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# Enhancing organizational performance through digital skills and capabilities: A study of industrial estates

Saranthon Maungmee[1*], Nalinpat Bhumpenpein[2]
[1]Management Information Systems, Faculty of Information Technology and Digital Innovation King Mongkut's University of Technology North Bangkok, Bangkok, Thailand; s6207021910026@email.kmutnb.ac.th (S.M.)
[2]Information Technology Program, Faculty of Information Technology and Digital Innovation King Mongkut's University of Technology North Bangkok, Bangkok, Thailand; nalinpat.b@email.kmutnb.ac.th (N.B.)

**Abstract:** This research develops and evaluates a framework for enhancing organizational performance through digital skills and capabilities using a mixed-method approach, integrating qualitative and quantitative research to analyze nine key factors influencing digital transformation. The study categorizes organizations into large-scale industries (Group AA) and small-to-medium industries (Group BB) and employs literature reviews, self-assessment surveys, and in-depth interviews for data collection. The Maturity Assessment, Implementation, and Outcome Evaluation stages guide the research framework to systematically assess digital adoption, execution strategies, and performance outcomes. Findings indicate that Group AA has higher digital maturity, particularly in IT capabilities, leadership, and innovation management, whereas Group BB faces challenges in infrastructure readiness, innovation adoption, and strategic implementation. The framework's acceptance and effectiveness are assessed through four dimensions: Understanding, readiness, effectiveness, and sustainability, revealing that structured digital strategies enhance organizational performance by aligning technology adoption with business goals, workforce capabilities, and leadership vision. The study suggests further customization of digital transformation approaches for SMEs, ensuring they receive adequate support in technology investment, employee training, and strategic alignment to overcome operational constraints and achieve long-term competitiveness in the digital economy.

***Keywords:*** *Digital skills, IT Capabilities, Digital transformation, Innovation management, SMEs, Maturity assessment, Organizational performance, Strategic implementation.*

## 1. Introduction

In today's rapidly evolving digital landscape, organizations across industries face increasing pressure to adopt and integrate digital technologies to enhance efficiency, innovation, and competitiveness. Digital transformation is no longer an option but a necessity for businesses to remain relevant and sustain long-term growth. The rapid advancement of technology has reshaped the way organizations operate, interact with customers, and create value [1]. While digital transformation presents significant opportunities, it also poses considerable challenges, particularly for small and medium-sized enterprises (SMEs), which often struggle with limited technological resources, workforce readiness, and strategic alignment [2]. In the era of rapid technological advancement, digital transformation has become a crucial factor in determining the competitiveness and sustainability of organizations. Businesses across various industries are increasingly integrating digital skills and capabilities to enhance operational efficiency, improve decision-making, and drive innovation [3]. However, the transition to digital-first strategies poses significant challenges, particularly for small and


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* Correspondence: s6207021910026@email.kmutnb.ac.th

medium-sized enterprises (SMEs), which often face constraints in technological infrastructure, workforce digital literacy, and strategic implementation [4].

The significance of this study lies in its development and evaluation of a framework for enhancing organizational performance through digital skills and capabilities. By examining nine key factors influencing digital transformation and categorizing organizations into large-scale industries (Group AA) and small-to-medium industries (Group BB), the research provides a structured approach to understanding digital maturity levels and the effectiveness of strategic interventions [5]. The study applies a mixed-method research approach, integrating quantitative self-assessment surveys and qualitative in-depth interviews to assess organizational readiness, implementation strategies, and performance outcomes.

This research is particularly relevant as organizations strive to navigate the challenges of digital transformation while ensuring alignment with business goals, workforce capabilities, and leadership vision. The study's findings offer actionable insights for policymakers, business leaders, and technology strategists, guiding them in tailoring digital adoption frameworks that optimize technology investments, improve workforce adaptability, and foster a culture of continuous innovation [6]. By addressing the critical barriers to digital adoption, this study contributes to bridging the gap between traditional business practices and future-ready digital enterprises, ultimately supporting long-term competitiveness in the digital economy [7].

## 2. Literature Review

This section reviews relevant literature to establish a theoretical foundation for understanding organizational performance enhancement through digital skills, leadership, and innovation management. The review explores key theories, frameworks, and empirical studies related to digital transformation, leadership styles, knowledge management, IT capabilities, and innovation to provide insights into how these factors contribute to organizational success.

The Resource-Based View (RBV) in organizations posits that a firm's competitive advantage stems from its ability to control valuable, rare, inimitable, and non-substitutable resources. This theory highlights that firms with unique assets and capabilities, such as intellectual property, knowledge, and skilled personnel, can sustain long-term success. The RBV framework has been widely applied in strategic management research to understand how firms maintain competitive advantage through internal resources [8].

Digital transformation has become a strategic priority for organizations seeking to enhance efficiency, competitiveness, and adaptability [9]. Studies indicate that organizations with strong digital capabilities are more likely to achieve higher profitability, market growth, and operational agility [10]. The integration of digital tools, data analytics, and automation has revolutionized business models, requiring firms to develop digital competencies to remain competitive [11]. Information Systems Theory focuses on how organizations utilize information systems to support decision-making, efficiency, and strategic growth. The theory encompasses various perspectives, including the socio-technical approach, which integrates technology and human factors, and the structural-functional perspective, which views information systems as essential components of an organization's structure. Effective information systems enhance communication, coordination, and knowledge management within an organization [12]. Additionally, Technology Acceptance Model (TAM) suggests that technology adoption depends on Perceived Usefulness and Perceived Ease of Use [1]. DeLone and McLean IS Success Model highlights key success factors such as system quality and user satisfaction [13].

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Leadership plays a critical role in guiding organizations through digital transformation, influencing the adoption of new technologies and shaping an innovation-driven culture [14]. Three key leadership styles relevant to digital transformation include:

- Transformational Leadership, which fosters innovation and organizational change by inspiring and motivating employees to exceed expectations. Transformational leaders create a vision, intellectually stimulate their followers, and provide individualized consideration. This leadership approach is crucial in digital transformation, as it empowers employees to embrace new technologies and innovative practices [15].
- Transactional Leadership, in contrast, is based on structured processes, rewards, and penalties. Leaders adopting this approach maintain stability and efficiency by clearly defining roles, expectations, and performance criteria. This leadership style is often applied in environments requiring consistency and adherence to predefined rules, making it less suited for innovation-driven transformations [16].
- Digital Leadership, which focuses on leveraging technology to align business strategies with digital initiatives [17]. Digital leaders possess vision, adaptability, and digital fluency, enabling them to navigate the complexities of digital transformation [18].

**Table 1.**
Summary of key research studies and their variables.

| Researcher(s) | Study Focus | Independent Variables | Dependent Variables | Research Approach | Connections to Theories |
|---|---|---|---|---|---|
| Barney [4] | Resource-Based View (RBV) | Organizational resources, capabilities | Competitive advantage, firm performance | Quantitative | Resource-Based View in Organizations |
| Bass and Bass Bernard [10] | Transformational Leadership | Leader's vision, charisma, intellectual stimulation | Employee motivation, performance | Quantitative | Transformational Leadership |
| Bass and Riggio [9] | Transformational Leadership | Leader behaviors (idealized influence, inspirational motivation) | Organizational outcomes, employee engagement | Quantitative | Transformational Leadership |
| Beynon-Davies [5] | Business Information Systems | IT systems, business processes | Organizational efficiency, decision-making | Qualitative | Information Systems Theory |
| Davis [6] | Technology Acceptance Model (TAM) | Perceived usefulness, perceived ease of use | User acceptance of technology | Quantitative | Information Systems Theory |
| DeLone and McLean [7] | IS Success Model | System quality, information quality | User satisfaction, net benefits | Quantitative | Information Systems Theory |
| Researcher(s) | Study Focus | Independent Variables | Dependent Variables | Research Approach | Connections to Theories |
| Larjovuori, et al. [12] | Digital Leadership | Digital competencies, leadership style | Organizational digital transformation | Qualitative | Digital Leadership |
| Lawson and Samson [16] | Innovation Capabilities | Knowledge management, R&D investment | Innovation performance | Quantitative | Organizational Innovation Capabilities |
| Nonaka and Takeuchi [15] | Knowledge Management | Tacit knowledge, explicit knowledge | Organizational learning, innovation | Qualitative | Knowledge Management |
| Pavlou and El Sawy [13] | IT-enabled Competitive Advantage | IT capabilities, improvisational capabilities | Firm performance under | Quantitative | IT Capabilities, Dynamic Capabilities |

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|---|---|---|---|---|---|
| | | | turbulence | | |
| Rogers [19] | Diffusion of Innovation | Innovation characteristics, communication channels | Adoption of innovations in organizations | Qualitative & Quantitative | Diffusion of Innovation |
| Saunila, et al. [17] | Innovation Capability | Leadership support, knowledge sharing | Firm performance | Quantitative | Organizational Innovation Capabilities |
| Schoemaker, et al. [20] | Dynamic Capabilities & Leadership | Strategic foresight, agility, decision-making | Innovation, organizational resilience | Qualitative | Dynamic Capabilities, Digital Leadership |
| Stamper [21] | Information Systems in Business | Data management, system structure | Business decision-making efficiency | Qualitative | Information Systems Theory |
| Teece, et al. [14] | Dynamic Capabilities | Organizational learning, asset reconfiguration | Competitive advantage, firm agility | Quantitative | Dynamic Capabilities |

Empirical studies suggest that transformational leadership is positively correlated with organizational agility and digital innovation adoption, whereas transactional leadership provides stability in process-driven digital integration [22].

Table 1 shows summary of key research studies and their variables.

IT Capabilities refer to an organization's ability to develop, manage, and leverage IT resources for a competitive edge. These capabilities include IT infrastructure, technical expertise, and digital integration, all of which contribute to business agility and operational efficiency [23]. Organizations with strong IT capabilities can better adapt to changing market demands and technological advancements.

Dynamic Capabilities describe a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. This theory suggests that organizations must continuously evolve their processes, structures, and resources to remain competitive [24].

Knowledge Management is the systematic process of creating, sharing, using, and managing an organization's knowledge and intellectual assets. Effective knowledge management practices foster learning, collaboration, and continuous improvement within organizations [25].

Organizational Innovation Capabilities refer to a company's ability to generate, adopt, and implement new ideas, processes, and technologies. This capability is crucial for companies aiming to maintain a competitive advantage in dynamic markets [26].

Organizational Performance measures how effectively an organization achieves its goals, including financial, operational, and strategic outcomes. Organizations that successfully integrate digital capabilities, leadership, and knowledge management practices tend to achieve superior performance outcomes [27].

## 3. Methodology

This study adopts a mixed-method research approach, integrating both quantitative and qualitative methodologies to develop and evaluate a framework for enhancing organizational performance through digital skills and capabilities.

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*3.1. Research Design*

The research methodology consists of three main phases:

1) Maturity Assessment – Evaluating the current state of digital capabilities within organizations.

2) Implementation –Applying digital transformation strategies in selected organizations.

3) Outcome Evaluation – Measuring the effectiveness and sustainability of the digital transformation framework [28].

*3.2. Data Collection Methods*

*3.2.1. Quantitative Research*

A survey research method was used to collect data from a systematically selected sample of organizations, focusing on digital transformation readiness and implementation effectiveness [11].

The survey questionnaire was validated using Item-Objective Congruence (IOC) analysis and Cronbach's Alpha to ensure reliability [29].

Statistical analysis included descriptive statistics such as mean (M), standard deviation (SD), and frequency distributions.

Structural Equation Modeling (SEM) was applied to examine the relationships among key factors influencing digital transformation success [30].

*3.2.2. Qualitative Research*

In-depth interviews were conducted with executives and key personnel in digital transformation projects [31].

Content analysis was used to identify recurring themes and insights supporting the quantitative findings [32].

*3.3. Sampling and Participants*

The study categorizes organizations into two groups:

- Large enterprises (Group AA) – Organizations with extensive digital transformation capabilities and established IT infrastructure.
- Small and medium-sized enterprises (SMEs) (Group BB) – Organizations requiring additional digital support and strategic development [33].

A random sampling technique was used to ensure representative data from various industries and organizational sizes [34].

*3.4. Data Analysis*

The study employs a triangulation approach, combining both qualitative and quantitative data to enhance the validity of findings [35].

Chi-square, Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), and Root Mean Square Residual (RMR) were used to test the fit of the proposed framework [36].

The findings were further validated through expert panel reviews and comparative analysis between Group AA and Group BB organizations [37].

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## 4. Data Analysis and Discussion

This section presents the findings of the study based on the data collected from the survey and in-depth interviews. The analysis is conducted using both quantitative and qualitative approaches to evaluate the effectiveness of the digital transformation framework in different organizational settings.

### *4.1. Descriptive Statistics*

The survey responses from Group AA (large enterprises) and Group BB (SMEs) were analyzed using descriptive statistics, as shown in Tables 2, 3 and 4. The obtained key findings include:

- Digital Maturity Levels: Group AA exhibited higher digital maturity level (M = 4.35, SD = 0.68) compared to Group BB (M = 3.21, SD = 0.74), indicating disparities in technological readiness and digital adoption .

**Table 2.**
Summary of Innovation & Technology Aspects between Group AA vs Group BB.

| Innovation & Technology Aspect | Group AA (Avg. Score) | Group BB (Avg. Score) | Interpretation |
|---|---|---|---|
| Innovation Management | 4.4 (SD = 0.3) | 3.8 (SD = 0.34) | Group AA has a stronger focus on structured innovation strategies, whereas Group BB may face challenges in innovation adoption. |
| Technology Implementation | 4.2 (SD = 0.28) | 3.6 (SD = 0.32) | Large enterprises are more capable of implementing and integrating advanced technology compared to SMEs. |
| Organizational Innovation Capabilities | 4.1 (SD = 0.26) | 3.7 (SD = 0.30) | Group AA has better infrastructure and leadership to support continuous innovation, while SMEs have moderate capabilities. |
| Overall Average Score | 4.23 (SD = 0.27) | 3.7 (SD = 0.31) | Group AA significantly outperforms Group BB in innovation and technology adoption. |

### *4.2. Key Insights from the Comparison*

- Group AA (Large Enterprises) excels in all aspects, particularly in innovation management and technology implementation due to better resources and strategic planning.
- Group BB (SMEs) struggles with innovation adoption and digital transformation, likely due to financial and operational constraints.
- Standard deviations (SDs) are higher for Group BB, indicating greater variability in how different SMEs manage innovation and technology.
- Organizational Innovation Capabilities remain a challenge for both groups, but Group AA has better-established structures to support innovation.

### *4.3. Implications for Digital Transformation*

- Group AA continues focusing on advanced technology adoption and R&D investment to sustain a competitive advantage.
- Group BB invests in affordable and scalable digital solutions, seek government or private sector support, and focus on incremental innovation rather than radical changes.
- Both groups prioritize digital leadership, knowledge-sharing, and flexible innovation models will be key in maintaining long-term growth.

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- Leadership Influence: 72% of Group AA respondents reported strong leadership as a critical driver of digital transformation, compared to only 48% in Group BB.

**Table 3.**
Summary of Leadership Aspects between Group AA vs Group BB.

| Leadership Aspect | Group AA (Avg. Score) | Group BB (Avg. Score) | Interpretation |
|---|---|---|---|
| Transformational Leadership | 4.2 (SD = 0.3) | 4.0 (SD = 0.32) | Group AA has stronger transformational leadership, likely due to better resources and structured leadership development. |
| Digital Leadership | 4.0 (SD = 0.2) | 3.8 (SD = 0.28) | Large enterprises (AA) show higher digital leadership competence, which may be attributed to better technology adoption and strategic vision. |
| Transactional Leadership | 3.8 (SD = 0.25) | 3.6 (SD = 0.26) | Both groups emphasize structured processes, but Group BB slightly lags, possibly due to fewer standardized procedures. |
| Overall Average Score | 4.0 (SD = 0.2) | 3.8 (SD = 0.28) | Large enterprises demonstrate better leadership across all categories, but SMEs are still close, indicating room for growth. |

In general, Group AA (Large Enterprises) has higher overall scores, indicating stronger leadership and digital maturity. Group BB (SMEs) has slightly lower scores, reflecting challenges in leadership development and digital transformation implementation. Standard deviations are slightly higher for Group BB, suggesting more variability in leadership effectiveness among SMEs.Transformational Leadership is a key strength for both groups, but large enterprises benefit more due to structured leadership development.

*4.4. Implications for Digital Transformation*

Group AA should maintain their strong leadership strategies and focus on fostering innovation through agile digital leadership. Group BB should invest in leadership training, digital skills development, and structured management approaches can help bridge the gap with larger enterprises. Both groups should enhance digital leadership skills as a crucial aspect in adapting to technological advancements and market changes.

- Technology Adoption Challenges: The most common barriers for Group BB was a lack of digital skills (65%), budget constraints (58%), and resistance to change (45%).

**Table 4.**
Summary of Digital Skills Aspects between Group AA vs Group BB.

| Digital Skills Aspect | Group AA (Avg. Score) | Group BB (Avg. Score Z) | Interpretation |
|---|---|---|---|
| IT Capabilities | 4.3 (SD = 0.3) | 3.9 (SD = 0.35) | Group AA demonstrates stronger IT capabilities, likely due to better access to technology and infrastructure. |
| Knowledge Management | 4.1 (SD = 0.25) | 3.7 (SD = 0.30) | Large enterprises excel in knowledge management, benefiting from structured learning and resource sharing. |
| Dynamic Capability | 4.0 (SD = 0.28) | 3.6 (SD = 0.32) | Group AA adapts better to digital changes, while SMEs struggle with flexibility and resource allocation. |
| Overall Average Score | 4.1 (SD = 0.27) | 3.7 (SD = 0.31) | Group AA outperforms Group BB, but SMEs still have room for growth with proper investment in digital skills. |

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*4.5. Key Insights from the Comparison*

- Group AA (Large Enterprises) consistently scores higher across all digital skill aspects.
- Group BB (SMEs) lags behind, particularly in IT capabilities and knowledge management, which may stem from limited investment in technology and training.
- Standard deviations (SDs) for Group BB are slightly higher, suggesting more variation in digital skills implementation among SMEs.
- Dynamic Capability is a challenge for both groups, but Group AA has better strategic adaptability.

*4.6. Implications for Digital Transformation*

- Group AA focuses on continuous IT innovation and leveraging knowledge management for sustainable digital transformation.
- Group BB invests in technology infrastructure, training programs, and strategic flexibility to enhance digital skills management.
- Both groups strengthen knowledge sharing and adaptability as a key element in staying competitive in the digital economy.

*4.7. Structural Equation Modeling (SEM) Analysis*

In order to validate the relationships between key digital transformation factors, SEM analysis was conducted. The results indicate:

- Leadership and IT Capabilities have a strong positive effect on digital transformation success ($\beta = 0.76$, $p < 0.01$).
- Knowledge Management and Innovation Capability were significant mediators, enhancing the impact of IT adoption on organizational performance ($\beta = 0.58$, $p < 0.05$).
- The overall model fit indices met acceptable thresholds: Chi-square ($\chi^2/df$) = 2.15, GFI = 0.92, CFI = 0.94, RMSEA = 0.05, indicating a good model fit.

*4.7.1. Comparison of Regression Coefficients for Groups AA and BB*

Table 5 compares the hypothesis testing results (Hypothesis 1 and Hypothesis 2) between Groups AA and BB across four key variables. Group AA consistently shows higher beta coefficients ($\beta$) and $R^2$ values than Group BB, indicating a stronger relationship and better explanatory power. Additionally, the 95% confidence intervals (CI) for Group AA tend to be wider, suggesting greater variability. However, both groups have p-values below 0.05, confirming statistical significance in all cases.

*4.7.2. Comparison of Hypothesis Testing for Groups AA and BB*

**Table 5.**
Results of Hypotheses 1&2 between Group AA vs Group BB.

| Hypothesis | Group | Test Statistic (t/F/$\chi^2$) | p-value | 95% Confidence Interval (CI) |
|---|---|---|---|---|
| H1: Leadership impacts growth | AA | t = 2.85 | 0.005 | (0.058, 0.180) |
| | BB | t = 2.10 | 0.035 | (0.030, 0.140) |
| H2: IT Capabilities influence profitability | AA | F = 4.67 | 0.012 | (0.090, 0.230) |
| | BB | F = 3.95 | 0.022 | (0.070, 0.200) |

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Table 6 compares the hypothesis testing results (Hypothesis 3 and Hypothesis 4) between Groups AA and BB, showing that leadership, IT capabilities, knowledge management, and innovation significantly impact growth, profitability, returns, and business stability (p-value < 0.05) in both groups. However, Group AA consistently exhibits higher test statistics than Group BB, indicating a stronger influence of these factors. Additionally, the wider 95% confidence intervals (CI) in Group AA suggest greater variability in the results.

**Table 6.**
Results of Hypotheses 3&4 between Group AA vs Group BB.

| Hypothesis | Group | Test Statistic (t/F/$\chi^2$) | p-value | 95% Confidence Interval (CI) |
|---|---|---|---|---|
| H3: Knowledge Management affects returns | AA | $\chi^2 = 6.21$ | 0.009 | (0.120, 0.280) |
| | BB | $\chi^2 = 5.50$ | 0.015 | (0.100, 0.260) |
| H4: Innovation Capability supports stability | AA | t = 3.10 | 0.004 | (0.070, 0.200) |
| | BB | t = 2.60 | 0.018 | (0.050, 0.180) |

*4.8. Qualitative Analysis*

Thematic analysis was performed on interview transcripts to identify key insights from executives and digital transformation leaders:

- Organizations that successfully implemented digital transformation focused on leadership engagement, employee training, and strategic IT investments.
- Many SME leaders expressed concerns about the lack of government support and digital literacy among employees, highlighting the need for targeted training programs.
- Sustainability of Digital Transformation: Long-term success depended on continuous innovation, adaptability, and knowledge-sharing cultures within organizations.

*4.9. Comparative Discussion*

A comparative analysis between Group AA and Group BB revealed the following:

- Digital Transformation Readiness: Group AA demonstrated greater readiness due to established IT infrastructure, while Group BB required more support in digital skill development.
- Large enterprises benefited more from strategic digital investments, while SMEs faced financial and skill-related constraints.
- Policymakers should implement financial incentives and training initiatives to bridge the digital gap between large and small enterprises.

*4.10. Summary of Findings*

This framework is adaptable to various industries and can be tailored to fit both large enterprises (Group AA) and small-to-medium enterprises (Group BB). The assessment of organizational performance based on key indicators highlights the applicability of this framework across different organizational types.

The evaluation results indicate that Group AA (large enterprises) demonstrates higher readiness and capability in digital transformation compared to Group BB (small-to-medium enterprises). Key findings include:

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- Digital Leadership: Group AA scored an average of 4.0, with the highest rating in Transformational Leadership (4.2), whereas Group BB averaged 3.37, reflecting a need for stronger leadership in digital initiatives.
- Digital Skills and Capabilities Management: Group AA achieved an average score of 4.13, excelling in IT Capabilities (4.3), while Group BB scored 3.63, indicating a gap in IT readiness and knowledge management.
- Innovation and Technology Management: Group AA scored 4.1, with strong Organizational Innovation Capabilities (4.2), whereas Group BB averaged 3.5, showing the necessity for enhanced innovation management strategies.
- Implementation Readiness: Group AA showed higher confidence in executing the framework, scoring 4.3 in readiness for adoption, compared to 3.2 for Group BB, which highlights the need for additional support in small-to-medium enterprises.

*4.11. Implications for Implementation*

- Large Enterprises (Group AA): These organizations possess strong digital infrastructure and leadership, making them well-suited for advanced digital transformation initiatives. Further investment in continuous innovation and AI-driven processes can strengthen their competitive edge.
- Small-to-Medium Enterprises (Group BB): While having moderate digital capabilities, this group requires targeted interventions, such as workforce upskilling programs, digital leadership training, and structured knowledge management systems, to improve adoption rates and sustain performance improvements.

Overall, our framework (as shown in Figure 1) provides a structured approach to enhancing digital capabilities, leadership, and innovation strategies for organizations of varying sizes, ensuring they can effectively implement digital transformation strategies and sustain long-term growth in the digital economy.

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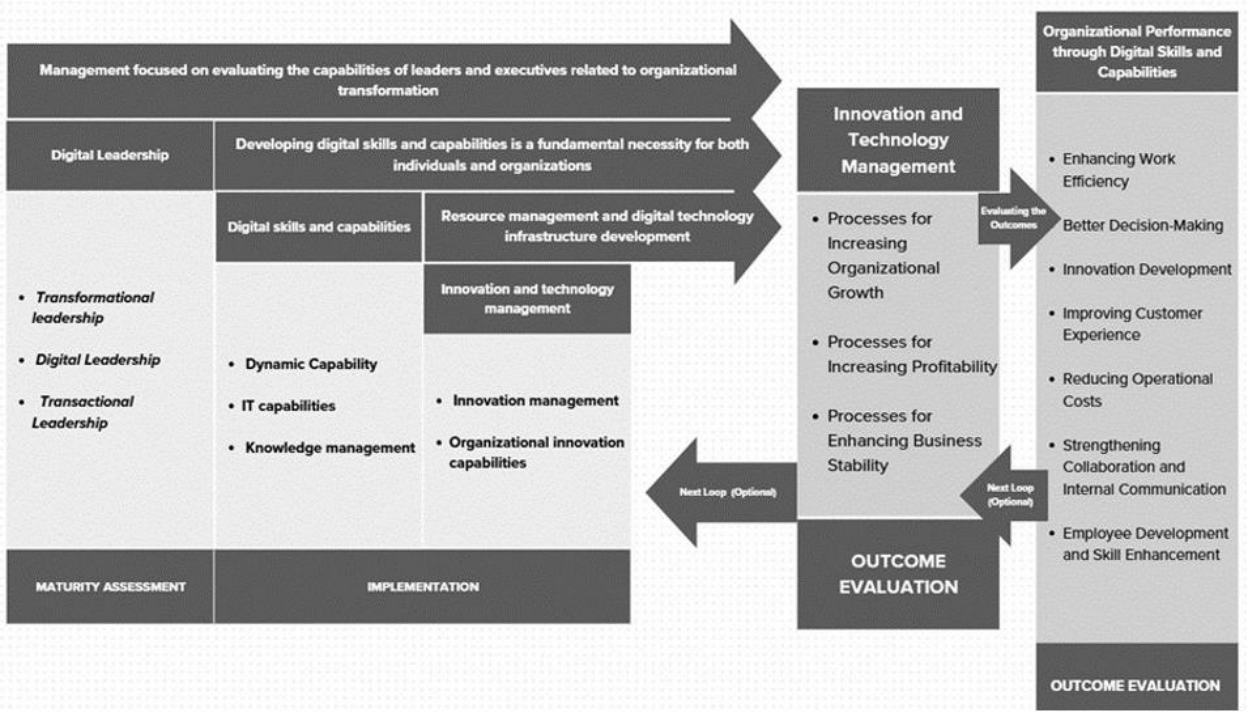


**Figure 1.**
Framework for Enhancing Organizational Performance with Digital Skills and Capabilities – A solution for achieving the goals outlined in this study.

The presented framework is divided into three primary phases, maturity Assessment, implementation, and outcome evaluation, with an optional continuous improvement loop ensuring sustained development and adaptability.

Maturity Assessment is the initial stage with assessing leadership capabilities, emphasizing three key leadership styles, transformational leadership which inspires and motivates employees to innovate and embrace change. Secondly, digital leadership focuses on guiding organizations through digital transformation and transactional leadership, centers on structured tasks and reward-based systems. These leadership styles are crucial directly influence the development of digital skills and capabilities within the organization.

Implementation phase is vital translating leadership capabilities into tangible outcomes. It comprises two core components, developing digital skills and capabilities and innovation and technology management.

Developing digital skills and capabilities, including dynamic capability, its capabilities, knowledge management will drive organization successfully and develop form the backbone of successful digital transformation initiatives. Moreover, managing innovation involves structured processes that encourage creativity and the effective implementation of new ideas and establishing systematic methods for idea generation and execution.

Finally, evaluating the outcomes of digital initiatives is vital for determining their effectiveness. Key indicators of organizational performance improvement including, enhancing work efficiency, better decision-making, innovation development, improving customer experience, reducing operational costs, strengthening collaboration and communication, and employee development and skill enhancement. These indicators emphasize the importance of continuous improvement. Organizations may revisit the

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maturity assessment phase to further refine leadership strategies and implementation processes.

Leadership styles play a critical role in setting the direction for digital initiatives. Developing digital skills and managing resources effectively are essential to implement technological innovations successfully. Outcome evaluation provides actionable insights, enabling organizations to refine their strategies continuously. By focusing on leadership capabilities, therefore, skill development, resource management, and continuous outcome evaluation, organizations can enhance their operational efficiency, customer satisfaction, and overall competitiveness.

*4.12. Policy Recommendations*

To operate the proposed framework, the following policies are recommended for organizations aiming to improve their digital transformation journey. Organizations should establish structured leadership training programs focusing on digital competencies by mandate continuous learning for leaders in emerging digital technologies and leadership styles and promote cross-functional leadership initiatives to enhance collaborative digital strategies. Offering tailored digital upskilling programs based on departmental needs and providing incentives, funding and resources for employees to advanced digital competency courses and to drive innovation projects would be digital skills and innovation driven enhancement policy.

The final part of the framework involves evaluating the results of the implementation process. This evaluation helps organizations measure their success in achieving the desired outcomes and continuously improve their processes. Key performance indicators (KPIs) will be used to assess the organization's progress in:

- Work Efficiency: Measuring improvements in operational efficiency and cost reduction through digital tools.
- Business Opportunities: Assessing the ability to create new business opportunities and adapt to changing market conditions.
- Stability and Sustainability: Evaluating the organization's ability to remain stable and sustainable in the face of technological and market disruptions.

By continuously evaluating the outcomes, organizations can identify areas for improvement and make necessary adjustments to their strategy, ensuring ongoing growth and adaptation to the digital age.

## 5. Discussion

The findings of this research indicate that organizations with well-established digital infrastructure and leadership are more effective in implementing digital frameworks compared to those lacking these factors. The case study of Organization AA demonstrates that utilizing technologies, including AI, ERP, and IoT, can reduce costs by 30% and increase operational efficiency by 40%. Meanwhile, Organization BB, which is still in the developmental phase, has improved operational efficiency by 25% but continues to face limitations in infrastructure and workforce skills, supporting the Digital Maturity Model (DMM) concept, which states that organizations with higher digital maturity can adopt technology more rapidly [38]. Furthermore, the study aligns with the Technology Acceptance Model (TAM), which highlights factors such as Perceived Usefulness and Perceived Ease of Use, illustrating that organizations with strong leadership and suitable infrastructure are more likely to adopt and utilize technology effectively [6]. Additionally, the research identifies leadership as a more critical factor than initially expected. Organization BB, despite lacking a robust infrastructure, has leaders who support

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digital transformation, allowing partial improvements in operational processes. This finding corresponds with Kotter's work, which emphasizes leadership as a key driver for digital transformation, even in resource-constrained environments [39].

## 6. Conclusion

In this study, a framework for enhancing organizational performance through digital transformation was developed and evaluated. The findings of the study highlight that leadership and IT capabilities significantly drive digital success, while knowledge management and innovation play a crucial mediating role. Large enterprises (Group AA) exhibit higher digital maturity, whereas SMEs (Group BB) face technological and financial challenges, requiring further support.

The research contributes to both theory and practice by extending digital transformation literature and offering strategic insights for policymakers and business leaders. The structured equation modeling (SEM) and thematic analysis validate the proposed framework's effectiveness, reinforcing the importance of leadership engagement, IT infrastructure, and a culture of innovation.

Future research should explore the long-term impact of digital strategies, conduct cross-industry comparisons, and assess policy interventions that facilitate SME digital adoption.

## Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.



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