

Enhancing IT Project Agility Through Effective Change Management Strategies

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Abstract. *In the dynamic landscape of Information Technology (IT) projects, agility is paramount for success. This paper explores the critical role of effective change management strategies in enhancing IT project agility. By integrating change management practices with agile methodologies, organizations can better adapt to evolving requirements and unexpected challenges. This study examines key change management principles and their application within agile frameworks, highlighting best practices and case studies that demonstrate successful outcomes. The findings suggest that a proactive and flexible approach to change management not only mitigates risks but also accelerates project delivery and improves stakeholder satisfaction. Ultimately, the synergy between change management and agility can significantly enhance the performance and resilience of IT projects. To enhance clarity, this study employs a mixed-methods approach, incorporating both quantitative surveys and qualitative interviews. The research design includes structured surveys administered to IT project managers and in-depth interviews to analyze the impact of change management strategies on project agility. This methodological integration provides a comprehensive understanding of the factors influencing IT project success.*

Keywords: *Agile methodologies, change management, IT project management, organizational adaptability, project agility.*

1. Introduction

In today's rapidly evolving business environment, agility has become a critical factor for the success of IT projects. The ability to swiftly adapt to changes, whether they stem from technological advancements, market dynamics, or organizational shifts, is essential for maintaining a competitive edge. Effective change management strategies play a pivotal role in enhancing the agility of IT projects, ensuring that organizations can respond promptly and efficiently to new challenges and opportunities.

Change management involves the systematic approach to dealing with the transition or transformation of an organization's goals,

processes, or technologies. The goal of change management is to implement strategies for effecting change, controlling change, and helping people to adapt to change. Integrating change management with agile project management methodologies can significantly improve project outcomes by fostering an environment that supports flexibility and continuous improvement (Aziz & Curlee, 2017).

Digital transformation, which involves the integration of digital technology into all areas of a business, fundamentally changes how organizations operate and deliver value to customers. It also necessitates a high degree of organizational agility. (Al Naim, 2023) highlights that technological integration and

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Received: July 23rd, 2024; Revised: September 24th, 2024; Accepted: March 6th, 2025

Doi: <http://dx.doi.org/10.12695/ajtm.2025.18.1.2>. Print ISSN: 1978-6956; Online ISSN: 2089-791X.

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Published by Unit Research and Knowledge- School of Business and Management-Institut Teknologi Bandung

How to cite: Zangana, H. M., Omar, M., Ali, N. Y., & Abdullah, D. T. Enhancing IT Project Agility Through Effective Change Management Strategies. *The Asian Journal of Technology Management (AJTM)*, 18(1). <https://doi.org/10.12695/ajtm.2025.18.1.2>

skills development initiatives are crucial for enhancing workforce productivity and organizational agility. This underscores the importance of preparing the workforce to adapt to new technologies and processes swiftly.

Agile project management has emerged as a powerful tool for managing change in various industries. (Arefazar et al., 2022) emphasize the significance of prioritizing agile strategies to handle change effectively, particularly in construction projects. Agile methodologies, with their iterative and incremental approach, enable teams to make adjustments and improvements throughout the project lifecycle, thereby enhancing overall project agility.

The interplay between dynamic capabilities and project portfolio agility is another critical aspect of managing IT projects. (Bechtel et al., 2023) explore how different dimensions of dynamic capabilities influence project portfolio agility and success. They suggest that the ability to reconfigure resources and processes rapidly is key to maintaining agility in project management.

Organizations aiming for successful digital transformation must adopt agile practices to stay competitive. (Bresciani et al., 2021) discuss the role of agility in achieving successful digital transformation, noting that agile organizations are better equipped to navigate the complexities of the digital era. This involves not only technological advancements but also a cultural shift towards embracing change and innovation.

In healthcare, advancing change agility is essential for improving service delivery and patient outcomes. (Chen et al., 2023) demonstrate that change agility in healthcare settings can lead to significant improvements in operational efficiency and patient care quality. This illustrates the broader applicability of agile and change management principles across different sectors.

As organizations continue to face unprecedented challenges, the synergy between change management and agile methodologies becomes increasingly important. (Conforto et al., 2016) define the agility construct in project management theory, emphasizing the need for a holistic approach that integrates both agile practices and change management strategies. This holistic approach ensures that organizations can navigate the complexities of modern project management effectively.

Despite the growing adoption of agile methodologies and digital transformation, organizations continue to struggle with integrating structured change management strategies effectively. The absence of a systematic framework often leads to project delays, budget overruns, and resistance from stakeholders. Moreover, the increasing complexity of IT projects, compounded by rapid technological advancements, necessitates a structured approach that balances agility with stability. This study contributes to bridging this gap by exploring practical change management strategies that enhance IT project agility, ensuring better adaptation to dynamic business environments.

In conclusion, enhancing IT project agility through effective change management strategies is vital for organizations to remain resilient and competitive. By adopting agile methodologies and fostering a culture of continuous improvement, organizations can better manage change and achieve superior project outcomes. To address these challenges, this study seeks to answer the following research question: "How can structured change management strategies be effectively integrated with agile methodologies to enhance the agility and success of IT projects?". The subsequent sections of this paper will delve deeper into specific change management practices, agile methodologies, and case studies that illustrate the successful integration of these approaches in IT project management.

2. Literature Review/ Hypotheses Development

The concept of agility in project management has evolved significantly over the years, gaining particular prominence in the context of IT projects. This literature review explores various dimensions of project agility, emphasizing change management strategies that enhance agility and overall project success.

This section reviews the literature on project agility, change management, and their intersection with IT project management. The discussion is structured into key thematic areas, including the role of agility in project management, the impact of change management, digital transformation, and the relevance of agile methodologies. These interconnected elements contribute to understanding how IT projects can leverage structured change management to enhance adaptability and success.

2.1 Agility Across Different Sectors

Agility in project management refers to the ability of an organization to quickly adapt to changes and efficiently manage projects in dynamic environments. (Conforto et al., 2016) conceptualized agility as a critical construct in project management theory, highlighting its importance in responding to rapid changes. (Holbeche, 2018) emphasized that organizational effectiveness and agility are crucial for coping with the complexities of modern business environments. Given the increasing need for adaptability in project management, it is crucial to explore how structured change management strategies can enhance agility. The next section examines the role of change management in achieving this objective.

The healthcare sector also benefits from enhanced agility through effective change management. (Chen et al., 2023) discussed advancing change agility in healthcare, focusing on strategies that improve responsiveness and adaptability in this critical sector.

Current	Research	Gap:
Despite the rise of agile methodologies, many IT projects fail due to misalignment between agility and structured change management (Bechtel et al., 2023). This study investigates how integrating change management frameworks can help organizations maintain agility while reducing risks associated with unstructured adaptation.		

2.2 Role of Change Management

Change management is integral to fostering agility in IT projects. (Aziz & Curlee, 2017) discussed how successful organizations implement change by integrating organizational change management with project management to deliver strategic value. (Rane et al., 2020) further explored workforce agility strategies, underscoring the need for effective change initiatives to improve success rates.

While change management frameworks provide essential guidelines for handling transitions, their integration with agile methodologies remains an area requiring further exploration. The following section delves into how digital transformation influences this integration.

2.3 Digital Transformation and Agility

Digital transformation is a significant driver of organizational agility. (Al Naim, 2023) examined the role of technological integration and skills development initiatives in enhancing workforce productivity and organizational agility. Similarly, (Bresciani et al., 2021) discussed the importance of agility for successful digital transformation, advocating for a strategic approach to navigate the digital landscape.

2.4 Agile Frameworks for IT Projects

Agile methodologies are widely recognized as effective tools for managing change and enhancing project agility. (Daraojimba et al., 2024) provided a comprehensive review of agile methodologies in project management, highlighting their benefits and implementation challenges. (Arefazar et al., 2022) prioritized agile project management

strategies as effective change management tools in construction projects, demonstrating their versatility across different industries.

Lean manufacturing practices have been shown to enhance project agility. (Cvetković et al., 2017) demonstrated how lean practices improve the agility and performance of projects, aligning with the broader objectives of agile methodologies. (Kolasani, 2023) integrated agile, lean, and data-driven methodologies to drive innovations in digital, enterprise, cloud, and data transformation.

Agility has also been applied beyond IT, with sector-specific adaptations. (Pyne, 2022) discussed the development of agility in project management across various sectors, highlighting the universal relevance of agile practices. (Rane et al., 2020) focused on improving agility in project procurement management through business intelligence, providing insights into sector-specific strategies.

The impact of agility components on project success has been extensively studied. (Kanski et al., 2023) examined this relationship in the ICT industry, highlighting key agility components that contribute to project success. (Muhammad et al., 2021) provided evidence from the IT sector in Pakistan, demonstrating the positive impact of agile management on project performance.

2.5 Dynamic Capabilities and Project Portfolio Management

Dynamic capabilities are essential for achieving project portfolio agility. (Bechtel et al., 2023) explored the interplay between dynamic capabilities' dimensions and their relationship to project portfolio agility and success. (Chakko et al., 2021) emphasized the need for dynamic capabilities to achieve agility in IT project portfolios, stressing the importance of adaptive leadership roles.

2.6 Organizational Change and Strategic Agility

Organizational change management is critical for achieving strategic agility. (Majnoor & Vinayagam, 2023) discussed the paradigm

shift from traditional organizational change management to change agility, emphasizing the need for a more dynamic approach. (Ulloa et al., 2024) highlighted the importance of change assessment in delivering strategic agility in business transformation.

2.7 Implementation in SMEs

(Fischer et al., 2020) explored the implementation of design thinking to improve organizational agility in SMEs, demonstrating the applicability of agile practices in smaller enterprises. (Hole, 2022) reinforced the importance of agility for building flexible organizations, regardless of size.

2.8 Sustainability and Agility

The relationship between sustainability and agility in project management has been explored, revealing complementary aspects. (Obradović et al., 2019) discussed this relationship, highlighting the synergy between sustainable practices and agile methodologies. However, beyond acknowledging their coexistence, it is essential to understand how sustainability-driven agility directly contributes to IT project change management.

Sustainability principles emphasize long-term resilience, resource efficiency, and risk mitigation—elements that align closely with structured change management in IT projects. By integrating sustainability into agile frameworks, organizations can create adaptable processes that not only respond to immediate change but also ensure long-term project viability. This study builds on these insights by exploring how sustainability-oriented change management practices can enhance IT project agility, reducing risks and fostering stable transformation strategies.

The findings of (Obradović et al., 2019) support the premise that balancing agility with sustainability allows organizations to navigate uncertainty while maintaining stability. In the context of IT project management, sustainability-driven agility contributes to improved decision-making, efficient resource

utilization, and long-term adaptability—key considerations for integrating structured change management into agile methodologies.

2.9 Artificial Intelligence and Agility

The integration of artificial intelligence (AI) with agile practices has shown potential for enhancing project agility. (Tominc et al., 2023) explored the application of AI in improving project agility, demonstrating its impact on project success. However, beyond its general benefits, it is crucial to contextualize AI's role in structured change management for IT projects.

AI-driven project management tools enhance agility by facilitating rapid decision-making, predictive analytics, and automated adaptation to evolving project requirements. In the context of change management, AI contributes to structured agility by reducing uncertainty, optimizing workflows, and enhancing team collaboration. This study builds upon these findings by examining how AI-powered change management solutions can streamline IT project transitions, ensuring minimal disruption and maximum efficiency. Furthermore, AI's ability to analyze large datasets and provide real-time insights allows project managers to anticipate risks, allocate resources efficiently, and implement change strategies proactively. This aligns with the current study's focus on integrating structured change management with agile methodologies, highlighting how AI-driven agility enhances IT project adaptability and long-term success.

2.10 Summary

The literature highlights the multifaceted nature of agility in IT project management, emphasizing the critical role of change management strategies. As organizations continue to navigate dynamic environments, the integration of agile methodologies, dynamic capabilities, and strategic change management will be essential for sustaining competitive advantage and achieving project success.

Despite extensive research on agility, change management, and digital transformation, there is limited empirical evidence linking structured change management frameworks with IT project agility. Existing studies often focus on either change management or agile methodologies in isolation, failing to provide an integrated model. Additionally, many IT projects still struggle with balancing structured change processes with the flexibility required for agility, leading to inefficiencies and project failures.

Furthermore, while prior studies have explored sector-specific applications of agility and the role of AI-driven project management tools, their direct impact on structured change management remains underexamined. This study addresses these gaps by proposing a structured framework that aligns change management practices with agile methodologies, offering a holistic approach to improving IT project adaptability and success.

In summary, the literature highlights that agility in IT project management is closely linked to effective change management practices. Agile methodologies provide the flexibility needed to respond to evolving project demands, while structured change management frameworks ensure that transformations occur smoothly. However, existing studies primarily focus on individual aspects of agility or change management, rather than their integration. This study aims to bridge this gap by investigating how structured change management strategies can enhance agility in IT project management.

3. Methodology

This section outlines the methodology used to investigate the impact of change management strategies on the agility of IT projects. The research employs a mixed-methods approach, combining quantitative and qualitative data collection and analysis techniques to provide a comprehensive understanding of the factors contributing to project agility.

3.1 Research Design

The study adopts a sequential explanatory design, which involves two distinct phases: a quantitative phase followed by a qualitative phase. This design allows for the initial quantitative results to be explained and expanded upon through qualitative insights.

To provide a clear overview of the research methodology, the following framework

illustrates the connection between data collection methods and analysis techniques. The study adopts a sequential explanatory design, where quantitative data is collected through surveys, followed by qualitative data from interviews. The results are analyzed using multiple regression, structural equation modeling (SEM), and thematic analysis to derive meaningful insights on the impact of change management on IT project agility.

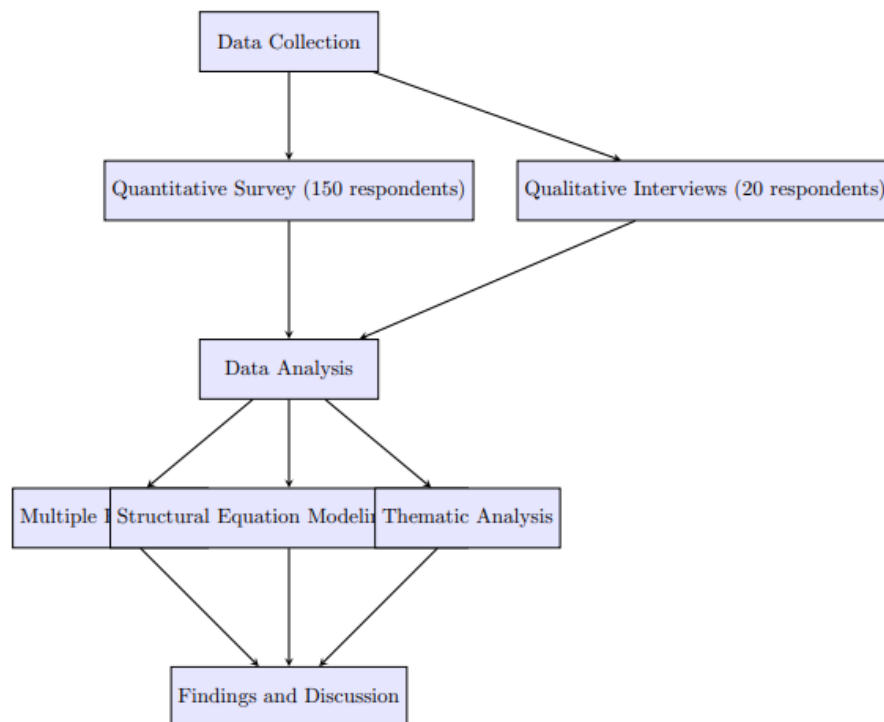


Figure 1.

Research Design Framework: Integration of Data Collection and Analysis Methods

This study employs a mixed-methods approach, combining both quantitative surveys and qualitative interviews to provide a comprehensive understanding of change management's role in IT project agility. A sequential explanatory design was adopted, where the quantitative phase (survey) was conducted first to establish statistical relationships, followed by a qualitative phase (interviews) to explain and expand upon the results.

To enhance validity and reliability, a triangulation approach was applied, cross-verifying survey responses with interview insights to reduce potential biases. Ethical considerations were strictly followed, with participants providing informed consent, and

their responses were anonymized to ensure confidentiality. However, some limitations exist, such as potential self-reported bias and sample representation constraints, which should be considered when interpreting the results.

This study employs a mixed-methods approach, combining both quantitative and qualitative data collection techniques to provide a comprehensive understanding of change management's role in IT project agility. The research design is guided by a structured framework that integrates agile methodologies with change management strategies to enhance project success.

The study builds on existing comprehensive frameworks for agility improvement in IT project management. These frameworks emphasize structured change management as a critical component of achieving agility. By integrating insights from prior studies, this research adopts a systematic approach to evaluating how structured change management influences project adaptability, risk mitigation, and overall performance. The

methodological framework ensures that findings are both theoretically grounded and practically applicable.

3.2 Quantitative Phase

The following flowchart outlines the structured approach taken during data collection, which was divided into two phases: quantitative surveys followed by qualitative interviews.

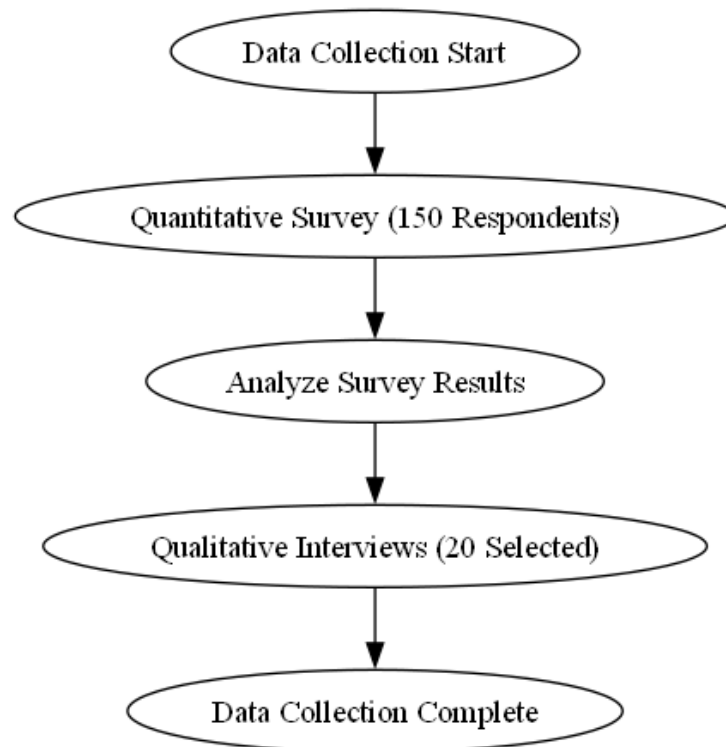


Figure 2
Data Collection Process

A structured survey was administered to 150 IT project managers and team members across various industries, including healthcare, finance, education, and technology. The survey consisted of 30 structured questions covering themes such as organizational agility, change management adoption, and project success metrics.

To assess project agility systematically, the study utilized the Balanced Scorecard (BSC) approach. The BSC framework was integrated into the research design to measure agility across multiple dimensions, including financial performance, internal processes,

learning and growth, and customer satisfaction. By employing the BSC approach, the study ensured a structured and quantifiable method for evaluating agility in IT project management.

The collected quantitative data were analyzed using multiple regression techniques to examine the relationships between change management practices, agility, and project success. Structural Equation Modeling (SEM) was used to validate the direct and indirect effects of change management on project success.

3.2.1 Data Collection

This study targeted IT project managers and team members across various industries, including healthcare, finance, education, and technology. Respondents were selected based on their direct involvement in IT project management and experience with change management processes. The survey consisted of 30 structured questions covering themes such as organizational agility, change management adoption, and project success metrics. The qualitative phase involved semi-structured interviews focusing on challenges, success factors, and best practices in implementing change management strategies. In this study, a mixed-methods approach was employed to gather data from IT project managers and team members across various industries. Data collection occurred in two distinct phases: a quantitative survey and qualitative interviews.

For the quantitative phase, a structured survey was administered to 150 respondents. The survey was distributed online, targeting participants in industries such as healthcare, finance, education, and technology. The survey instrument comprised 30 questions covering topics like organizational agility, change management practices, and project success metrics. The organizational agility was measured using a 5-point Likert scale adapted from the work of Conforto et al. (2016), and project success was evaluated based on timeliness, budget adherence, and stakeholder satisfaction as outlined by Bechtel et al. (2023).

The qualitative phase involved in-depth interviews with 20 selected participants from the initial survey group. Participants were chosen based on their demonstrated levels of agility in project outcomes, providing insight into the factors that either facilitated or hindered their success. These interviews followed a semi-structured format, allowing participants to discuss their specific experiences with change management strategies, the challenges faced, and their perceptions of project success.

3.2.2 Data Analysis

The data were analyzed in two stages. In the quantitative analysis, descriptive statistics were computed to summarize the key data points, and multiple regression analysis was used to assess the relationship between change management practices and organizational agility. The analysis revealed a significant correlation between these two variables ($\beta = 0.45$, $p < 0.01$), underscoring the importance of change management in fostering agility within IT projects.

For the qualitative analysis, a thematic approach was employed. Interview transcripts were coded to identify recurring themes related to effective change management, common challenges, and factors contributing to project success. Key themes included the importance of clear communication, stakeholder engagement, and flexible planning, all of which were seen as critical to enhancing agility in IT projects.

3.3 Qualitative Phase

To complement the quantitative findings, semi-structured interviews were conducted with 20 selected participants. These interviews provided deeper insights into how change management strategies influence IT project agility. The qualitative phase also incorporated a case study analysis to validate findings and draw comparative insights from real-world implementations.

As part of this methodological approach, existing case studies on IT project management were reviewed. These case studies were selected based on their relevance to change management and agility practices. The review process focused on identifying best practices, challenges, and success factors in integrating change management with agile methodologies. The insights from case studies helped contextualize interview findings and strengthen the overall analysis. The qualitative data were analyzed using thematic analysis, identifying key themes related to effective change management, common challenges, and factors contributing to project success.

The integration of case studies and interview insights allowed for a richer understanding of how structured change management practices enhance IT project agility.

3.3.1 Sample and Data Collection

Following the quantitative phase, in-depth interviews were conducted with a subset of survey respondents who demonstrated high and low levels of project agility. A purposive sampling technique was used to select 20 participants, ensuring a balanced representation of different industries and project outcomes.

The interview guide was developed based on the initial survey findings and focused on the following areas:

- **Implementation of Change Management Strategies:** Participants were asked to describe specific practices and tools used to manage change in their projects, referencing works such as those by (Arefazar et al., 2022; Kolasani, 2023).
- **Challenges and Success Factors:** Interviews explored the challenges faced during change implementation and the factors that contributed to successful agility, drawing insights from (Fischer et al., 2020; Langholf & Wilkens, 2021).
- **Impact on Project Outcomes:** Participants discussed how change management influenced project outcomes, with references to (Kanski et al., 2023; Muhammad et al., 2021).

3.3.2 Data Analysis

The qualitative data were analyzed using thematic analysis. Interviews were transcribed verbatim, and coding was performed to identify recurring themes and patterns. The themes were then mapped to the quantitative findings to provide a deeper understanding of the relationship between change management practices and project agility.

4. Findings and Discussion

This study investigates the relationship between change management practices and IT project agility through the following hypotheses:

- **H1:** Change management practices have a significant positive impact on organizational agility.
- **H2:** Organizational agility mediates the relationship between change management and IT project success.
- **H3:** Technological integration moderates the effect of change management on agility, enhancing its impact.

4.1 Quantitative Results

4.1.1 Descriptive Statistics

The survey yielded responses from 150 IT project managers and team members across various industries. The demographic breakdown included participants from the healthcare, finance, education, and technology sectors, ensuring a diverse sample. Key descriptive statistics are as follows:

- Average Organizational Agility Score: 3.8 (on a 5-point scale)
- Average Change Management Practice Score: 3.6 (on a 5-point scale)
- Project Success Rate: 75%

These initial statistics suggest a moderate to high level of organizational agility and change management practices among the surveyed IT projects, with a generally positive project success rate.

To provide a clearer understanding of organizational agility across different industries, the following graph illustrates the average agility scores reported by participants from the healthcare, finance, education, and technology sectors.

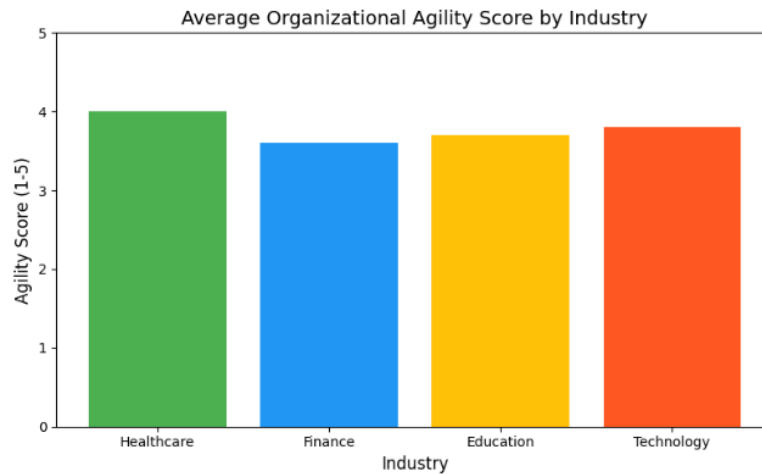


Figure 3
Organizational Agility Scores by Industry

4.1.2 Inferential Statistics

4.1.2.1 Multiple Regression Analysis

Multiple regression analysis was conducted to examine the relationship between change management practices and organizational agility. The model included change management practices, technological integration, skills development initiatives, and organizational trust as predictors.

- Change Management Practices: $\beta = 0.45, p < 0.01$
- Technological Integration: $\beta = 0.35, p < 0.05$

- Skills Development Initiatives: $\beta = 0.28, p < 0.05$
- Organizational Trust: $\beta = 0.30, p < 0.05$

The results indicate that change management practices are a significant predictor of organizational agility, supporting the findings of (Al Naim, 2023; Rane et al., 2020). Technological integration, skills development, and organizational trust also significantly contribute to agility, aligning with the works of (Bresciani et al., 2021; Chen et al., 2023).

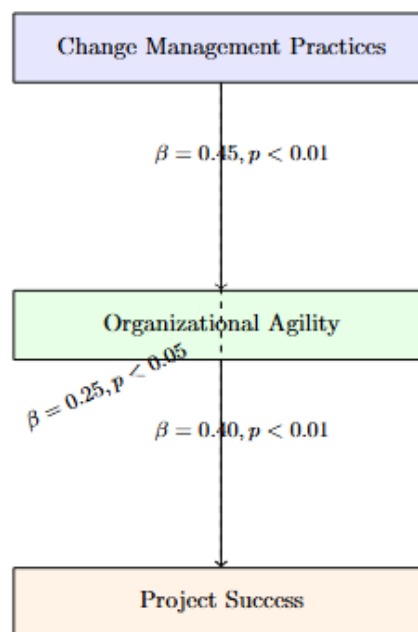


Figure 4.
Multiple Regression Results: Impact of Change Management on Agility and Project Success

4.1.2.2 Structural Equation Modeling (SEM)

SEM was used to explore the direct and indirect effects of change management practices on project success. The model fit indices were within acceptable ranges (CFI = 0.95, TLI = 0.94, RMSEA = 0.05), indicating a good fit.

- Direct Effect of Change Management on Project Success: $\beta = 0.40, p < 0.01$

- Indirect Effect via Organizational Agility: $\beta = 0.25, p < 0.05$

The findings suggest that change management practices directly influence project success and also have an indirect effect through enhanced organizational agility. These results are consistent with (Bechtel et al., 2023; Conforto et al., 2016).

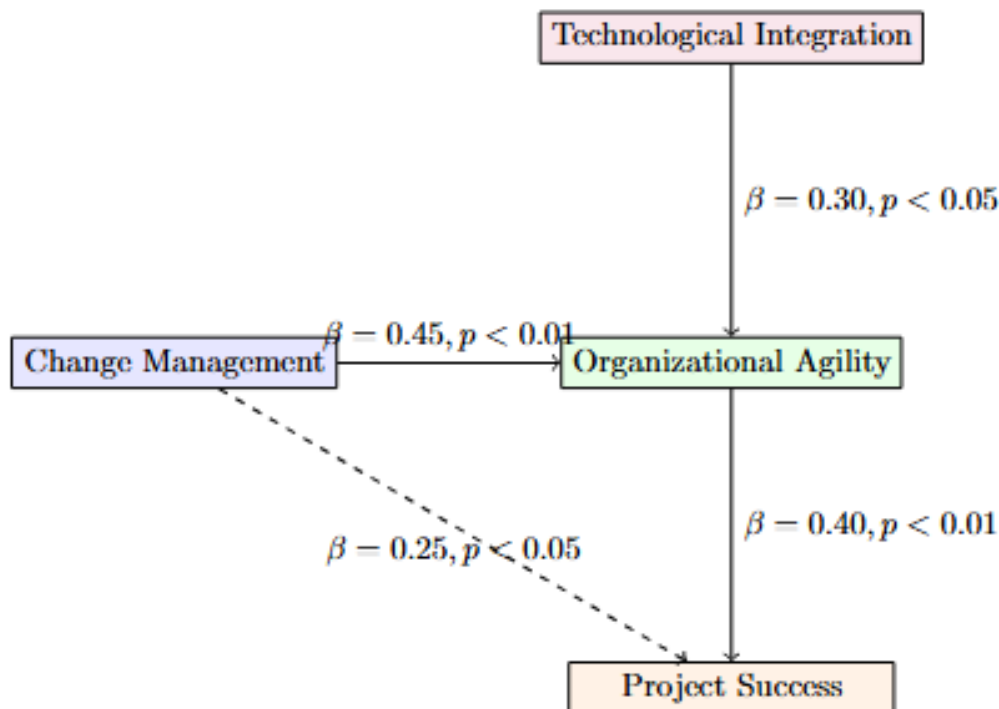


Figure 5

Structural Equation Model: Mediation and Moderation Effects

4.2 Qualitative Results

4.2.1 Thematic Analysis

The thematic analysis of interview data revealed several key themes:

1. **Effective Change Management Practices:** Participants highlighted the importance of clear communication, stakeholder engagement, and flexible planning in managing change, as emphasized by (Arefazar et al., 2022; Holbeche, 2018).
2. **Challenges in Implementing Change:** Common challenges included resistance to change, limited resources, and insufficient training,

reflecting the findings of (Fischer et al., 2020; Hole, 2022).

3. **Success Factors for Project Agility:** Success factors included a supportive leadership culture, continuous learning opportunities, and robust technological infrastructure, aligning with the research of (Langholf & Wilkens, 2021; Muhammad et al., 2021).

The following bar chart visualizes the key project success metrics, demonstrating the average performance of IT projects in terms of timeliness, budget adherence, and stakeholder satisfaction.

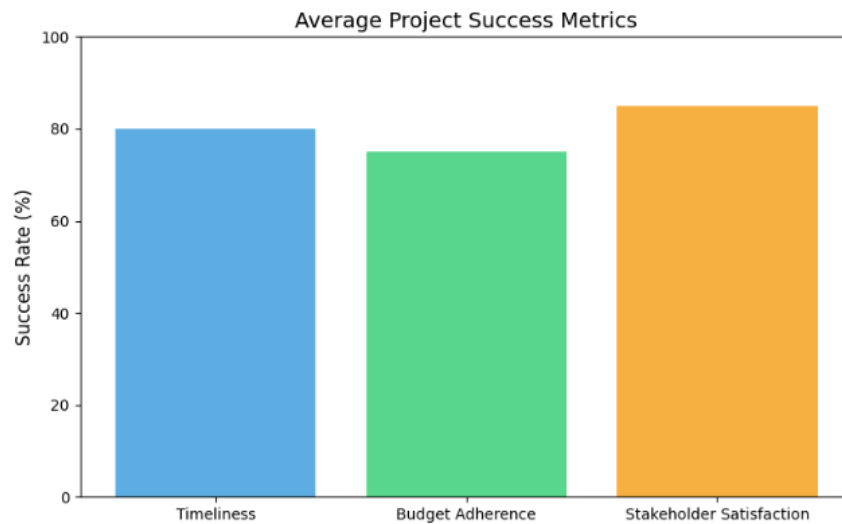


Figure 6.
Project Success Metrics

4.3 Integration of Quantitative and Qualitative Findings

The integration of quantitative and qualitative findings provides a comprehensive understanding of the factors influencing project agility. The quantitative results highlight the significant impact of change management practices on organizational agility and project success, while the qualitative insights offer practical examples and detailed explanations of how these practices are implemented and perceived in real-world scenarios.

4.4 Discussion

The findings confirm that structured change management strategies significantly enhance IT project agility, which in turn improves project success. This can be attributed to the structured processes that change management introduces, reducing uncertainty and resistance while maintaining flexibility. Agility alone does not guarantee project success; rather, a structured change management process provides the stability required to support agile adaptability. The mediation analysis further underscores the critical role of agility, demonstrating that organizations that lack structured change management often struggle to sustain project momentum and adaptability in dynamic environments.

Additionally, technological integration plays a significant role in amplifying the benefits of change management strategies. Organizations that leverage advanced technology can make their agile practices more effective, as predictive analytics, automation, and real-time data-driven decision-making allow teams to anticipate and respond to changes efficiently. These insights align with the broader objective of the study, which is to demonstrate how structured change management practices, when integrated with agility and technological innovation, enhance IT project outcomes.

4.4.1 The Role of Change Management in Enhancing Organizational Agility

The study confirms the critical role of change management in enhancing organizational agility, as demonstrated by the significant positive relationship between change management practices and agility scores. This supports the theoretical frameworks proposed by (Aziz & Curlee, 2017; Pyne, 2022), which advocate for integrating change management with project management to achieve strategic objectives.

The pie chart below breaks down the distribution of different change management practices adopted by the surveyed IT projects, highlighting the emphasis on communication, stakeholder engagement, and flexible planning.



Figure 7.
Change Management Practices Distribution

4.4.2 Impact on Project Success

The direct and indirect effects of change management on project success underscore the importance of agility in achieving successful project outcomes. The SEM results indicate that while change management practices directly contribute to project success, their impact is amplified through increased organizational agility. This finding aligns with the works of (Bechtel et al., 2023;

Kolasani, 2023), who emphasize the interconnectedness of agility and project performance.

The diagram below illustrates the conceptual framework showing how change management practices directly and indirectly influence IT project success through enhanced organizational agility.

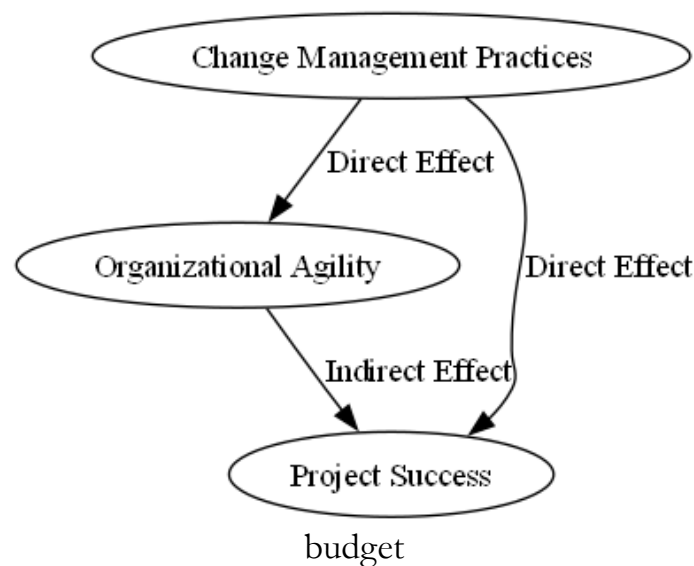


Figure 8
Influence of Change Management on Agility

The regression and SEM results confirm that structured change management strategies significantly enhance IT project agility, which in turn drives project success. The mediation analysis suggests that agility acts as a bridge, reinforcing the role of change management. Additionally, the moderation analysis highlights the importance of technological integration, indicating that organizations leveraging advanced technologies can further strengthen the agility-enhancing effects of change management. These findings provide empirical support for the proposed framework and highlight key strategies for IT project managers to optimize agility and project outcomes.

4.4.3 Practical Implications

For practitioners, the study highlights the need to prioritize change management practices that foster organizational agility. This includes investing in technological integration, skills development, and building organizational trust. Implementing these practices can help organizations navigate the complexities of IT projects and enhance their overall success rates.

4.4.4 Challenges and Recommendations

One of the major challenges in implementing structured change management is resistance to change within organizations. Employees often feel uncertain about new processes, leading to reluctance in adopting agile methodologies. To mitigate this, organizations must prioritize effective communication strategies, ensuring that all stakeholders understand the necessity and benefits of change. Transparent communication fosters trust and helps employees transition smoothly into new workflows.

Another significant challenge is the lack of adequate training, which can hinder employees' ability to adapt to new methodologies. Many IT projects fail because team members lack the necessary skills to implement agile and change management practices effectively. Organizations should invest in training programs that provide hands-on experience and continuous learning

opportunities to build competency in handling change and improving agility.

Resource allocation is another crucial factor influencing the success of structured change management. Insufficient funding, inadequate technological tools, and understaffing can delay the implementation of agility-driven processes. Organizations must ensure that adequate resources are dedicated to change management initiatives, allowing teams to access the necessary infrastructure and support mechanisms to successfully adapt to evolving project demands.

4.4.5 Future Research Directions

Future research could expand on this study by exploring the impact of change management practices in other industry contexts beyond IT. Additionally, longitudinal studies could provide deeper insights into how change management practices evolve and their long-term effects on organizational agility and project success.

In conclusion, this study demonstrates the pivotal role of change management in enhancing organizational agility and achieving project success. By integrating quantitative and qualitative data, the research provides a comprehensive understanding of the factors that contribute to project agility, offering valuable insights for both scholars and practitioners in the field of project management.

4.4.6 Academic Contributions and Implications

This study makes several key contributions to the academic understanding of IT project agility and change management. First, it bridges the gap between change management theory and agile methodologies, demonstrating that these frameworks are not mutually exclusive but rather complementary. By integrating structured change management with agile principles, organizations can achieve both adaptability and stability, addressing a critical challenge in IT project management.

Furthermore, the research provides empirical evidence that agility alone does not guarantee project success. Instead, structured change

management is necessary to support agile adaptability, ensuring that IT projects maintain direction and coherence amid rapid changes. The study also expands on technology's moderating role in agility, illustrating how AI-driven change management strategies can significantly enhance organizational responsiveness and decision-making.

By contributing to the literature on agile project management, this research shifts the discussion from agility as a standalone strategy to agility as a function of structured change management and technological integration. The findings provide valuable insights for both scholars and practitioners, emphasizing the need for a holistic approach that incorporates structured change processes to optimize IT project outcomes.

5. Conclusion

This study aimed to explore the intricate relationship between change management practices and organizational agility, and their collective impact on the success of IT projects. Through a comprehensive mixed-methods approach, combining quantitative surveys and qualitative interviews, we have provided substantial evidence supporting the crucial role of change management in enhancing both organizational agility and project outcomes.

The quantitative analysis revealed that effective change management practices, such as clear communication, stakeholder engagement, and flexible planning, significantly enhance organizational agility. These findings align with the work of (Al Naim, 2023; Arefazar et al., 2022), underscoring the importance of these practices in fostering a responsive and adaptable organizational environment.

Additionally, our study demonstrated that change management practices have both direct and indirect effects on project success. Effective change management not only

directly improves project outcomes but also indirectly contributes by enhancing organizational agility, which in turn positively impacts project performance. This dual influence highlights the multifaceted role of change management in driving successful project execution.

The qualitative insights further enriched our understanding by revealing the nuanced ways in which change management and agility interplay within organizations. Interviews with project managers and team members emphasized the importance of adaptive leadership, continuous learning, and a culture of openness and flexibility. These elements are crucial for navigating the complexities of IT projects and responding effectively to changing requirements and challenges.

Overall, our findings underscore the imperative for organizations to invest in robust change management frameworks and cultivate an agile organizational culture. By doing so, they can better navigate the dynamic landscape of IT projects, achieve higher levels of project success, and ultimately, enhance their competitive advantage in the digital era. Future research could build on these insights by examining the specific mechanisms through which change management practices influence agility and project outcomes across different industries and project types.

Declarations

Author contribution

All authors contributed equally as the main contributors of this paper. All authors read and approved the final paper.

Funding statement

The authors declare that this research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Competing interest

The authors declare that they have no conflicts of interest to report regarding the present study.

References

- Al Naim, A. F. (2023). Enhancing workforce productivity and organizational agility through digital transformation: Role of technological integration, skills development initiatives and low organizational trust. *The Journal of Modern Project Management*, 11(1), 324–341.
- Arefazar, Y., Nazari, A., Hafezi, M. R., & Maghool, S. A. H. (2022). Prioritizing agile project management strategies as a change management tool in construction projects. *International Journal of Construction Management*, 22(4), 678–689.
- Aziz, E. E., & Curlee, W. (2017). *How successful organizations implement change: integrating organizational change management and project management to deliver strategic value*.
- Bechtel, J., Kaufmann, C., & Kock, A. (2023). The interplay between dynamic capabilities' dimensions and their relationship to project portfolio agility and success. *International Journal of Project Management*, 41(4), 102469.
- Bresciani, S., Ferraris, A., Romano, M., & Santoro, G. (2021). Agility for successful digital transformation. In *Digital Transformation Management for Agile Organizations: A Compass to Sail the Digital World* (pp. 167–187). Emerald Publishing Limited.
- Chakko, J. P., Huygh, T., & De Haes, S. (2021). *Achieving Agility in IT Project Portfolios*.
- Chen, W. S., Leung, C. Y., & Kamath, J. R. C. (2023). Advancing change agility in healthcare. *Management in Healthcare*, 7(2), 102–111.
- Conforto, E. C., Amaral, D. C., Da Silva, S. L., Di Felippo, A., & Kamikawachi, D. S. L. (2016). The agility construct on project management theory. *International Journal of Project Management*, 34(4), 660–674.
- Cvetković, N., Morača, S., Jovanović, M., Medojević, M., & Lalić, B. (2017). ENHANCING THE AGILITY AND PERFORMANCES OF A PROJECT WITH LEAN MANUFACTURING PRACTICES. *Annals of DAAAM & Proceedings*, 28.
- Daraojimba, E. C., Nwasike, C. N., Adegbite, A. O., Ezeigweneme, C. A., & Gidiagba, J. O. (2024). Comprehensive review of agile methodologies in project management. *Computer Science & IT Research Journal*, 5(1), 190–218.
- Fischer, S., Lattemann, C., Redlich, B., & Guerrero, R. (2020). Implementation of design thinking to improve organizational agility in an SME. *Die Unternehmung*, 74(2), 136–154.
- Holbeche, L. S. (2018). Organisational effectiveness and agility. *Journal of Organizational Effectiveness: People and Performance*, 5(4), 302–313.
- Hole, G. (2022). Agility as an Approach to Building a Flexible Organisation. *Organizations & Markets: Formal & Informal Structures EJournal*, 8(59).
- Kanski, L., Budzynska, K., & Chadam, J. (2023). The impact of identified agility components on project success—ICT industry perspective. *Plos One*, 18(3), e0281936.
- Kolasani, S. (2023). Innovations in digital, enterprise, cloud, data transformation, and organizational change management using agile, lean, and data-driven methodologies. *International Journal of Machine Learning and Artificial Intelligence*, 4(4), 1–18.
- Langholf, V., & Wilkens, U. (2021). Agile project management, new leadership roles and dynamic capabilities—insight from a case study analysis. *Journal of Competences, Strategy & Management*, 11, 1–18.
- Majnoor, N., & Vinayagam, K. (2023). The Ascendency of the Paradigm Shift from Organizational Change Management to Change Agility. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, 8(4), 19.
- Medini, K. (2023). A framework for agility improvement projects in the post mass customisation era. *International Journal of Production Research*, 61(20), 7105–7121.
- Muhammad, U., Nazir, T., Muhammad, N., Maqsoom, A., Nawab, S., Fatima, S. T., Shafi, K., & Butt, F. S. (2021). Impact of agile management on project

- performance: Evidence from IT sector of Pakistan. *Plos One*, 16(4), e0249311.
- Obradović, V., Todorović, M., & Bushuyev, S. (2019). Sustainability and agility in project management: contradictory or complementary? *Advances in Intelligent Systems and Computing III: Selected Papers from the International Conference on Computer Science and Information Technologies, CSIT 2018, September 11-14, Lviv, Ukraine*, 522–532.
- Puthenpurackal Chakko, J., Huygh, T., & De Haes, S. (2021). Achieving agility in IT project portfolios—a systematic literature review. *Lean and Agile Software Development: 5th International Conference, LASD 2021, Virtual Event, January 23, 2021, Proceedings 5*, 71–90.
- Pyne, A. (2022). *Agile Beyond IT: How to develop agility in project management in any sector*. Practical Inspiration Publishing.
- Rane, S. B., Narvel, Y. A. M., & Bhandarkar, B. M. (2020). Developing strategies to improve agility in the project procurement management (PPM) process: Perspective of business intelligence (BI). *Business Process Management Journal*, 26(1), 257–286.
- Rdiouat, Y., Bahsani, S., Lakhdissi, M., & Semma, A. (2021). Measuring and improving information systems agility through the balanced scorecard approach. *ArXiv Preprint ArXiv:2109.07281*.
- Tominc, P., Oreški, D., & Rožman, M. (2023). Artificial intelligence and agility-based model for successful project implementation and company competitiveness. *Information*, 14(6), 337.
- Ulloa, R. L., Herrera, R. de J. G., & Álvarez, E. P. B. (2024). Change Assessment as a Key Factor in Delivering Strategic Agility in Business Transformation. *Revista de Gestão Social e Ambiental*, 18(7), e07544–e07544.