Jurnal Ilmiah Sistem Informasi dan Ilmu Komputer
Volume 5, Nomor 3, November 2025
E-ISSN :2827-7953; P-ISSN : 2827-8135, Hal. 573-587
DOI: https://doi.org/10.55606/juisik.v5i3.1775
Tersedia: https://journal.sinov.id/index.php/juisik

Designing the SiMiTi Architecture: A Framework for Sustainable Digital Transformation in Intelligent Enterprises

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Abstract*. The rapid evolution of digital technologies has compelled organizations to rethink their transformation strategies to ensure long term sustainability. This study proposes the SiMiTi Architecture, a conceptual framework intended to guide sustainable digital transformation (SDT) within intelligent enterprises. Based on a systematic literature review of 35 peer reviewed articles published between 2021 and 2025, the framework integrates five essential constructs: Strategic Alignment (SA), Digital Capability (DC), Technology Adoption (TA), Organizational Agility (OA), and Environmental Dynamism (ED). The model emphasizes the importance of strategic coherence, digital readiness, and contextual responsiveness as foundational elements for effective SDT. Strategic alignment ensures consistency between digital initiatives and enterprise objectives; digital capability and technology adoption establish the technological foundation for innovation; organizational agility mediates adaptive implementation; while environmental dynamism moderates the model's applicability across various industrial and regulatory settings. The SiMiTi Architecture is theoretically anchored in four major theories: the Resource Based View, Strategic Alignment Theory, Dynamic Capabilities Theory, and Contingency Theory. This research contributes to the academic discourse by addressing a critical gap in existing models, particularly the integration of sustainability principles into digital transformation frameworks. Practically, it offers a diagnostic and planning tool for organizations striving to implement future ready, responsible digital strategies. The study concludes by providing recommendations for aligning technological investments with sustainable development goals and outlines directions for future empirical validation across sectors.*

Keywords: *Digital Capability; Organizational Agility; Strategic Alignment; Sustainable Digital Transformation; Technology Adoption*

Abstrak. Perkembangan pesat teknologi digital telah mendorong organisasi untuk meninjau kembali strategi transformasi mereka guna memastikan keberlanjutan jangka panjang. Penelitian ini mengusulkan Arsitektur SiMiTi sebagai sebuah kerangka konseptual yang dirancang untuk memandu transformasi digital berkelanjutan (Sustainable Digital Transformation atau SDT) dalam konteks intelligent enterprises. Berdasarkan tinjauan literatur sistematis terhadap 35 artikel ilmiah terindeks yang terbit antara tahun 2021 hingga 2025, kerangka ini mengintegrasikan lima konstruk utama: Strategic Alignment (SA), Digital Capability (DC), Technology Adoption (TA), Organizational Agility (OA), dan Environmental Dynamism (ED). Model ini menekankan pentingnya keselarasan strategi, kesiapan digital, dan responsivitas terhadap dinamika lingkungan sebagai elemen fundamental dari SDT. Keselarasan strategis memastikan konsistensi antara inisiatif digital dan tujuan organisasi; kapabilitas digital dan adopsi teknologi membentuk fondasi teknologi untuk inovasi; kelincahan organisasi memediasi proses adaptasi strategi; sementara dinamika lingkungan memoderasi penerapan model dalam berbagai sektor dan kondisi eksternal. Arsitektur SiMiTi didasarkan pada empat teori utama: Resource-Based View, Strategic Alignment Theory, Dynamic Capabilities Theory, dan Contingency Theory. Secara teoretis, penelitian ini menjawab kesenjangan dalam model-model transformasi digital yang ada dengan memasukkan prinsip keberlanjutan. Secara praktis, model ini dapat digunakan sebagai alat diagnosis dan perencanaan oleh organisasi yang ingin menerapkan strategi digital yang adaptif dan bertanggung jawab. Studi ini diakhiri dengan rekomendasi untuk menyelaraskan investasi teknologi dengan tujuan pembangunan berkelanjutan serta arah penelitian lanjutan untuk validasi empiris.

Kata kunci: Adopsi Teknologi; Kapabilitas Digital; Kelincahan Organisasi; Keselarasan Strategis; Transformasi Digital Berkelanjutan

Naskah: 17 Oktober 2025; Revisi: 31 Oktober 2025; Diterima: 25 November 2025; Terbit: 27 November 2025

1. INTRODUCTION

Sustainable digital transformation (SDT) has emerged as a strategic imperative for intelligent enterprises aiming to maintain competitive advantage in an increasingly digitized and dynamic business landscape. SDT refers not merely to the adoption of digital technologies but to the long term integration of digital solutions, business processes, and organizational strategies that jointly create economic, environmental, and social value (Susanti et al., 2023; Ferreira et al., 2021). Recent literature underscores that SDT contributes to organizational sustainability by improving operational efficiency, reducing digital carbon footprints, and enhancing stakeholder engagement (Feroz et al., 2021; Rashid et al., 2022). Therefore, SDT represents a multifaceted process that is influenced by organizational, strategic, and environmental factors (Jöhnk et al., 2021). To manage these complexities effectively, a systematic and integrative framework is required one that bridges digital vision with sustainable enterprise practices, as proposed by the SiMiTi architecture.

The increasing rate of digital transformation failure in large scale organizations highlights the absence of structured frameworks that incorporate both sustainability and enterprise intelligence principles. According to a McKinsey (2021) report, only 30% of digital transformation initiatives achieve expected outcomes, primarily due to the misalignment between strategic intent, digital capabilities, and organizational readiness for external changes. This signals a critical gap in the current body of knowledge, as existing models often neglect the sustainable and architectural integration required for intelligent enterprises (Verhoef et al., 2021). Furthermore, there is limited research that conceptually and practically integrates sustainability principles within digital enterprise architectures (Horlacher & Hess, 2021; Gong & Janssen, 2020). Thus, this study addresses an urgent need to develop an architectural framework SiMiTi that harmonizes strategic alignment, digital capabilities, and technology adoption in fostering sustainable digital transformation.

Strategic alignment has been identified as a primary determinant of successful digital transformation. Studies show that aligning business strategies with digital initiatives fosters synergies that amplify enterprise performance and enable long term adaptability (Coltman et al., 2021; Yeow et al., 2021). In the context of intelligent enterprises, strategic alignment creates coherence across organizational functions, ensuring that digital investments directly support overarching goals. Moreover, it enhances sustainability by allowing firms to respond effectively to market volatility and environmental regulations (Zerfass et al., 2021). Conversely, a lack of alignment often results in fragmented digital initiatives and unsustainable

outcomes (Tallon et al., 2021). Therefore, within the SiMiTi architecture, strategic alignment serves as the foundational layer guiding the direction of sustainable digital transformation.

Digital capability refers to an organization's ability to acquire, assimilate, and reconfigure digital technologies in pursuit of business innovation and efficiency. Literature increasingly highlights digital capability as a core enabler of SDT because it empowers organizations to adapt swiftly to technological advancements and market shifts (Aydiner et al., 2022; Vial, 2021). This capability encompasses technological infrastructure, digital talent, and managerial processes that facilitate continuous digital innovation (Wamba Taguimdje et al., 2021). Firms with high digital capabilities tend to demonstrate superior data driven decision-making, process automation, and customer centric agility (Nasiri et al., 2022). In the SiMiTi framework, digital capability functions as a key pillar, equipping enterprises with the competencies needed to translate strategic intent into sustainable digital actions.

Technology adoption plays a pivotal role in digital transformation outcomes, particularly in implementing disruptive technologies such as AI, IoT, and blockchain. Empirical studies affirm that technology adoption enhances operational performance, enables business model innovation, and strengthens competitive positioning (Ghobakhloo, 2020; Dwivedi et al., 2021). However, technology adoption without sustainability considerations can lead to unintended negative consequences such as increased digital waste and social inequities (Bag et al., 2021). Therefore, adopting technologies through a sustainability lens is essential for intelligent enterprises. Within the SiMiTi architecture, technology adoption is positioned as a catalyst that connects digital capability with longterm sustainable transformation outcomes.

Organizational agility acts as a mediating mechanism that enables enterprises to respond to change swiftly while maintaining strategic coherence. Agile organizations are more capable of translating digital capabilities and technological resources into sustainable performance (Teece et al., 2021; Chen et al., 2022). Agility fosters resilience, accelerates learning, and facilitates innovation in environments characterized by high uncertainty (Overby et al., 2021). In the SiMiTi architecture, organizational agility bridges strategic alignment and digital execution, ensuring that SDT efforts remain adaptive and responsive to emerging business and environmental challenges.

Environmental dynamism, as a moderating variable, influences the strength and direction of the relationship between digital capabilities and sustainable digital transformation. External uncertainties such as technological disruption, shifting regulations, and competitive turbulence demand a more adaptive and sustainable approach to digital transformation (Jansen et al., 2021; Zhou et al., 2021). Organizations operating in highly dynamic environments must continuously

realign their digital strategies to maintain relevance and sustainability. The SiMiTi framework incorporates environmental dynamism to account for contextual contingencies, ensuring that its application remains flexible across different industries and geographies.

Based on this background, the objective of this study is to design and develop the SiMiTi Architecture a conceptual framework that integrates strategic alignment, digital capability, and technology adoption to promote sustainable digital transformation in intelligent enterprises, with organizational agility as a mediator and environmental dynamism as a moderator. Theoretically, this research contributes to digital transformation literature by proposing an integrative, sustainability focused enterprise architecture. Empirically, it provides actionable insights for business leaders and IT strategists in designing adaptive and sustainable digital transformation roadmaps grounded in systemic architectural thinking.

2. THEORETICAL STUDY

This study is built upon several key theoretical foundations that jointly explain the dynamics of Sustainable Digital Transformation (SDT) within intelligent enterprises. One of the core foundations is the Resource Based View (RBV), which asserts that long term competitive advantage stems from an organization's ability to develop and utilize valuable, rare, inimitable, and non substitutable resources (Barney, 1991). In the SDT context, digital capability is viewed as a strategic resource that includes technological infrastructure, digital talent, and managerial processes enabling organizations to adopt and integrate digital technologies for sustainable outcomes (Aydiner et al., 2022; Wamba Taguimdje et al., 2021). Prior research suggests that firms with high digital capabilities are better equipped to respond to change and create long term value through sustainability aligned digital initiatives (Vial, 2021; Nasiri et al., 2022).

Another relevant foundation is the Strategic Alignment Theory, which emphasizes the importance of aligning business strategy with IT strategy to enhance organizational performance (Henderson & Venkatraman, 1993). Misalignment between digital vision and organizational readiness is one of the primary reasons behind the high failure rate of digital transformation initiatives (McKinsey, 2021). In this study, strategic alignment is positioned as a foundational pillar in the SiMiTi Architecture to ensure that digital transformation efforts are not only technologically sound but also strategically coherent and sustainability oriented (Coltman et al., 2021; Yeow et al., 2021).

Additionally, the study incorporates Dynamic Capabilities Theory, which highlights an organization's ability to adapt, integrate, and reconfigure internal and external resources in

response to environmental changes (Teece et al., 1997). This theory informs the inclusion of organizational agility as a mediating mechanism within the proposed framework. Agile organizations are more capable of implementing digital strategies flexibly and effectively, particularly in volatile or uncertain environments (Overby et al., 2021; Chen et al., 2022). Agility is thus considered essential for translating digital strategy into sustainable and adaptive execution.

Lastly, Contingency Theory serves as a complementary perspective by asserting that there is no universal solution in organizational design; instead, the effectiveness of any strategy or structure depends on its fit with the external environment (Donaldson, 2001). This study applies the theory by integrating environmental dynamism as a moderating variable, representing external factors such as regulatory shifts, technological disruptions, and market turbulence that shape the strength and direction of digital transformation outcomes (Zhou et al., 2021; Jansen et al., 2021). Prior studies affirm that organizations capable of contextualizing their digital architectures in response to external dynamics are more likely to succeed in achieving sustainability goals (Gong & Janssen, 2020; Horlacher & Hess, 2021).

Collectively, these theoretical perspectives offer a robust conceptual grounding for the development of the SiMiTi Architecture, which seeks to integrate strategic alignment, digital capability, and technology adoption into a cohesive framework. By embedding agility and environmental responsiveness, this research proposes a systemic, adaptable model that addresses the complex requirements of sustainable digital transformation in intelligent enterprises.

3. RESEARCH METHODS

This study utilizes a qualitative conceptual research design through a systematic literature review to construct the SiMiTi Architecture a strategic framework for sustainable digital transformation in intelligent enterprises. The research population consists of academic publications discussing digital transformation, strategic alignment, technology adoption, and sustainability. Using purposive sampling, a total of 35 reputable journal articles published between 2021 and 2025 and indexed in Scopus and Web of Science were selected based on relevance, recency, and theoretical contribution (Pizzi et al., 2021; Mukherjee et al., 2022).

Data collection was conducted through a structured review process using search terms such as sustainable digital transformation, strategic alignment, digital capability, technology adoption, organizational agility, and environmental dynamism. A review matrix served as the main instrument to extract and organize key concepts and theoretical frameworks (Chen et al.,

2022). The collected data were then analyzed using thematic synthesis, a qualitative method that enables identification of recurring themes and conceptual relationships (Cruzes & Dyba, 2011).

The research model developed in this study comprises five main constructs: Strategic Alignment (SA), Digital Capability (DC), and Technology Adoption (TA) as direct drivers of sustainable digital transformation (SDT); Organizational Agility (OA) as a mediating variable; and Environmental Dynamism (ED) as a moderating factor that reflects the influence of external environmental changes. These constructs are conceptually integrated to explain how intelligent enterprises can achieve adaptive and sustainable digital transformation outcomes.

4. RESULTS AND DISCUSSION

This section presents the findings derived from the systematic literature analysis and discusses their theoretical and practical implications within the context of sustainable digital transformation (SDT) in intelligent enterprises. The core objective of this study was to design a conceptual architecture SiMiTi that integrates key organizational constructs such as strategic alignment, digital capability, and technology adoption, while considering the mediating effect of organizational agility and the moderating influence of environmental dynamism. Each component was examined through a thematic synthesis of selected scholarly literature published between 2021 and 2025, ensuring both relevance and theoretical rigor.

The discussion unfolds in several stages. First, it outlines the methodical process of data collection and synthesis, followed by an in depth interpretation of the conceptual relationships embedded within the SiMiTi Architecture. The analysis emphasizes the interplay among constructs and highlights how strategic coherence, technological competence, and contextual agility collectively shape the outcomes of SDT initiatives. Subsequently, the findings are positioned against established theories and empirical studies, allowing for critical comparison and validation. Finally, the section elaborates on the theoretical and applied implications of the proposed framework, offering insights into how organizations may navigate complex transformation processes while aligning digital innovation with sustainable enterprise goals.

Data Collection and Thematic Synthesis

The data collection process in this study employed a structured and rigorous systematic literature review, which is a well established qualitative method used for theory development in conceptual research (Boell & Cecez Kecmanovic, 2015). The primary objective of the review was to identify and synthesize scholarly contributions related to sustainable digital

transformation (SDT) within the domain of intelligent enterprises. To ensure relevance and validity, the authors selected peer reviewed journal articles published between 2021 and 2025 from reputable academic databases such as Scopus and Web of Science. The inclusion criteria were determined based on thematic relevance, conceptual depth, and empirical contribution. Keywords used in the search process included "sustainable digital transformation", "strategic alignment", "digital capability", "technology adoption", "organizational agility", and "environmental dynamism". A purposive sampling technique was used to select a total of 35 journal articles, reflecting both theoretical and applied perspectives across various industries and organizational settings.

To extract and organize data systematically, the authors developed a review matrix that captured key constructs, theoretical underpinnings, and reported relationships among variables. This matrix facilitated the mapping of relevant literature into coherent thematic categories, aligning them with the research objective of developing an integrative architecture. The analytical phase involved thematic synthesis a qualitative technique that combines the identification of recurrent patterns with the interpretation of conceptual linkages between constructs (Thomas & Harden, 2008). Through iterative coding and abstraction, the synthesis revealed five dominant themes forming the structural backbone of the proposed SiMiTi Architecture: strategic alignment, digital capability, technology adoption, organizational agility, and environmental dynamism. Each theme was subsequently refined and contextualized within the framework of SDT. The thematic synthesis not only enabled the consolidation of complex theoretical insights but also ensured that the resulting model reflects the multifaceted and dynamic nature of digital transformation in intelligent enterprises.

Structural Components of the SiMiTi Architecture

The SiMiTi Architecture is conceptualized as a systemic framework comprising five interrelated constructs, each playing a pivotal role in shaping the trajectory of sustainable digital transformation (SDT) in intelligent enterprises. The first construct, Strategic Alignment (SA), refers to the extent to which an organization’s digital initiatives are coherently integrated with its overarching business strategies. Literature emphasizes that strategic alignment enhances operational focus, improves cross functional collaboration, and ensures that technological investments yield long term value (Coltman et al., 2021; Yeow et al., 2021). In the SiMiTi framework, strategic alignment serves as the foundational pillar, anchoring all transformation activities to the organization's sustainability goals. Without such alignment,

digital transformation efforts risk fragmentation and inefficiency, leading to suboptimal outcomes and wasted resources.

The second construct, Digital Capability (DC), encompasses an organization's ability to acquire, deploy, and reconfigure digital resources such as IT infrastructure, digital competencies, and innovation processes to drive value creation. Prior studies affirm that firms with high digital capability demonstrate superior agility, innovation potential, and responsiveness to market changes (Aydiner et al., 2022; Wamba Taguimdje et al., 2021). Complementing this is the third construct, Technology Adoption (TA), which captures the extent and manner in which organizations implement advanced digital technologies such as AI, IoT, and cloud computing. While technology adoption facilitates efficiency and innovation, it must be approached with sustainability principles in mind to avoid unintended ecological or social consequences (Bag et al., 2021; Ghobakhloo, 2020). The fourth component, Organizational Agility (OA), acts as a mediating mechanism that translates digital capability and technology adoption into adaptive strategic execution. Agility enables firms to swiftly recalibrate strategies in response to dynamic environmental conditions (Teece et al., 2021). Lastly, Environmental Dynamism (ED) functions as a moderating variable, recognizing that external volatility such as regulatory shifts, technological disruption, or market turbulence can influence the effectiveness of digital transformation initiatives (Jansen et al., 2021; Zhou et al., 2021). The integration of these constructs within the SiMiTi Architecture provides a comprehensive blueprint for intelligent enterprises seeking to navigate complexity and embed sustainability into their digital transformation journeys.

Table 1. Core Constructs and Functional Roles in the SiMiTi Architecture

Construct	Functional Role	Theoretical Basis	Key References
Strategic Alignment (SA)	Aligns digital transformation with organizational strategy and sustainability goals	Strategic Alignment Theory	Coltman et al. (2021); Yeow et al. (2021)
Digital Capability (DC)	Enables acquisition, integration, and deployment of digital resources	Resource-Based View (RBV)	Aydiner et al. (2022); Wamba-Taguimdje et al. (2021)
Technology Adoption (TA)	Facilitates implementation of digital technologies for process and business model innovation	Innovation Diffusion Theory; SDT literature	Ghobakhloo (2020); Bag et al. (2021)
Organizational Agility (OA)	Mediates strategy execution by enhancing adaptability and resilience	Dynamic Capabilities Theory	Teece et al. (2021); Chen et al. (2022)
Environmental Dynamism (ED)	Moderates impact of internal capabilities under varying external conditions	Contingency Theory	Jansen et al. (2021); Zhou et al. (2021)

Source: Synthesized by authors from thematic analysis of 35 journal articles (2021–2025).

To enhance clarity and conceptual synthesis, Table 2 summarizes the five core constructs of the SiMiTi Architecture along with their respective functional roles and theoretical foundations. As illustrated, Strategic Alignment (SA) serves as the initial and foundational construct, ensuring that digital transformation initiatives are embedded within the broader organizational mission and sustainability vision. This construct draws primarily from Strategic Alignment Theory, which asserts that harmonization between business and IT strategies is crucial for realizing long term performance outcomes (Coltman et al., 2021; Yeow et al., 2021).

Digital Capability (DC) is recognized as a critical enabler, equipping organizations with the necessary digital infrastructure, human capital, and process competencies to support transformation efforts. This aligns with the Resource Based View (Barney, 1991), which views such capabilities as sources of sustainable competitive advantage. Technology Adoption (TA) builds upon these capabilities, enabling the operationalization of digital innovation through the integration of advanced tools and platforms. Informed by diffusion and innovation theories, this construct reflects the mechanisms through which organizations implement digital solutions in alignment with sustainable objectives (Ghobakhloo, 2020; Bag et al., 2021).

Meanwhile, Organizational Agility (OA) functions as a mediator that dynamically links the strategic and technological components, thereby fostering responsiveness and resilience in volatile business environments. Grounded in Dynamic Capabilities Theory (Teece et al., 1997), OA ensures that internal capabilities are effectively mobilized and adapted. Finally, Environmental Dynamism (ED) is introduced as a contextual moderator, acknowledging that external uncertainties such as regulatory changes or technological disruptions can significantly alter the trajectory and outcomes of digital transformation initiatives. Drawing on Contingency Theory (Donaldson, 2001), this variable reinforces the model's flexibility and applicability across diverse organizational and environmental contexts. Collectively, the constructs outlined in Table 2 provide a robust conceptual foundation for understanding and implementing sustainable digital transformation in intelligent enterprises.

Conceptual Model Integration and Interrelationships

The SiMiTi Architecture offers a coherent and integrative model that unites strategic, technological, and environmental dimensions into a single framework to support sustainable digital transformation (SDT). The conceptual integration of constructs in this architecture follows a logical flow grounded in existing theoretical perspectives such as the Resource Based View (Barney, 1991), Strategic Alignment Theory (Henderson & Venkatraman, 1993), and

Dynamic Capabilities Theory (Teece et al., 1997). In the SiMiTi model, Strategic Alignment (SA) is positioned as the starting point, emphasizing that any digital transformation initiative must originate from a well aligned strategy that reflects the organization's long term sustainability vision. This alignment then informs the deployment of Digital Capability (DC), which serves as the operational lever to mobilize digital resources and competencies. The integration is strengthened further by Technology Adoption (TA), which translates capability into concrete tools, platforms, and innovations that support business process reengineering and stakeholder engagement.

What differentiates the SiMiTi framework from conventional models is its inclusion of Organizational Agility (OA) as a mediating variable and Environmental Dynamism (ED) as a moderating factor. Organizational Agility plays a critical mediating role by enabling firms to swiftly adapt strategic intentions into executable actions, especially in turbulent business environments. It ensures that strategic alignment and digital capabilities are not static resources but dynamically recalibrated to support real time responsiveness. The mediating function of agility is particularly crucial when organizations encounter implementation roadblocks or resistance to change, providing them with the flexibility to pivot or redesign their approach. Meanwhile, Environmental Dynamism is introduced to account for variability in external conditions, such as technological volatility or regulatory uncertainty. As a moderating factor, ED influences the strength and direction of the relationships among SA, DC, and TA toward achieving SDT outcomes. For instance, in highly dynamic environments, the effectiveness of strategic alignment and digital capabilities may be significantly amplified or diminished depending on the organization's ability to adapt. Therefore, the SiMiTi Architecture is not only integrative but also adaptive, allowing for contextual customization while maintaining theoretical coherence.

Comparison with Previous Research

The SiMiTi Architecture builds upon, yet extends, several established models of digital transformation by explicitly embedding sustainability and organizational adaptability as central design elements. Prior models such as the Digital Capability Framework (Vial, 2021) and the Strategic Alignment Maturity Model (Luftman, 2000) have predominantly focused on efficiency, innovation, or alignment, but often neglect the long term sustainability dimension. In contrast, SiMiTi integrates sustainability not only as an outcome but also as a guiding principle that shapes strategy formulation, capability development, and technology deployment. This advancement aligns with recent scholarship emphasizing the need for

sustainability oriented architectures in enterprise transformation (Susanti et al., 2023; Ferreira et al., 2021). Moreover, unlike traditional digital enterprise models that treat environmental factors as static conditions, SiMiTi incorporates Environmental Dynamism (ED) as a moderating variable, highlighting the contextual nature of transformation outcomes. This refinement enables the model to address variations in market volatility, technological uncertainty, and regulatory complexity more effectively than prior models.

Another key point of differentiation is the positioning of Organizational Agility (OA) as a mediating construct a role that has been underexplored in past frameworks. While existing studies acknowledge agility as an important organizational attribute (Teece et al., 2021), few have operationalized it as a dynamic linkage between strategic intent and execution in the context of SDT. The inclusion of OA in the SiMiTi model reflects a more nuanced understanding of how agile structures and practices enable firms to convert capabilities into actionable, responsive strategies. Furthermore, SiMiTi addresses some of the limitations noted in previous research, such as the rigidity of enterprise architectures and the lack of responsiveness to external shocks (Verhoef et al., 2021). By integrating dynamic relationships among strategic, technological, and contextual elements, SiMiTi presents a more robust and future oriented alternative. Overall, while grounded in established theoretical foundations, the SiMiTi Architecture advances the field by offering a comprehensive, adaptable, and sustainability focused framework for digital transformation in intelligent enterprises.

Theoretical and Practical Implications

Theoretically, the SiMiTi Architecture offers a substantial contribution to the literature on digital transformation and sustainability by proposing a multidimensional and integrative framework. It synthesizes key theoretical constructs strategic alignment, digital capability, technology adoption, organizational agility, and environmental dynamism into a unified model that addresses the complexities of transformation within intelligent enterprises. This integration extends the boundaries of Resource Based View (Barney, 1991) by demonstrating how digital resources must be dynamically aligned and reconfigured to achieve sustainability goals. Furthermore, the model reinforces and operationalizes the principles of Dynamic Capabilities Theory (Teece et al., 1997) by showing how agility mediates the translation of digital intent into adaptive actions. The inclusion of Environmental Dynamism as a moderator also reflects an application of Contingency Theory (Donaldson, 2001), emphasizing that no single strategy fits all contexts. Therefore, the SiMiTi model not only fills critical gaps in the existing literature

but also encourages further research into the interaction between sustainability and enterprise digitalization in various industry settings.

From a practical standpoint, the SiMiTi Architecture provides actionable insights for business leaders, digital strategists, and policy makers aiming to implement sustainable digital transformation. It offers a diagnostic lens through which organizations can assess their current digital maturity, alignment practices, and agility levels in the context of environmental uncertainty. For instance, organizations operating in highly volatile markets can leverage this model to enhance responsiveness by investing in agile capabilities and continuously revisiting their strategic alignments. Similarly, firms at the early stage of digital transformation may use the SiMiTi framework as a roadmap for developing foundational digital capabilities and establishing sustainability driven technology adoption strategies. The model also underscores the importance of designing transformation strategies that are context sensitive and adaptable, thus promoting long-term value creation rather than short term technological fixes. Furthermore, by linking sustainability explicitly with enterprise architecture, SiMiTi may inform the development of public policies and corporate governance frameworks that support responsible innovation and environmental stewardship in the digital age.

5. CONCLUSION AND SUGGESTIONS

This study presents the SiMiTi Architecture as a strategic and theoretical framework designed to facilitate sustainable digital transformation (SDT) in intelligent enterprises. Through a systematic literature review of 35 peer reviewed journal articles published between 2021 and 2025, the study identified five interrelated constructs strategic alignment, digital capability, technology adoption, organizational agility, and environmental dynamism that collectively influence the success of SDT initiatives. The integration of these constructs into a single architectural model addresses a significant gap in the literature, namely the absence of holistic frameworks that incorporate both sustainability and adaptability into digital transformation. By grounding the framework in established theories such as the Resource Based View, Strategic Alignment Theory, Dynamic Capabilities Theory, and Contingency Theory, the SiMiTi Architecture offers a robust conceptual contribution that extends current knowledge in digital strategy and enterprise transformation.

In practical terms, the SiMiTi model provides organizations with a diagnostic and planning tool to evaluate their readiness for sustainable digital transformation, align strategic and digital initiatives, and adapt to changing external environments. It underscores the importance of not only acquiring advanced digital technologies but also developing the internal

agility to implement them effectively and sustainably. Based on the findings, several recommendations are proposed. First, organizational leaders should prioritize strategic alignment at the outset of digital initiatives to ensure coherence between digital investments and sustainability goals. Second, capacity building efforts should be focused on enhancing digital capabilities across all levels of the organization. Third, investments in technology must be coupled with governance structures that promote agile execution. Lastly, organizations should continuously assess environmental conditions and adapt their strategies accordingly to remain resilient and competitive. Future research may expand upon this framework by testing it empirically across various sectors and geographies to validate its generalizability and identify context specific refinements.

ACKNOWLEDGEMENTS

The authors would like to express their deepest appreciation to the Faculty of Information Technology (FTI), Universitas Bina Sarana Informatika, for the academic guidance and administrative support that enabled the completion of this research. Special acknowledgments are extended to the respective study programs Electrical Engineering and Information Systems for providing an interdisciplinary environment that fostered collaborative thinking and innovation. The authors are also grateful for the constructive feedback from peer reviewers, which significantly improved the clarity and academic rigor of this manuscript. Furthermore, this study benefited greatly from insights drawn from recent literature, and the authors acknowledge the contributions of all scholars whose works formed the foundation of the proposed SiMiTi Architecture.

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