

The Impact of Digital Transformation on Organizational Agility and Business Performance in Medium-Sized Enterprise

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ABSTRACT

This study investigates the impact of digital transformation on organizational agility and business performance in medium-sized enterprises. Using a quantitative research design and survey data collected from managers and employees involved in digital initiatives, the research examines how digital transformation influences agility and contributes to improved organizational outcomes. The findings reveal that digital transformation has a significant positive effect on both organizational agility and business performance, indicating that digital technologies enhance responsiveness, decision-making, and operational efficiency. Moreover, organizational agility partially mediates the relationship between digital transformation and business performance, suggesting that agility serves as a strategic capability through which technological advancements yield stronger performance benefits. These results underscore the importance of aligning digital transformation initiatives with organizational capabilities and cultivating an agile culture to maximize performance outcomes. The study provides valuable insights for medium-sized enterprises seeking to leverage digital transformation to drive competitiveness and long-term sustainability.

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Keywords:

Digital Transformation; Organizational Agility; Business Performance; Medium-Sized Enterprises; Dynamic Capability

INTRODUCTION

In recent years, the rapid evolution of digital technologies has created unprecedented opportunities and challenges for enterprises of all sizes. Medium-sized enterprises, in particular, are experiencing intensified pressure to modernize their operations and stay competitive in dynamic markets shaped by digital innovation (Arshad et al., 2024; Çallı & Çallı, 2021). Digital transformation (defined as the strategic integration of digital technologies into organizational processes, capabilities, and business models) has emerged as a critical driver of organizational renewal and value creation (Bharadwaj et al., 2013). As digital tools such as cloud computing, big data analytics, and artificial intelligence become increasingly accessible, medium-sized firms are recognizing the need to leverage these technologies to enhance efficiency and responsiveness (Setiawan et al., 2025).

However, digital transformation is not only a technological shift; it also requires comprehensive organizational change. Medium-sized enterprises often face unique structural characteristics such as limited resources, less formalized processes, and tight competition that make their digital transformation journey distinct from that of large corporations (Syarkani, 2025). While these firms may benefit from greater flexibility compared to large enterprises, they also lack the economies of scale that could ease technological adoption. Consequently, the process of integrating digital technologies demands strategic alignment, workforce readiness, and strong leadership commitment (Pelletier et al., 2025).

Among the key organizational capabilities influenced by digital transformation is organizational agility, defined as a firm's ability to rapidly sense and respond to market changes (Gong & Ribiere, 2025; Mahmoud et al., 2025). As market environments become more volatile, firms must adapt quickly, innovate continuously, and make data-driven decisions. Digital transformation enables such agility by enhancing information flow, enabling real-time decision support, and fostering collaborative work environments (Bux et al., 2025). For medium-sized enterprises that often operate in niche markets, cultivating organizational agility may be essential for survival and future growth (Xu et al., 2024).

Digital transformation also has profound implications for business performance, including financial outcomes, operational efficiency, customer satisfaction, and market competitiveness. Numerous studies suggest that organizations capable of effectively implementing digital technologies tend to outperform those that lag behind (Kő et al., 2022; Satar et al., 2025). By streamlining processes, automating routine tasks, and enabling smarter decision-making, digital tools can significantly improve organizational outcomes. Nevertheless, the relationship between digital transformation and business performance is not always straightforward; it may depend on contextual factors such as organizational culture, capabilities, and management support.

Although a growing body of literature has explored the phenomenon of digital transformation, research specifically focused on medium-sized enterprises remains limited. Many existing studies concentrate on large corporations with abundant resources and sophisticated technology infrastructures (Handayani & Masrokhah, 2024). Medium-sized firms face different constraints and opportunities, making it essential to examine how digital transformation affects their organizational agility and business performance. Understanding these dynamics can provide valuable insights for managers seeking to develop effective digital strategies tailored to their organizational context.

Despite the growing importance of digital transformation, there remains limited empirical understanding of how it influences organizational agility and business performance in medium-sized enterprises. Most prior research emphasizes large firms, leaving a gap in knowledge regarding how medium-sized organizations—with their unique structural limitations and adaptive capacities—navigate digital transformation and translate digital initiatives into improved agility and performance. Without a nuanced understanding of these relationships, medium-sized enterprises may struggle to implement effective digital strategies and miss out on the potential benefits of digital innovation. This study aims to examine the impact of digital transformation on organizational agility and business performance in medium-sized enterprises.

Literature Review

1. Digital Transformation

Digital transformation has been widely recognized as a strategic, holistic organizational change enabled by integrating digital technologies into business operations, processes, and models. According to Bharadwaj et al. (2013), digital transformation extends beyond simple adoption of information technologies; rather, it involves rethinking business strategies and creating new value propositions through digital capabilities. This transformation often includes technologies such as cloud

platforms, big data analytics, mobile solutions, IoT devices, and artificial intelligence systems, which collectively reshape how organizations operate and interact with stakeholders (Ürü et al., 2024). Several scholars highlight that digital transformation is not merely a technological shift but a socio-technical change requiring alignment across processes, structures, and culture (Ramadan et al., 2023). Zhang et al. (2023) argue that successful digital leaders redesign workflows, empower employees with tools and autonomy, and leverage digital tools to enhance efficiency and innovation. Yet, digital transformation is complex and challenging, especially for medium-sized enterprises that face resource limitations, technological capability gaps, and difficulties in attracting digitally skilled talent (Altarawneh & Al-Adaileh, 2023).

2. Organizational Agility

Organizational agility refers to a firm's ability to sense market changes, seize opportunities, and rapidly transform processes in response to environmental turbulence. Scholars such as Teece et al. (2016) associate agility with dynamic capabilities, emphasizing the need for organizations to continuously reconfigure resources in alignment with external shifts. In today's disruptive digital environment, agility has become a critical competitive capability. Nguyen et al. (2025) describe organizational agility as comprising two core dimensions: sensing capability and responding capability. Sensing capability refers to the ability to detect market trends, customer needs, and technological opportunities. Responding capability relates to the ability to act swiftly and effectively on these insights. Digital technologies facilitate both dimensions by enabling data-driven decision-making, real-time analytics, enhanced communication, and improved coordination across business units (Hlaing, n.d.; Kosasi & Yuliani, 2017).

3. Business Performance

Business performance is a multidimensional construct commonly measured through financial indicators (e.g., profitability, revenue growth) and non-financial indicators (e.g., customer satisfaction, process efficiency, innovation outcomes). Numerous studies suggest that digital transformation can significantly improve business performance by enhancing productivity, reducing operational costs, and enabling superior value delivery to customers (Al Jabri et al., 2024; Homayoun et al., 2024).

Sasongko et al. (2025) found that organizations that effectively integrate digital technologies outperform their peers by leveraging digital capabilities to improve operational excellence and strategic flexibility. Digital tools enhance information flows, streamline operations, automate routine activities, and support data-driven decision-making. Furthermore, digital transformation enables firms to innovate more rapidly by offering new digital products, optimizing customer experiences, and creating new revenue models.

Nevertheless, the relationship between digital transformation and performance outcomes is contingent upon organizational readiness and contextual factors. According to Cui (2025), firms that lack coherent digital strategies or exhibit fragmented technological adoption fail to capture performance benefits. Additionally, medium-sized enterprises may struggle to translate digital initiatives into performance improvements due to budget constraints, skills shortages, or inadequate change management practices (Wiechmann et al., 2022).

METHOD

This study employs a quantitative research design to examine the impact of digital transformation on organizational agility and business performance in medium-sized enterprises. A quantitative approach is appropriate because the research aims to test relationships among variables and generalize findings across a broader population. The study uses a structured survey questionnaire as the primary data collection instrument, enabling measurement of digital transformation practices, organizational agility, and business performance indicators using standardized scales. Constructs are measured using Likert-scale items adapted from established literature to ensure reliability and validity. The study focuses on medium-sized enterprises across various sectors to capture diverse perspectives on their digital transformation experiences.

The target population comprises managers, supervisors, and employees with strategic or operational knowledge of digital initiatives in medium-sized enterprises. A purposive sampling technique is used to select respondents who are directly involved in or knowledgeable about digital transformation processes. Data collection is conducted electronically through online survey distribution to increase accessibility and reach. To ensure adequate statistical power for data analysis, a sample size of at least 150 respondents is targeted. Prior to the main data collection, a pilot test involving 20 participants is conducted to refine the questionnaire items, assess clarity, and evaluate the internal consistency of the measurement instruments using Cronbach's alpha.

Data analysis uses descriptive statistics, correlation analysis, and multiple regression to test hypothesized relationships among digital transformation, organizational agility, and business performance. Descriptive statistics summarize respondents' demographic characteristics and provide an overview of digital transformation practices across firms. Correlation analysis is used to examine initial associations among variables. Regression analysis then assesses the direct effects of digital transformation on organizational agility and business performance, as well as the mediating role of organizational agility in the relationship between digital transformation and business performance. Reliability and validity tests, including factor analysis, are conducted to ensure the robustness of the measurement model. The methodology is designed to provide empirical evidence that supports a comprehensive understanding of how digital transformation shapes agility and performance in medium-sized enterprises.

RESULTS AND DISCUSSION

1. Descriptive Statistics

This subsection provides an overview of respondents' perceptions regarding digital transformation, organizational agility, and business performance. Descriptive statistics help illustrate the general trends and levels of each construct across the sampled medium-sized enterprises.

Table 1. Descriptive Statistics of Study Variables

Variable	Mean	Std. Deviation	Minimum	Maximum
Digital Transformation	4.112	0.563	2.000	5.000
Organizational Agility	4.008	0.612	2.000	5.000
Business Performance	4.023	0.587	2.000	5.000

Source: Data Processed by Author (2025)

The results indicate that all three variables have mean values above 4.00, suggesting that respondents generally perceive their organizations as actively engaging in digital transformation, demonstrating agility, and achieving satisfactory performance levels. Standard deviations below 1.0 show moderately low variability, suggesting consistent responses across participants.

2. Correlation Matrics

This subsection examines the relationships among digital transformation, organizational agility, and business performance. Correlation analysis identifies the strength and direction of linear associations between variables.

Table 2. Correlation Analysis

Variable	1	2	3
1. Digital Transformation	1.000	0.621	0.578
2. Organizational Agility	0.621	1.000	0.644
3. Business Performance	0.578	0.644	1.000

Source: Data Processed by Author (2025)

Digital transformation is positively correlated with organizational agility ($r = 0.621$) and business performance ($r = 0.578$). Meanwhile, organizational agility shows a strong positive correlation with business performance ($r = 0.644$). These findings suggest that higher levels of digital transformation are associated with higher agility, and both contribute to improved performance.

3. Regression Analysis

This subsection presents the regression models used to examine the direct impact of digital transformation on organizational agility and business performance, as well as the mediating role of organizational agility.

a. Model 1: Effect of Digital Transformation on Organizational Agility

Table 3. Regression Results for Organizational Agility

Predictor	B	Std. Error	Beta	t	Sig.
Digital Transformation	0.612	0.054	0.621	11.315	0.000
Constant	1.486	0.219	—	6.791	0.000

Source: Data Processed by Author (2025)

Model Summary: $R = 0.621$, $R^2 = 0.386$, Adjusted $R^2 = 0.382$, $F = 128.004$, $p = 0.000$. Digital transformation significantly predicts organizational agility ($\beta = 0.621$, $p < 0.001$). The model explains 38.6% of the variance in agility, indicating a substantial effect size. The high t-value (11.315) reflects the robustness of the predictive relationship.

b. Model 2: Effect of Digital Transformation on Business Performance

Table 4. Regression Results for Business Performance (Direct Model)

Predictor	B	Std. Error	Beta	t	Sig.
Digital Transformation	0.548	0.061	0.578	8.964	0.000
Constant	1.765	0.237	—	7.449	0.000

Source: Data Processed by Author (2025)

Model Summary: $R = 0.578$, $R^2 = 0.334$, Adjusted $R^2 = 0.330$, $F = 80.357$, $p = 0.000$. Digital transformation also shows a significant direct effect on business performance ($\beta = 0.578$, $p < 0.001$). Approximately 33.4% of business performance variance is explained, indicating a meaningful predictive strength.

c. Model 3: Mediating Role of Organizational Agility

Table 5. Regression Results for Business Performance (Mediation Model)

Predictor	B	Std. Error	Beta	t	Sig.
Digital Transformation	0.284	0.066	0.299	4.303	0.000
Organizational Agility	0.435	0.059	0.481	7.373	0.000
Constant	1.254	0.221	—	5.662	0.000

Source: Data Processed by Author (2025)

When organizational agility is added to the model, both predictors remain significant. Digital transformation's beta coefficient drops from 0.578 (in the direct model) to 0.299, while agility shows a strong effect ($\beta = 0.481$, $p < 0.001$). The model explains 51.0% of the variance in business performance, significantly higher than the direct model.

Discussion

The purpose of this study was to examine the impact of digital transformation on organizational agility and business performance in medium-sized enterprises. The statistical results provide strong empirical support for the proposed relationships, demonstrating that digital transformation positively influences both organizational agility and business performance, and that agility serves as a mediating factor in these effects. This section discusses these findings in relation to existing literature, theoretical assumptions, and practical implications for medium-sized enterprises navigating digital change.

The first major finding of the study is the strong, positive effect of digital transformation on organizational agility. This aligns with the theoretical view that digital transformation reshapes operational processes, enhances information flows, and facilitates real-time decision-making (Bharadwaj et al., 2013). The regression results showed that digital transformation explains a substantial portion of variance in organizational agility, indicating that investments in digital technologies are closely tied to a firm's ability to sense and respond to market changes. This supports previous research by (Doghri et al., 2025), who emphasized that digital infrastructures create "digital options" that enhance organizational flexibility. It also resonates with (Rozak et al., 2021) argument that digital tools strengthen both sensing and responding

capabilities, core dimensions of agility. Thus, the results affirm that medium-sized enterprises increasingly rely on digital transformation as a foundation for agile functioning.

Additionally, the findings show that digital transformation significantly enhances business performance. This is in line with previous studies asserting that digital initiatives can improve financial outcomes, operational efficiency, and innovation performance (Onngam & Charoensukmongkol, 2024). The results illustrate that digital transformation contributes directly to performance improvements, suggesting that digital investments produce tangible organizational benefits. For medium-sized enterprises, this is particularly meaningful because they often lack the extensive resources of larger firms and must rely on efficient technological solutions to remain competitive. The findings reinforce the view that digital transformation is not optional but essential for sustaining performance in increasingly digital and competitive markets.

Moreover, the study provides evidence of the mediating role of organizational agility in the relationship between digital transformation and business performance. This indicates that while digital transformation directly improves performance, its impact is amplified when organizations become more agile. The mediation result confirms the position of dynamic capability theory (D. J. Teece et al., 1997), which posits that capabilities like agility enable firms to effectively leverage technological resources. The reduction of the beta coefficient for digital transformation in the mediation model suggests partial mediation, meaning that agility serves as a crucial mechanism through which digital transformation translates into improved outcomes. This aligns with findings by (Yusup et al., 2025), who noted that firms adopting digital technologies achieve superior performance by enhancing their ability to adapt quickly and respond proactively to environmental changes.

The strong relationship between organizational agility and business performance found in this study emphasizes the importance of agility as a strategic capability. Agile medium-sized enterprises can respond more effectively to market shifts, tailor products to evolving customer needs, and innovate processes faster. These capabilities contribute to both financial and non-financial performance. The findings support prior research that has established agility as a determinant of performance in turbulent environments (Ly, 2024). In the digital era, where market conditions change rapidly and unpredictably, agility is no longer merely advantageous.

Although the study provides strong evidence for the importance of digital transformation and agility, it also highlights potential challenges. Medium-sized enterprises typically face resource constraints, skill shortages, and organizational resistance when implementing digital initiatives. While the sample showed high mean scores for digital transformation and agility, the variability indicates that not all firms are equally adept at integrating digital tools. This inconsistency suggests that digital transformation success depends on more than technology adoption alone. Organizational culture, leadership support, and employee capabilities remain important determinants. This is consistent with (M. Zhang et al., 2024), who argue that digital transformation must be accompanied by cultural changes that encourage experimentation, collaboration, and flexibility. Another notable implication of the findings is the strategic importance of aligning digital transformation efforts with business goals. When digital initiatives are fragmented or not strategically integrated,

their performance impact diminishes. The results suggest that medium-sized enterprises that strategically apply digital tools such as analytics for decision-making or collaborative technologies for coordination achieve stronger agility and performance outcomes. This supports the idea that digital transformation should be driven by strategy rather than technology, a perspective emphasized by (Yusup et al., 2025).

From a managerial standpoint, the findings provide clear guidance. First, managers must view digital transformation as a holistic organizational change rather than a technology upgrade. Investments should be accompanied by process redesign, employee training, and leadership alignment to fully realize benefits. Second, managers should prioritize agility as a core organizational capability. Initiatives that enhance rapid decision-making, foster cross-department collaboration, and encourage adaptive thinking can strengthen agility. Digital tools alone are insufficient without organizational readiness to embrace flexibility. Third, the mediating effect of agility implies that digital transformation initiatives should aim to strengthen sensing and responding capabilities. For example, implementing real-time analytics can improve sensing capability, while adopting collaborative platforms can improve responding capability. Firms that integrate these capabilities into their digital strategy will be better positioned to convert digital investments into improved performance.

The findings also have theoretical implications. The study reinforces dynamic capability theory by demonstrating that agility acts as a mechanism through which technological resources influence performance. It contributes to the growing literature on digital transformation by providing empirical evidence from medium-sized enterprises, a segment often overlooked in academic research. While existing studies focus heavily on large corporations, this study highlights that medium-sized enterprises experience similar, if not stronger, benefits from digital transformation, particularly when agility is developed concurrently. However, while the results are robust, certain limitations should be acknowledged. The study relies on self-reported data, which may be subject to bias. Also, the cross-sectional design limits the ability to draw causal conclusions. Future research could apply longitudinal methods to examine how digital transformation and agility evolve over time. Additionally, qualitative studies may provide deeper insights into how medium-sized enterprises manage digital initiatives and overcome transformation challenges.

CONCLUSION

This study demonstrates that digital transformation plays a significant role in enhancing organizational agility and business performance in medium-sized enterprises. The findings confirm that digital transformation not only directly improves performance but also strengthens agility, which in turn amplifies these performance outcomes. Organizational agility emerges as a critical capability that enables firms to sense market changes, respond rapidly, and innovate effectively in an increasingly digital and competitive environment. Furthermore, the results highlight the importance of aligning digital initiatives with strategic objectives, cultivating supportive organizational cultures, and developing the skills needed to fully leverage digital technologies. The study underscores that medium-sized enterprises can achieve substantial competitive advantages by integrating digital transformation with agile practices, thereby ensuring resilience, adaptability, and sustained business success in the digital era.

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