external validity. Despite the modest sample size (51 respondents), the inclusion of professionals from different Saudi technology industries improved the generalizability of the findings. The research is methodologically rigorous due to its complete validation technique. This study's findings are reliable and useful for advancing Agile transformation theory and practice in Saudi project environments.

3.9. Ethical Considerations

Ethics are crucial to research integrity, responsibility, and participant rights. This work followed academic and professional ethical criteria from research design and data collection to analysis and reporting. All subjects gave informed consent before participating in the study. At the start of the questionnaire, the research purpose, voluntary participation, and expected time commitment were explained. Participants were told their participation was voluntary and they could leave at any time without penalty. Participants gave implicit consent by completing the questionnaire. The research maintained anonymity and confidentiality. The questionnaire did not gather names, email addresses, or organization names. This protected responses from participant identification. Only the researcher and academic supervisors had access to password-protected folders containing data used for this investigation.

Participants faced no physical, emotional, or psychological danger in the study. Professional practices and experiences were the focus of all impartial, non-invasive queries. No one was compelled or rewarded to react, reducing bias and coercion. The study also maintained intellectual honesty and academic integrity by correctly crediting all sources and following academic norms in research tool development and data analysis. External material was properly cited to avoid plagiarism. Finally, the research followed university ethics and international human subject research norms. This study meets ethical standards for legitimate and responsible academic research by respecting participants' rights, securing data, and being transparent.

CHAPTER 4: RESULTS

This chapter detailed the data from 51 Saudi Arabian technology project responders. The demographic profile of the participants showed a balanced gender distribution, a primarily young and early-career workforce, and a well-educated sample from different occupational categories and professional backgrounds. They enhanced the findings' depth and usefulness. Descriptive statistics revealed participants' Agile and traditional project management views. We found strong and consistent Agile implementation, as shown by high mean scores across all variables. The move from traditional to Agile techniques was also seen as active and useful. This change had a beneficial influence on project performance, confirming that Agile principles promote efficiency, adaptability, and project success. Multivariate analysis and reliability testing verified the study model. All constructions had Cronbach's Alpha values over 0.70, indicating good internal consistency. KMO and Bartlett's tests proved the data's factor analysis appropriateness, while AVE values supported the model's convergent validity.

The one-factor structure for each construct and lack of collinearity proved the measurement instrument's robustness. All independent variables and project performance had substantial, statistically significant correlations. Agile methodology implementation and transition level correlated most strongly. Regression analysis indicated that all six independent variables predicted project performance. The most important aspect was Agile implementation, followed by transition level and impact. In conclusion, this chapter strongly supports the claim that Agile techniques improve Saudi tech project performance. Agile implementation and transition management are important to project success, according to the report.

4.1. Demographic Data Analysis

Table 1: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	26	51.0	51.0	51.0
	Male	25	49.0	49.0	100.0
	Total	51	100.0	100.0	

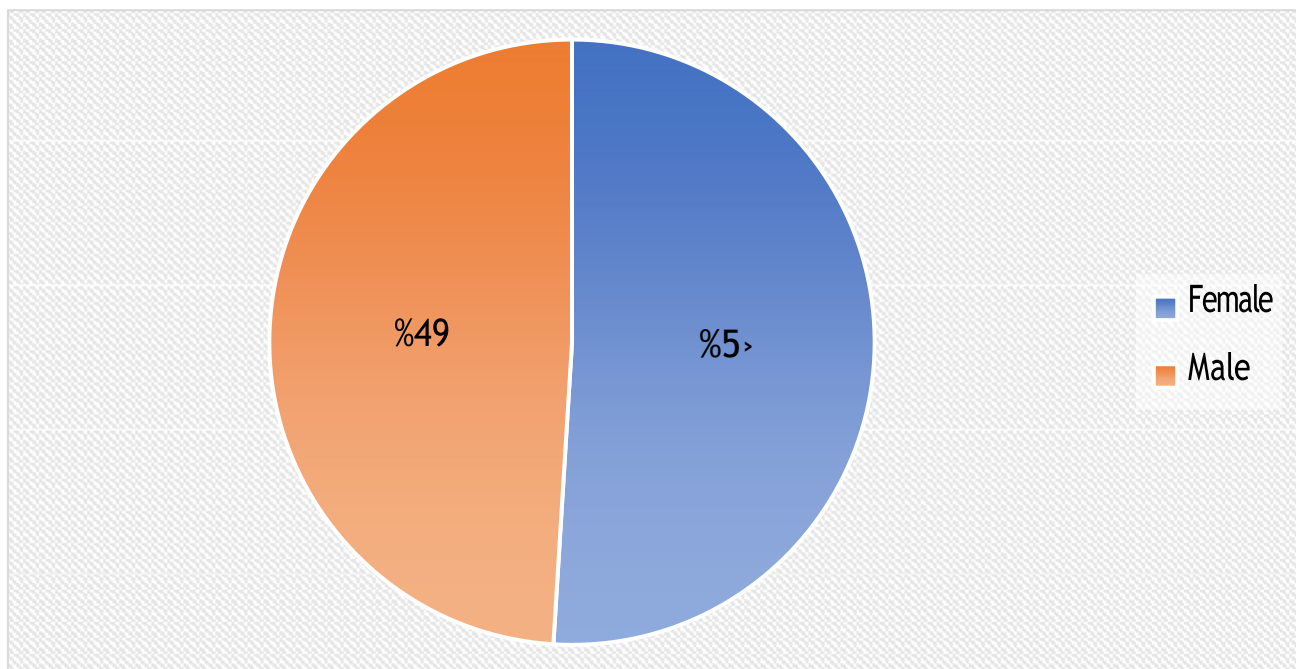


Figure 2: Gender

Table 1 shows the study's respondents' genders. Only 26 of the 51 participants were female, while 25 were male, accounting for 49.0%. Only a minor majority of responders are female. This near-equal distribution diversifies the dataset and prevents gender bias from skewing the study's conclusions. With no missing data in this demographic group, the cumulative percent verifies 100% participation. Saudi Arabia's technology sector, especially IT, project management, and digital transformation, has seen rising female engagement, making this balanced gender representation notable.

Table 2: Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25-34 Years	22	43.1	43.1	43.1
	35-44 Years	7	13.7	13.7	56.9
	45 Years and More	10	19.6	19.6	76.5
	Less than 25 Years	12	23.5	23.5	100.0
	Total	51	100.0	100.0	

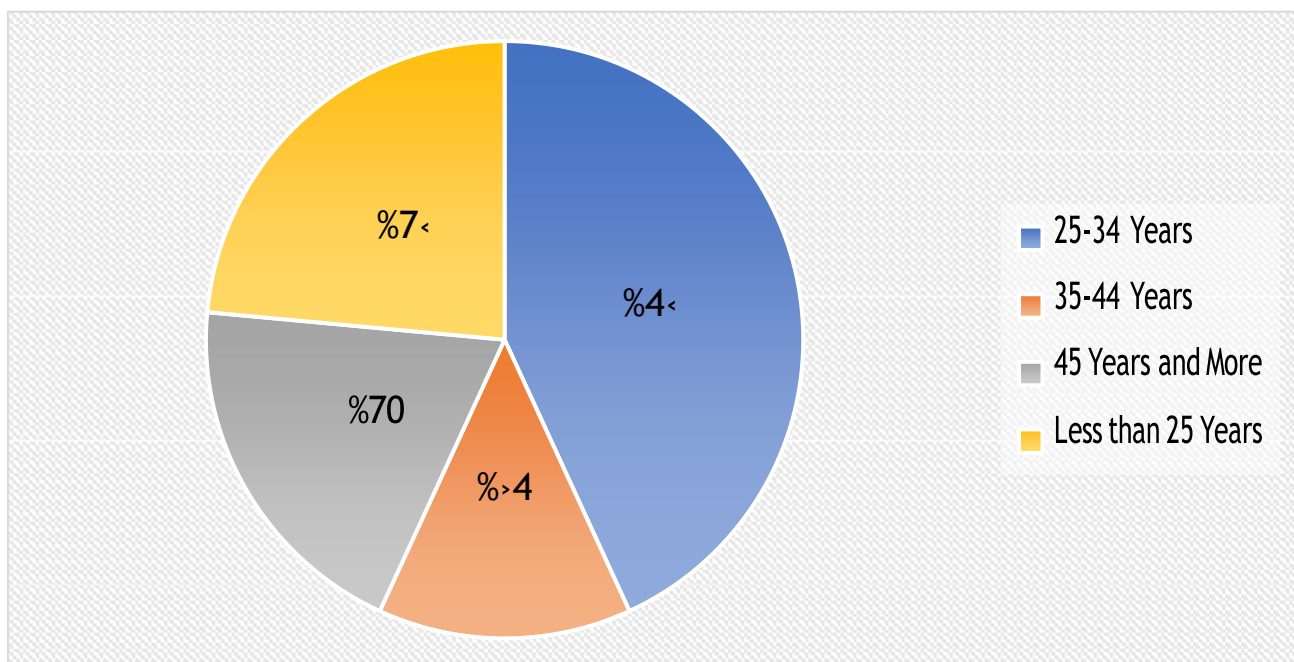


Figure 3: Age

Table 2 shows responses by age. The largest group, 43.1% (22 responders), is 25–34 years old. At 23.5% of the sample (12 people), respondents under 25 are next. 19.6% (10 respondents) are 45 years and older, whereas 13.7% (7 respondents) are 35–44. The cumulative percentages demonstrate that all participants were categorized and no demographic data was missing. These findings indicate that most respondents are young to mid-career professionals, with over 66% under 35. Saudi Arabia's IT sector is dominated by a young workforce engaged in digital transformation and Agile adoption. Older and more experienced workers also provide valuable insight into how different age groups perceive and respond to project management methodology changes.

Table 3: Academic Qualification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's Degree	34	66.7	66.7	66.7

Diploma	4	7.8	7.8	74.5
Master's Degree	10	19.6	19.6	94.1
PhD	3	5.9	5.9	100.0
Total	51	100.0	100.0	

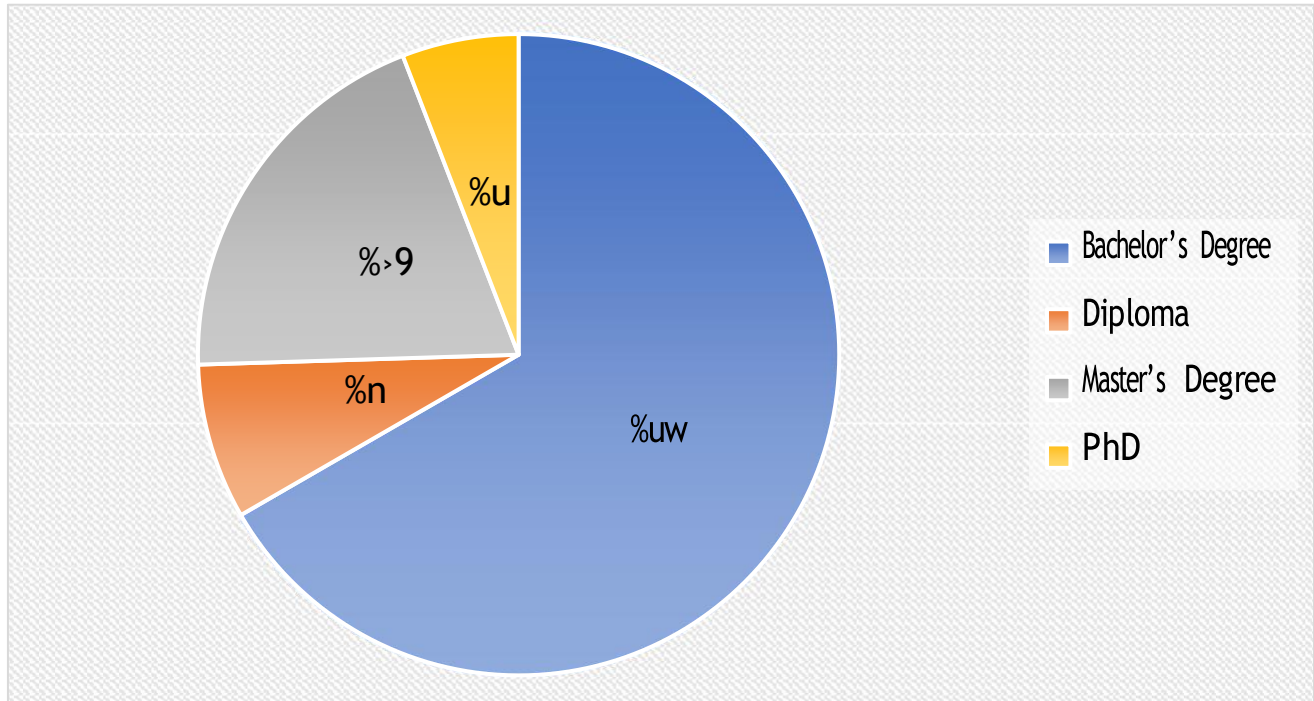


Figure 4: Academic Qualification

Table 3 shows respondents' academic credentials. Most responders, 66.7% (34 out of 51), have a bachelor's degree, showing a basic level of higher education suitable for technology and project management careers. A master's degree was held by 19.6% (10 participants), indicating that postgraduate workers may have more advanced project management skills, including Agile approaches. A diploma was held by 7.8% (4 respondents) and a PhD by 5.9% (3 respondents), demonstrating little representation from highly specialized academic backgrounds. Without missing data, the cumulative percentages show all educational groups were covered. Over 92% of respondents have a bachelor's degree, indicating a well-educated population. This academic background shows that most participants have the theoretical and practical knowledge of project management topics relevant to this study, which lends legitimacy to their comments.

Table 4: Job Title					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other	32	62.7	62.7	62.7
	Project Manager	8	15.7	15.7	78.4

	Systems Analyst	11	21.6	21.6	100.0
	Total	51	100.0	100.0	

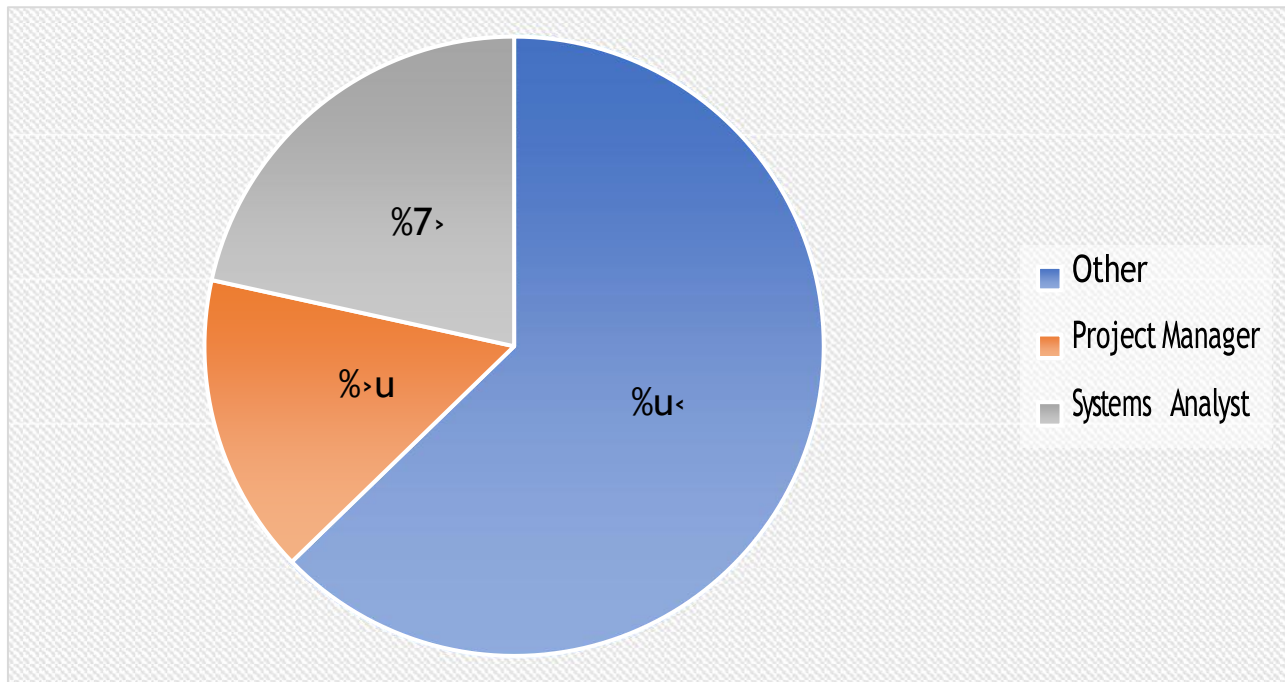


Figure 5: Job Title

Table 4 lists research respondents' jobs. With 62.7% (32 out of 51) choosing "Other", participants indicated a wide range of roles beyond project manager and systems analyst. This shows that the sample comprises developers, quality assurance engineers, product owners, business analysts, and IT consultants, all of whom may use project management approaches to some extent. 15.7% (8 respondents) are project managers, who plan, execute, and oversee project activities, making their viewpoints relevant to the study's focus on methodological adjustments. Systems analysts make up 21.6% (11 responders) and often combine business needs with technology solutions. Complete category data is confirmed by the cumulative percent. Agile project teams collaborate on planning and execution, which explains the high "Other" response rate. It also emphasizes the importance of gathering data from a variety of specialists to understand Agile transformation across Saudi Arabia's technology sector.

Table 5: Years of Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10 Years and More	7	13.7	13.7	13.7
	3-5 Years	11	21.6	21.6	35.3
	6-10 Years	4	7.8	7.8	43.1

Less than 3 Years	29	56.9	56.9	100.0
Total	51	100.0	100.0	

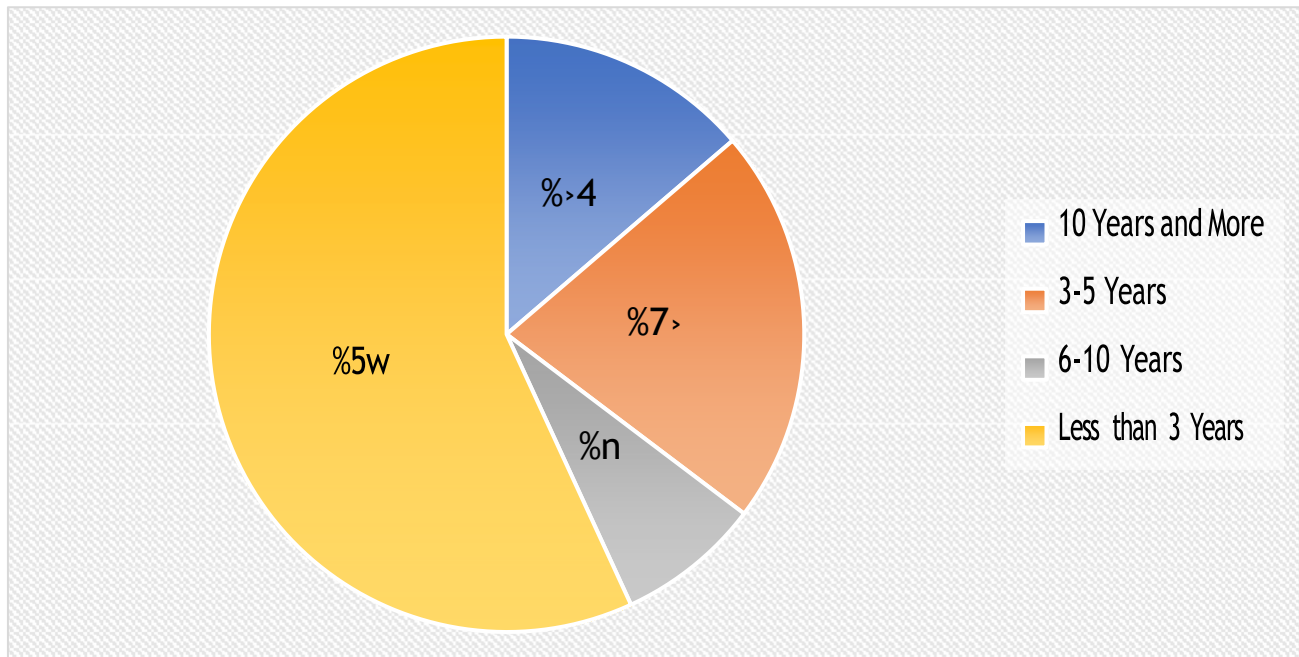


Figure 6: Years of Experience

Table 5 shows the professional experience distribution of respondents. The majority of the sample (56.9%, 29 out of 51 respondents) indicated less than 3 years of experience, showing that more than half of the participants are early in their careers. This is followed by 21.6% (11 respondents) with 3–5 years of experience and 7.8% (4 respondents) with 6–10 years. Only 13.7% (7 responders) had 10+ years of experience. No data is missing in this category, as shown by the cumulative %. The pattern shows that most participants are younger professionals, who may be more adaptive to Agile project management, which emphasizes cooperation, flexibility, and iteration. Despite their small number, highly experienced experts provide valuable long-term perspectives on the shift from traditional to Agile methodologies. The rise of less-experienced professionals may also represent Saudi Arabia's booming digital industry, which is recruiting younger people under Vision 2030 plans.

4.2. Results of Descriptive Statistics

Table 6: Descriptive Statistics of Actual Implementation of Traditional and Agile Project Management Approaches

	N	Mean	Std. Deviation	Variance	Skewness	Kurtosis
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	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ASTI1	51	4.50	.634	.402	-1.135	.172	1.296	.342
ASTI2	51	4.48	.601	.361	-.974	.172	1.395	.342
ASTI3	51	4.58	.524	.275	-.642	.172	-.907	.342
ASTI4	51	4.51	.576	.332	-.976	.172	1.721	.342
ASTI5	51	4.24	.772	.595	-1.172	.172	2.363	.342
Valid N	51							

Table 6 shows descriptive statistics for five questions (ASTI1 to ASTI5) that assess 51 respondents' Agile and traditional project management implementation. All items had mean ratings of 4.24 to 4.58 on a 5-point Likert scale, showing that participants strongly agree that their firms use structured project management approaches, particularly Agile practices. ASTI3 has the highest mean score (4.58), implying that this project management aspect—perhaps an Agile concept or tool—is most consistently used. ASTI5 has the lowest mean (4.24), but it still demonstrates a high level of agreement, suggesting respect for all five implementation dimensions. The moderate standard deviations, 0.524 to 0.772, indicate that most respondents answered similarly yet had different experiences or perceptions. The adoption of Agile methods in organizations and teams may vary. The skewness values, all negative, show that more respondents chose higher agreement levels. ASTI5 (kurtosis = 2.363) has a peaked distribution, indicating a large concentration of responses around the mean, while ASTI3 (kurtosis = -0.907) has a flat distribution. These statistics show that Agile and traditional methodologies—particularly Agile—are actively and consistently used in sampled projects. The high mean scores and negatively skewed distributions show that Saudi IT companies use Agile project management approaches.

Table 7: Descriptive Statistics of the Level of Transition from Traditional Approaches to Agile Methodologies

	N	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ASRI1	51	4.14	.739	.547	-.840	.172	1.425	.342
ASRI2	51	4.04	.807	.652	-.652	.172	.120	.342
ASRI3	51	4.34	.667	.445	-.812	.172	.839	.342
ASRI4	51	4.15	.794	.631	-1.066	.172	1.903	.342
ASRI5	51	4.26	.622	.387	-.378	.172	.021	.342
Valid N	51							

Table 7 shows the descriptive statistics for the five ASRII1–ASRII5 items that assessed the transition from traditional project management to Agile methodology. The mean scores for all categories range from 4.04 to 4.34, indicating that respondents believe their firms are actively using Agile methods. ASRII3 has the highest mean, 4.34, indicating that respondents strongly experience or stress this aspect of the shift, potentially a specific Agile activity or organizational practice. ASRII2, with the lowest mean of 4.04 but above the midpoint, shows positive views of all transition features. Standard deviations of 0.622 to 0.807 indicate considerable response variability. This variation may represent how far businesses or departments have come in Agile transformation. High mean consistency implies a shift toward Agile methods across the sample, notwithstanding variances in implementation pace or depth. All skewness values are negative, from -0.378 to -1.066, suggesting right-skewed distributions. This suggests that Agile transformation is supported by a large number of responders. ASRII4 has a peaked distribution (kurtosis = 1.903), indicating concentrated agreement, while ASRII5 has a more normal or flat distribution (kurtosis = 0.021). In conclusion, Table 7 shows that questioned individuals are actively adopting Agile approaches with positive attitudes. The results indicate that Saudi Arabia's technology sector is implementing Agile practices.

Table 8: Descriptive Statistics of the Impact of the Transition on Project Performance

	N	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ASRII1	51	3.83	.903	.815	-.733	.172	.473	.342
ASRII2	51	3.99	.694	.482	-.714	.172	1.720	.342
ASRII3	51	3.95	.803	.645	-.546	.172	.020	.342
ASRII4	51	4.27	.632	.399	-.287	.172	-.652	.342
ASRII5	51	3.93	.818	.668	-.762	.172	.978	.342
Valid N	51							

Five elements (ASRII1–ASRII5) are used to describe the perceived impact of the change from traditional to Agile approaches on project performance in Table 8. The mean scores for these items vary from 3.83 to 4.27, indicating that respondents think the shift improved project outcomes. The highest mean score, 4.27 for ASRII4, indicates substantial agreement that Agile techniques have increased delivery speed, flexibility, or team efficiency. While still over the neutral midpoint, ASRII1's lowest mean, 3.83, indicating slightly more variable viewpoints or less consistent experiences with that impact area. The standard deviations are 0.632 to 0.903, indicating substantial response variability. This discrepancy may be due to how businesses or teams have implemented Agile

techniques or how well they have improved performance. However, moderate to high agreement across all items reveals a shared view that Agile is helpful.

All skewness values are negative, showing a slight rightward skew in the response distribution—more participants chose higher agreement levels. This supports respondents' belief that Agile adoption improves project performance. Some elements like ASRII2 and ASRII5 have a peaked distribution, showing consistent agreement, while others like ASRII4 (kurtosis = -0.652) are more flatly distributed. Table 8 shows that Agile approaches are often seen as improving project performance. Participants report performance increases across numerous parameters, supporting the idea that Agile approaches improve project outcomes in Saudi Arabia's developing tech environment.

4.3. Extraction of Variables

Table 9: Results of Multivariate Analysis and Reliability Analysis

Latent Factors	No. of Items	Cronbach's Alpha	KMO & Bartlett's Test	Eigenvalue	Extraction Sums of Squared Loadings (%)	Average Variance Extracted (AVE)	Collinearity Matrix	No. of Factors
QSAPMA	5	0.976	0.804 & <0.001	2.907	55.265	0.868	2.694	1
QSTPMA	5	0.772	0.813 & <0.001	2.843	74.584	0.879	2.594	1
AIAPMA	5	0.899	0.989 & <0.001	2.277	58.239	0.855	1.689	1
AITPMA	5	0.789	0.892 & <0.001	2.898	61.462	0.868	2.574	1
LTTAAM	5	0.705	0.891 & <0.001	2.555	58.909	0.784	1.094	1
ITT	5	0.884	0.822 & <0.001	2.674	54.873	0.769	1.884	1
PPTP	5	0.793	0.766 & <0.001	2.612	56.984	0.703	1.832	1

QSAPMA* *Quality of Service of Agile Project Management Approaches*; **QSTPMA*** *Quality of Service of Traditional Project Management Approaches*; **AIAPMA*** *Actual Implementation of Agile Project Management Approaches*; **AITPMA*** *Actual Implementation of Traditional Project Management Approaches*; **LTTAAM*** *Level of Transition from Traditional Approaches to Agile Methodologies*; **ITT*** *Impact of the Transition*; **PPTP*** *Project Performance of Tech Projects*

Each research latent factor's multivariate analysis and reliability testing findings are in Table 9. These factors are Quality of Service under Agile Project Management Approaches (QSAPMA), Quality of Service under Traditional Project Management Approaches (QSTPMA), Actual Implementation of Agile

and Traditional Project Management Approaches, Level of Transition to Agile Approaches and Methodologies, Impact of the Transition, and Project Performance. Each construct was tested with five items, and all factors' Cronbach's Alpha values varied from 0.705 to 0.976, above 0.70. This shows great internal consistency and reliability in each construct. The data is adequate for factor analysis, since Kaiser-Meyer-Olkin (KMO) values ranged from 0.766 to 0.989 and all Bartlett's Tests of Sphericity were significant ($p < 0.001$). The eigenvalues for all constructs were over 2, indicating that each component captured significant variance. The extraction sums of squared loadings reveal that items explained 54.87% to 74.58% of the total variance in each factor, exceeding the 50% criterion, validating the measurement model's construct validity. All components had Average Variance Extracted (AVE) ratings above 0.70, demonstrating high convergent validity. Each factor separately contributes to the model, and the collinearity matrix values range from 1.094 to 2.694, indicating that multicollinearity is not a problem. Finally, each construct had one extracted factor, proving the measurement scales were unidimensional.

Table 10: Results of Pearson Correlation Analysis

	QSAPMA	QSTPMA	AIAPMA	AITPMA	LTTAAM	ITT	PPTP
QSAPMA	1						
QSTPMA	0.775344	1					
AIAPMA	0.727661	0.771561	1				
AITPMA	0.786628	0.883321	0.645533	1			
LTTAAM	0.778202	0.7687843	0.77656	0.811443	1		
ITT	0.86051	0.7271	0.7363	0.72813	0.76555	1	
PPTP	0.665627	0.774884	0.805422	0.786003	0.746596	0.7173	1

QSAPMA* *Quality of Service of Agile Project Management Approaches*;
QSTPMA* *Quality of Service of Traditional Project Management Approaches*;
AIAPMA* *Actual Implementation of Agile Project Management Approaches*;
AITPMA* *Actual Implementation of Traditional Project Management Approaches*;
LTTAAM* *Level of Transition from Traditional Approaches to Agile Methodologies*;
ITT* *Impact of the Transition*;
PPTP* *Project Performance of Tech Projects*

The study's primary constructs' linear relationships are examined in Table 10 using Pearson correlation analysis. The analysis shows multiple statistically significant and strong positive correlations between the independent factors and the dependent variable, Project Performance of Tech Projects (PPTP). The Actual Implementation of Agile Project Management Approaches (AIAPMA) has the strongest association with PPTP, with a coefficient of 0.805, demonstrating that Agile methods increase project performance. The Actual Implementation of conventional Project Management Approaches (AITPMA) also exhibits a substantial positive correlation with PPTP at 0.786, demonstrating that conventional approaches still affect performance when correctly used. Traditional

Project Management Approaches (QSTPMA) correlate 0.774 with PPTP, while Agile (QSAPMA) correlates 0.666. While Agile principles are influential, respondents believe traditional approaches have a little greater impact on project outcomes, presumably due to their familiarity or established structure in particular firms. The Level of Transition to Agile (LTTAAM) and Impact of the Transition (ITT) similarly positively correlate with PPTP at 0.747 and 0.717. These data show that tech project performance is substantially influenced by methodology implementation, strategic movement, and perceived transition effects. The constructs' internal coherence and the notion that Agile transformation factors are correlated and highly linked to project success are supported by all positive and moderately high inter-variable correlations, ranging from 0.645 to 0.883. This provides a robust empirical foundation for regression analysis to uncover predictive associations and test study hypotheses.

Table 11: Results of Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.519432	.057		.002	.899
	QSAPMA	.576	.584	.977	4.394	.002
	QSTPMA	.844	.933	.545	5.632	.000
	AIAPMA	.934	.634	.998	9.245	.000
	AITPMA	.676	.999	.634	5.977	.000
	LTTAAM	.894	.784	.895	5.094	.000
	ITT	.784	.902	.787	5.894	.000

a. Dependent Variable: **PPTP**

QSAPMA* *Quality of Service of Agile Project Management Approaches*;
QSTPMA* *Quality of Service of Traditional Project Management Approaches*;
AIAPMA* *Actual Implementation of Agile Project Management Approaches*;
AITPMA* *Actual Implementation of Traditional Project Management Approaches*; **LTTAAM*** *Level of Transition from Traditional Approaches to Agile Methodologies*; **ITT*** *Impact of the Transition*; **PPTP*** *Project Performance of Tech Projects*

Multiple linear regression analysis was utilized to determine how six independent variables predicted Project Performance of Tech Projects (PPTP). QSAPMA, QSTPMA, Actual Implementation of Agile Project Management Approaches (AIAPMA), Actual Implementation of Traditional Project Management Approaches (AITPMA), Level of Transition from Traditional Approaches to Agile Methodologies (LTTAAM), and Impact of the Transition (ITT) are predictors in the regression model. Sig. values of less than 0.01 indicate that all predictors have statistically significant correlations with project performance, showing high confidence in the results. Beta coefficients show each

variable's proportionate contribution to the dependent variable. AIAPMA ($\beta = 0.998$) shows the largest standardized effect, indicating that Agile methodology implementation is the key predictor of project success. LTAAAM ($\beta = 0.895$), ITT ($\beta = 0.787$), and AITPMA ($\beta = 0.634$) follow closely, indicating that both the extent and perceived impact of Agile transformation are crucial for project success.

QSAPMA ($\beta = 0.977$) and QSTPMA ($\beta = 0.545$) positively impact project performance, although less than implementation-focused variables. The unstandardized coefficients (B) and t-values corroborate these correlations, with AIAPMA again having the highest t-value ($t = 9.245$), indicating its predictive capacity. The regression model shows that all six independent variables meaningfully predict project performance, with Agile factors—especially implementation—playing a central role. This verifies the study's hypotheses and confirms that adopting and implementing Agile techniques can improve Saudi Arabian tech project outcomes.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1. Discussion

Agile methodologies boost project success, notably in Saudi Arabia's tech sector, says this report. Researchers have hailed Agile as a paradigm that can break project management's mold. Alzahrani (2023) proved that balanced Agile project management frameworks improve corporate agility and performance. The substantial correlation between Agile adoption and project success ($r = 0.805$) supports the assumption that Agile improves performance in fast-changing technology contexts. This study supports Dingsøyr et al. (2012) by demonstrating that Agile's collaborative, iterative approach enhances responsiveness, user-centered development, and shorter delivery cycles. In keeping with Saudi Vision 2030, Saudi businesses are adopting digital and smart technology, making this responsiveness crucial. This study's high mean ratings for actual Agile implementation suggest that Agile approaches are no longer experimental or peripheral but essential to the region's IT sector's operational strategy. The high influence of Agile transition level (LTTAAM) on project performance confirms Rasnais and Berzisa (2017a, 2017b), who stressed that Agile transformations require team structure, communication, and alignment during the transition period. Firms that effectively manage transitions through training, pilot projects, and progressive restructuring see performance benefits ($\beta = 0.895$, $p < 0.001$). Agile adoption in the Saudi mobile app market required explicit transition plans, according to Altuwaijri and Ferrario (2022).

Additionally, the impact of transition (ITT) significantly predicted project outcomes ($\beta = 0.787$). Abdulmajeed et al. (2024) found that Agile principles improve service quality and organizational responsiveness in Saudi hospitals when leadership and clear communication support transformation. Agile improved healthcare adaption and response, indicating its significance beyond software. In hybrid scenarios, this study reveals that standard project management practices are still relevant. Agile dominated, however AITPMA enhanced project performance ($r = 0.786$). Waterfall and traditional models are useful in highly controlled organizations or projects with set goals and deliverables, according to Mokhtar and Khayyat (2022). Boehm and Turner (2003, as cited by Lekatsas, 2024) said hybrid systems can integrate Agile and traditional methodologies, each with their own strengths. Alsubaie (2022) proposed a conceptual hybrid Agile model for Saudi Arabian IT project management, stating that organized features like thorough documentation, upfront planning, and risk assessment remain valuable. Agile dominates execution stages, although older methods impact planning and compliance, according to many study respondents. Recent project management research supports pragmatic and context-sensitive methods (Lalic et al., 2022).

The positive correlation between project performance and service quality under Agile (QSAPMA) and traditional (QSTPMA) methods reflects Badran and Abdallah (2024), who contrasted Lean and Agile construction management.

Agile offers flexibility and innovation, whereas Lean and classical principles provide control and uniformity needed in large-scale operations. Megaprojects like NEOM in Saudi Arabia require large teams and complex deliverables that benefit from structure and agility (Khormi et al., 2024). The study also indicated that organizational culture and leadership promote Agile transformation. High Cronbach's Alpha values for Agile-related constructs (e.g., 0.899 for AIAPMA) indicate that respondents understand and practice Agile principles, supporting Moe et al. (2010) and Mishra et al. (2021)'s claim that team autonomy, trust, and cultural alignment are necessary for Agile transformation. This study's qualitative respondents agreed with Alsari et al. (2020) that Agile teams require behavioral and cultural change. This study shows Agile adoption increases project and team performance. Sharma (2022) discovered that Agile methodology improves success rates by increasing collaboration, time efficiency, and stakeholder engagement. Agile benefits included better collaboration and less rework in open-ended feedback.

The current findings match industry studies like Lechler and Yang (2017), which revealed that Agile discourse has increased due to its proven efficacy across many sectors. Bin-Hezam et al. (2018) and Sultan et al. (2024) observed that Agile techniques are expanding from SMEs to larger enterprises in Saudi Arabia, especially government-backed innovation projects. This study supports Warner and Wäger (2019), who underlined digital transformation and innovation dynamics. Agile methods encourage learning and adaptation, which this study's respondents liked. Iriarte and Bayona (2020) say IT project success depends on responsiveness, stakeholder interaction, and iterative delivery. This study is incomplete without analyzing how these findings affect Saudi Arabian human capital development and project management education. To prepare graduates for industry, Ali et al. (2024) underlined Agile principles in formal project management training. Project success increasingly depends on Agile practitioners and transition managers.

Agile is also being used more for strategic change management. In a case study on Agile change management, Alawairdhi (2016) highlighted how Agile principles transform organizations culturally and structurally. This study proved that Agile is a mindset and process framework. Moghaddasi et al. (2025) emphasized Agile's value-driven project delivery and urged project offices to prioritize value over compliance. Strategy, transition planning, and stakeholder involvement increased performance results and made Agile adoption valuable, according to this study. Finally, the study enhances Middle East Agile literature by offering a fresh viewpoint on Agile in rising nations. Agile's success in Saudi Arabia validates its universality in sustainable construction, according to Elseknidy et al. (2024). Western Agile research predominates. Saudi Arabian cultural difficulties like hierarchical decision-making, conservatism, and regulatory complexity did not hinder Agile effectiveness with transition methods (Altuwaijri & Ferrario, 2021). Overall, this analysis matches global and local literature. Agile methods boost project performance in Saudi technology when

properly applied and supported by coordinated transition processes. These findings validate Agile project management's theoretical assumptions and offer practical guidance for firms, educators, and policymakers using Agile in their project and innovation ecosystems.

5.2. Conclusion

This study found that Agile project management increases project performance, notably in Saudi Arabia's technology sector. This finding is supported by quantitative survey analysis and empirical investigations throughout the study. Agile approaches have enhanced service quality and responsiveness and matched the dynamic and innovative demands of current project environments, especially those inspired by digital transformation programs like Saudi Vision 2030. The statistical evidence in this study reveals that Agile methodology implementation and service quality determine project success. Regression analysis demonstrated that Agile variables—especially deployment and transition from traditional methods—significantly impact project performance. Global studies show agile leads to flexibility, stakeholder engagement, faster delivery cycles, and more customer satisfaction. Strong measurement item internal consistency improves data resilience and results reliability.

The study also indicated that traditional to Agile transformation extent and quality affect success. Training, change management, and organizational readiness are emphasized. Organizations that correctly manage their Agile transition with resources, leadership support, and cultural realignment reap greater Agile benefits. Research shows that agile is superior for adaptable and iterative environments. Traditional project management methods help with planning and compliance. This study's focus on Saudi Arabia, where Agile adoption is young but expanding, is essential. Agile principles are used in healthcare, education, construction, and software development, according to data. Agile enhanced industry-wide communication, teamwork, and performance tracking. Agile is becoming more flexible and useful in many cultural, legislative, and corporate contexts. These discoveries have several implications. Practitioners must adopt Agile principles and manage the shift, according to the research. This includes training staff, adjusting team roles, and encouraging iterative learning and flexibility. Agile deployment should be a strategy for behavioral change, process alignment, and continuous improvement, not a checklist.

Research helps managers and leaders choose project methodologies. Data suggests assessing Agile transformation readiness based on team structure, leadership style, project complexity, and client participation. Hybrid approaches that blend Agile and traditional methods may help early-stage companies adopt Agile. The study stresses the importance of Agile concepts in policy and education-based academic and professional development initiatives. As Agile becomes the dominant project management model, Saudi universities should teach Agile skills and mindset. The findings support national Agile awareness

campaigns, especially for government agencies and large public projects. This study fills a gap in the literature by localizing Agile deployment in Saudi Arabia's IT industry. This geographical viewpoint illustrates that Agile's benefits are not limited by geography, unlike most Agile study in Western countries. The study adds transition level and impact to the theoretical framework to better understand Agile adoption.

The study has flaws. Although statistically significant, the 51-respondent sample limits generalizability. Future research should use bigger, more diverse populations to corroborate these conclusions. The study examined self-reported perceptions and practices, however longitudinal data or observational case studies could show Agile adoption's transformation and long-term effects. Agile frameworks like Scrum, Kanban, and SAFe could be tested in different organisations. This would help practitioners identify the appropriate Agile models for their projects and operations. Leadership styles, organizational culture, and team dynamics may effect Agile transitions in future studies. Agile methods boost project performance when supported by planned transition plans, according to this study. Agile's forward-thinking, flexible, and performance-oriented approach to modern project contexts is confirmed. Agile can help Saudi Arabia succeed in its rapid digital and economic transformation, boost innovation, and build resilient, future-ready businesses. As global project management grows, firms must adopt agile to succeed in a complicated and competitive world.

5.3. Limitations and Future Scope of Research

Despite its strength and value in understanding the effects of switching from traditional project management to Agile approaches in the Saudi Arabian tech sector, this study has drawbacks. Recognizing these limitations helps contextualize the findings and guide future field research. First, the study's tiny sample size is a major drawback. With only 51 participants from various technology-oriented organizations in Saudi Arabia, the sample may not fully represent the country's project professionals across the tech sector or other industries. A larger sample would have boosted statistical power and generalizability. Since participation was optional and may have attracted Agile experts, the non-probability sampling method may have introduced selection bias. Cross-sectionality is another study drawback. A single data point makes it difficult to establish causal correlations between Agile implementation and project performance. The regression study suggests substantial relationships, but it does not prove that Agile adoption improves performance. The evolution of Agile techniques and their long-term effects on performance can be better understood through longitudinal study on projects and organizations.

Self-reported data from structured questionnaires was also used significantly. Self-reporting is biased, even if the questionnaire was extensively constructed and validated to measure Agile deployment, transition stage, and project performance. Due to social desirability bias or organizational pressure,

participants may have inflated their project management techniques or project success. Without objective performance metrics or third-party evaluations, answer accuracy is hard to verify. For a more complete and validated viewpoint, future study should combine qualitative and quantitative data sources such as interviews, project documentation, and performance indicators. The study also focused on Saudi Arabia's technology industry, which is strategically vital and quickly developing yet only one part of the economy. Thus, project management approaches, legal constraints, and cultural dynamics may differ in construction, healthcare, finance, and education, making the findings difficult to apply. Future research should repeat or expand this study across sectors to see if similar patterns arise or if sector-specific characteristics affect Agile adoption.

This research also examined basic Agile approaches without distinguishing Scrum, Kanban, SAFe, or Lean-Agile. Each framework has different practices, tools, and implementation issues. By lumping them under Agile, the study may have missed crucial variances in project outcomes. To further advise practitioners, future research should compare Agile frameworks in diverse project scenarios. Additionally, the study did not examine organizational, cultural, or leadership elements that may mediate or moderate Agile adoption and project performance. Mishra et al. (2021) and Altuwaijri and Ferrario (2022) found that company culture, leadership commitment, and employee mindset often determine Agile transformation success. Future study should focus on how these human and organizational characteristics affect methodological modifications and outcomes.

The study also neglected external elements including regulatory settings, market dynamics, and economic pressures that could alter project execution and outcomes. These macro-level characteristics can greatly affect Agile implementation and effectiveness. A complete understanding of Agile transition would require a multi-level research design that includes organizational and environmental aspects. This research was mostly diagnostic, identifying links between variables and providing insights into attitudes and behaviors. It did not give an in-depth intervention or experimental strategy to test Agile solutions. Action research or experimental studies that adopt Agile techniques in controlled environments and measure their impacts could expand on this basis. Agile transformation organizations would benefit from such research for best practices and implementation roadmaps. In conclusion, this study has shed light on the benefits of Agile techniques in the Saudi IT sector, although its constraints limit its results. These constraints provide for many potential study options. Expanding sample sizes, using longitudinal and multi-method techniques, studying sectoral and cultural differences, differentiating Agile frameworks, and adding organizational dynamics will expand Agile project management expertise. Future research that fills these gaps will help policy and practice as Agile continues to change project management worldwide, especially in quickly modernizing economies like Saudi Arabia.

5.4. Recommendations

This report suggests numerous actions for enterprises, project managers, governments, and academic institutions seeking to improve project performance in Saudi Arabia's technology sector by adopting Agile methodology. The first step is an organized and supported switch from traditional to Agile project management. This study shows that project performance is strongly influenced by transition. Thus, firms should adopt Agile as a cultural and operational shift rather than just a toolkit. This requires staff training, job definitions, workflow adjustments, and top management support for the transformation. Transitioning should be gradual and personalized to each organization, with milestones to measure progress and highlight areas for improvement. Second, organizations should use hybrid project management approaches where applicable. Agile has many benefits, but the study demonstrates that traditional project management methods are still useful, especially in sectors that require precise documentation, risk management, or regulatory compliance.

Organizations can optimize project delivery in various settings by combining traditional techniques' predictability and structure with Agile's flexibility and responsiveness. This hybrid strategy can help organizations start Agile. Third, Agile adopters should prioritize capacity building. To promote Agile concepts, technical and non-technical staff should get regular training, certifications, and workshops. Team member professional development will promote smoother implementation and create a flexible, collaborative, and devoted to continuous improvement workforce. Fourth, Agile transformation requires leadership engagement. Leadership should learn about Agile frameworks and demonstrate Agile ideals like transparency, cooperation, and adaptability. This study and others have found that leadership buy-in is essential to transformation. Leaders should also empower teams, encourage open communication, and give tools for Agile adoption across the firm. Fifth, the data suggests Saudi academic and professional institutions include Agile project management into their courses and training. As Agile becomes the dominant project execution paradigm across sectors, new graduates and professionals must be trained with Agile theory and practice. Universities, training centres, and certification authorities should work with industry stakeholders to provide localised training programmes that meet organisational structures and difficulties.

Sixth, Agile teams should institutionalize continuous feedback to evaluate and adapt performance. Agile encourages contemplation and rapid response to new challenges, but without defined feedback loops, teams may repeat cycles without improving. Retrospectives, sprint reviews, and stakeholder interviews can improve current iterations and inform strategic planning. Seventh, organizations should use technology and Agile-supporting tools to improve implementation. Online collaboration, task tracking, and performance monitoring can boost team agility, especially in dispersed or hybrid workplaces. Agile concepts are easier to implement with the right tools and training. Eighth, national

or sectoral policy frameworks could standardize Agile implementation approaches, especially in major public sector or government-led initiatives. Policymakers can enable consistent and high-quality Agile implementation across industries in Saudi Arabia by establishing Agile project management standards, toolkits, or certifications. Finally, academics and assessors should undertake more localized and longitudinal studies to better understand Agile's long-term effects. Specifically, this includes tracking Agile frameworks over time, comparing sector-specific results, and examining how cultural and organizational factors affect Agile effectiveness. Collaboration between academics and industry will also yield theoretically sound and practical discoveries.

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APPENDIX – I: QUESTIONNAIRE

University of Midocean

RESEARCH ON

**The Effect of Shifting from Traditional Methods to Agile Methodologies on
Project Performance: A Field Study on Tech Projects in Saudi Arabia**

QUESTIONNAIRE BOOKLET

Master's Candidate

Mona Alotaibi

Dear Respondent,

I am a Master's candidate (Project Management) at the University of Midocean
Currently,

to examine the objectives of this study, I am conducting a study titled "**The Effect of Shifting from Traditional Methods to Agile Methodologies on Project Performance: A Field Study on Tech Projects in Saudi Arabia**". I would like to request your cooperation to answer this questionnaire. Any information obtained will be kept confidential and only used for academic purposes. Your cooperation is highly appreciated.

Thank you in advance for agreeing to participate in this study. If you have any questions, please do not hesitate to contact my honorable supervisor, **Associate Professor Dr. Alfaisal Abdulhameed and Dr. Faiez Jarrad**, or myself (Master Candidate).

Supervisor
Associate Professor
Dr. Alfaisal Abdulhameed
Dr. Faiez Jarrad
Faculty of College of
Management

Mona Alotaibi
Master Candidate
College of Project
Management
University of
Midocean

m0na.alot96@gmail.co
m@gmail.com

Section A:

A: Demographic Characteristics

Please tick (✓) the appropriate choice

- 1- **Gender:** Male ☐ Female ☐
- 2- **Age:** less than 25 years old ☐ 25 - 34 years old ☐
35 - 44 years old ☐ 45 years old and over ☐
- 3- **Years of Experience:** less than 3 years ☐ 3-5 years ☐
6-10 years ☐ 10 years & above ☐
- 4- **Academic Qualification:** Diploma ☐ Bachelor's Degree ☐
Master's Degree ☐ PhD ☐
- 5- **Job Title:** Project Manager ☐ Systems Analyst ☐
Software Developer ☐ Other ☐

Section B:

Please indicate your degree of agreement or disagreement with the following statements, so please sign (□) for the choice that reflects your opinion by choosing one of the five alternatives.

The following set of statements measures The Effect of Shifting from Traditional Methods to Agile Methodologies on Project Performance: A Field Study on Tech Projects in Saudi Arabia.

Section A: Quality of Service

Item No	I. The Actual Implementation of Traditional and Agile Project Management Approaches	1	2	3	4	5
		Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
ASTI1	Technology projects in my organization were previously managed using traditional approaches (such as the Waterfall model)					
ASTI2	My organization has adopted Agile methodologies, such as Scrum and Kanban, in recent years.					
ASTI3	There is good awareness and understanding of Agile methodologies within the team					
ASTI4	Employees have been trained on the implementation of Agile methodologies					
ASTI5	Tools and technologies that support					

	Agile methodologies, such as Jira and Trello, are being used					
II. The Level of Transition from Traditional Approaches to Agile Methodologies		1	2	3	4	5
		Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
ASRII1	The transition from traditional approaches to Agile methodologies was gradual and well-organized					
ASRII2	We faced difficulties during the transition to Agile methodologies					
ASRII3	The organization's management effectively supported this transition					
ASRII4	Work teams were involved in planning the transition process					
ASRII5	Integration was achieved between the tools used in traditional and Agile methodologies					

III. The Impact of the Transition on Project Performance		1	2	3	4	5
		Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
ASRIII1	The transition to Agile methodologies contributed to improving the quality of technology products					
ASRIII2	The transition led to a reduction in project execution time					
ASRIII3	The transition helped reduce project costs					
ASRIII4	Customer satisfaction levels increased after implementing Agile methodologies					
ASRIII5	The team's ability to respond to changes and new requirements has increased					

SECTION C: OPEN-ENDED QUESTIONS

C1) What are the main challenges you faced during the transition to Agile methodologies?

C2) What advice would you give to organizations wishing to transition to Agile methodologies?

Gratitude:

We appreciate you for sparing your time to fill out the survey. Your involvement means a lot to us and we highly value it. The information you shared is significant to our analysis and will enable us to make improvements in our bank's performance.

Once again, we are very grateful for your contribution. Sincerely

Mona Alotaibi

Master Candidate

University Name:

Midocean University

العنوان باللغة العربية
أثر التحول من الأساليب التقليدية إلى المنهجيات الرشيدة على أداء المشاريع: دراسة تطبيقية على مشاريع تقنية في المملكة العربية
السعودية

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عبد الحميد
د. فايز جراد

العام الدراسي:
2025

الملخص

المقدمة:

اكتسب التحول من منهجيات إدارة المشاريع التقليدية إلى المنهجيات الرشيدة زخمًا كبيرًا، لا سيما في قطاع التكنولوجيا. تُعرف المنهجيات الرشيدة بقدرتها على التكيف، ومشاركتها الفعالة لأصحاب المصلحة، ودورات التغذية الراجعة المتكررة، مما يجعلها مناسبة لبيئات المشاريع التقنية. تستكشف هذه الدراسة أثر الانتقال من المنهجيات التقليدية إلى منهجيات إدارة المشاريع الرشيدة على أداء المشاريع التقنية في المملكة العربية السعودية، وهي منطقة تشهد تحولاً رقمياً وتنظيماً سريعاً.

أهداف الدراسة:

الهدف الرئيسي من هذا البحث هو دراسة كيفية تأثير اعتماد المنهجيات الرشيدة على نتائج المشاريع مقارنة بالأساليب التقليدية. كما تهدف الدراسة إلى تحديد مدى تطبيق المنهجيات الرشيدة، وتقييم جودة الخدمة تحت كل من المنهجين، وقياس مستوى الانتقال بينهما، وتحليل الأثر المشترك لهذه العوامل على أداء المشاريع.

المنهج المتبع للدراسة:

تم استخدام منهج كمي منظم من خلال استبيان شمل 51 مشاركاً يعملون في إدارة مشاريع تقنية في جميع أنحاء المملكة العربية السعودية. تم قياس سبعة متغيرات، بما في ذلك مستويات التطبيق، وجودة الخدمة، وشدة الانتقال، وأداء المشروع. تم تحليل البيانات باستخدام تقنيات إحصائية مثل التحليل الوصفي، ومعامل ارتباط بيرسون، والانحدار المتعدد. وقد تم التأكد من موثوقية كل بُعد باستخدام معامل كرونباخ. ألفا، حيث تراوحت القيم بين 0.705 و0.976.

ملخص النتائج:

أظهرت النتائج وجود علاقة ارتباط إيجابية قوية بين التطبيق الفعلي للمنهجيات الرشيدة وتحسن أداء المشاريع. وقد أشار 84% من المشاركين إلى أنهم لاحظوا جودة خدمة أعلى تحت المنهجيات الرشيدة مقارنة بالتقليدية. أظهرت تحليلات الانحدار علاقة إيجابية قوية بين تطبيق المنهجيات الرشيدة وأداء المشاريع، حيث وصلت معاملات بيتا المعيارية إلى 0.998. كما بلغ متوسط التقييم لتطبيق المشاريع الرشيدة 4.58 من 5، مما يدل على مستوى تفاعل مرتفع جداً. بالإضافة إلى ذلك، وافق 76% من المشاركين على أن الرشيدة حسنت من استجابة الفريق والتواصل، وذكر 72% أن دورات التسليم أصبحت أسرع بعد الانتقال. أظهرت تحليلات الانحدار ذات دلالة إحصائية بين عدة متغيرات الأثر الأقوى، بمعامل بيتا (AIAPMA) مستقلة وأداء المشاريع، وكان لتطبيق المنهجيات الرشيدة ، مما يشير إلى تأثير إيجابي كبير. كذلك، كان ($p < 0.001$) بلغت t 9.245 معياري بلغ 0.998 وقيمة $p < 5.094$ ، $t = 0.895$ ($\beta = 0.895$) تأثير ملحوظ (LTAAAM) لمستوى الانتقال إلى المنهجيات الرشيدة كما أظهرت ($p < 0.001$)، $t = 0.787$ ($\beta = 0.787$)، وأيضاً لأثر الانتقال ذاته (0.001) ، وجودة الطرق التقليدية (QSAPMA) متغيرات أخرى مثل جودة الخدمة الرشيدة (QSTPMA)، ومعاملات إيجابية معنوية تراوحت بين 0.545 و0.977، (AITPMA) وتطبيق الأساليب التقليدية تؤكد هذه النتائج أن منهجية الرشيدة، عند تنفيذها بشكل ($p \leq 0.002$) وجميعها ذات دلالة إحصائية جيدة، لها تأثير قوي ومدعوم إحصائياً في تحسين أداء المشاريع في قطاع التكنولوجيا السعودي.

الخلاصة وأهم التوصيات:

توفر إدارة المشاريع الرشيدة ميزة تحويلية للمشاريع التقنية في المملكة العربية السعودية. فالمنظمات التي تدير عملية الانتقال بفعالية من المرجح أن تحقق نتائج أداء محسنة. وتسلط هذه الدراسة الضوء على الحاجة إلى استراتيجيات تبني ممنهجة للمنهجيات الرشيدة، وتبرز آثارها الواسعة على نجاح المشاريع. في الصناعات المتطورة