

A Theoretical Integration of Enterprise Architecture Frameworks for Business-IT Alignment

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Abstract - In the digital transformation era, organizations struggle to achieve effective Business-IT Alignment (BITA) because disruptive technologies, new business models, and changing customer expectations widen the gap between strategic goals and IT capabilities. Enterprise Architecture (EA) has been recognized as a crucial facilitator in addressing this challenge by providing formal frameworks that unify business and IT. Nonetheless, the theoretical underpinnings of EA's function in augmenting BITA are disjointed, with the majority of research focusing on technical or managerial dimensions rather than cohesive theoretical frameworks. This paper examines and integrates pertinent theoretical frameworks, including the Strategic Alignment Model, Dynamic Capabilities Theory, and Sociotechnical Systems Theory, to formulate a cohesive perspective on how Enterprise Architecture (EA) can systematically enhance Business IT Alignment (BITA) in dynamic contexts. The research enhances academic comprehension by elucidating theoretical connections and providing pragmatic recommendations for firms to implement EA practices that promote agility, creativity, and value generation. Overall, the study demonstrates that EA plays a crucial role in enabling companies to navigate digital transformation and remain competitive.

Keywords: Business IT Alignment, Enterprise Architecture, Digital Transformation, Strategic Alignment Model, Sociotechnical System Theory, Dynamic Capabilities

I. INTRODUCTION

1.1 Background Information

EA (Enterprise architecture) is a key factor that enables organizations to be flexible and effectively manage their technical resources. In the context of sustainable management, EA should provide a framework connected to the DT objective with the sustainable business model, which fosters ecological, social, and economic sustainability. EA should play a critical role in providing the dynamic capabilities to enable the business to operate in unfavorable environments. (Alghamdi, 2024). It also helps companies and organizations improve their online performance by leveraging digital technology at the operational level, known

as high digital ambidexterity. (Pattij et al., 2022; Avison et al., 2004). The strategic importance of enterprise architecture has been increasingly recognized, as it promotes organizational adoption and manages technological complexity. (Pancote et al., 2025). Enterprise digital transformation should support innovation to align government subsidies for business innovation plans. (Kaidalova et al., 2018; Andriushchenko et al., 2020). This approach incorporates sustainable management practices through the EA framework, ensuring innovative contributions through long-term environmental sustainability, economic resilience, and social responsibility, which fosters responsible business practices consistent with overall sustainability goals. (Anthony Jnr, 2021; Arasuraja, 2025). The alignment is crucial for the technological progress of a robust architecture framework, which helps to maximize the benefits. EA not only supports strategic management of technology but also enables businesses to leverage financial and innovative resources. (Goerzig & Bauernhansl, 2018).

1.2 Overview of Digital Transformation in Today's Technological Landscape

Digital transformation is the biggest issue in the business world. Nowadays, digital technology connects through corporate operations, which affects how companies work and provides various benefits. It's primarily driven by new technology and encompasses new business process structures, cultural changes, and enhanced customer experiences. These help to build the ground up and change the internal business demand and markets. (Demlehner & Laumer, 2020; Slaiby et al., 2025). The business transition is connected to manufacturing and cyber-physical systems. The internal IT landscape should be aligned with the various enterprise architectures. (Hartl, 2019; Busch & Zalewski, 2025). These are all connected to make it easier for the products to be iterative and customer-involved, which is good for the business. Digitalization of business has also forced changes at the ecosystem level, followed by adjustments to audit work and the integration of business and IT functions (Nhabomba et al., 2025; Vigren & Eriksson, 2025).

1.3 Problem Statement

Organizations undergoing digital transformation often struggle to achieve Business-IT Alignment (BITA), resulting in IT skills that fail to adequately support strategic business goals. Rapid technology changes, new company models, and rising customer expectations exacerbate the misalignment, resulting in inefficiency and poor value generation. Enterprise Architecture (EA) provides organized ways to connect business and IT, although its theoretical function in improving BITA during digital transformation remains unclear. Most of the study that have been done so far focuses on technical or management issues and don't look at integrated theoretical frameworks. This fragmentation limits both academic insights and real-world results. This necessitates finding and combining strong theories that explain how EA may systematically increase BITA in changing situations.

1.4 Scope of The Research

The goal of this study is to examine and integrate various theoretical frameworks that demonstrate how Enterprise Architecture (EA) can enhance Business-IT Alignment (BITA) within the context of digital transformation. It examines the strategic, organizational, and technological aspects of EA to determine how it can help align corporate goals with IT skills. The research is confined to conceptual and theoretical examination, utilizing established models and frameworks to build a cohesive viewpoint. We will emphasize practical consequences to help firms adopt EA principles that foster agility, innovation, and value realization throughout digital transformation projects.

1.5 Significance of the Study

This study is critical because it addresses the ongoing problem of Business-IT Alignment (BITA) in situations of digital transformation. By integrating theoretical frameworks, it enhances scholarly comprehension of how Enterprise Architecture (EA) facilitates the alignment between corporate strategy and IT capabilities. The research addresses deficiencies in the current literature, which frequently prioritizes technical or managerial dimensions lacking robust theoretical foundations. In practice, the study demonstrates to firms how to utilize EA methods that enhance their flexibility, creativity, and value. Ultimately, it underscores the importance of EA in enabling businesses to navigate the digital transition and remain competitive.

1.6 Research Objective

- To determine how IT strategies with Business objectives help improve the organizational performance, competitiveness, and decision-making in the digital area.
- To explore the primary role of EA (enterprise architecture) in aligning business strategies, which involves implementing an effective IT system, managing various operations, minimizing

inefficiencies, and providing support through the digital transformation area.

- The review assesses the alignment of business and IT with the strategic alignment model, business alignment theories, and digital transformation frameworks, encompassing various types of theoretical models.
- To identify the key challenges organizations face and how they achieve their business strategies within the context of digital transformation, and to propose new solutions based on practical and theoretical insights.

1.7 Research Hypothesis

OB-1 H0: There is no significant relationship between aligning IT strategies with business goals to improve organizational performance, decision making, and competitiveness in the digital age.

OB-1 H1: This significant relationship between aligning strategies and business objectives aims to improve organizational performance, competitiveness, and decision-making in the digital age.

OB-2 H0: EA (Enterprise Architecture) fails to contribute to aligned business strategies with IT systems, which do not effectively analyze streamlined operations, reduce inefficiency, or support digital transformation efforts.

OB-2 H1: EA (Enterprise Architecture) significantly contributed to business strategies with IT systems, followed by streamlined operations, reduced inefficiency, and support through digital transformation efforts.

OB-3 H0: Theoretical models and frameworks are connected through SAM (Strategic Alignment model), IT business alignment theories, and digital transformation frameworks do not support the alignment of business and IT.

OB-3 H1: Theoretical models and frameworks are connected through the SAM (Strategic Alignment model), IT business alignment theories, and digital transformation frameworks, which support the alignment of business and IT.

OB-4 H0: There is no significant relationship among the various key challenges faced in achieving alignment between IT and business strategies, particularly in the context of digital transformation, which involves a proposed solution supported by both theoretical and practical values.

OB-4 H1: There is a significant relationship among the various key challenges faced in achieving alignment between IT and business strategies, particularly in the context of digital transformation, which involves a proposed solution supported by both theoretical and practical values.

1.8 Research Questions

- What role can Enterprise Architecture play in improving Business IT Alignment during digital transformation?

- What theoretical frameworks provide the best understanding of how EA and BITA relate in dynamic organizational settings?
- What are the shortcomings of current EA methods in tackling alignment issues during digital transformation?
- What role can an integrated theoretical approach play in guiding IT capabilities to better align with shifting business strategies?

Key Contribution

This research is covered in the various sections. Section I describes the introduction of the particular topic, which consists of Background information, an Overview of digital transformation in recent years, a problem statement, the Scope of the research, the significance of the study, the Research Objective, the Research Hypothesis, and the Research Questions. Section II presents the Literature review, while Section III outlines the concept model for enhancing business IT Alignment through architectural approaches in Digital Transformation contexts. This includes explanations of the strategic alignment model, conceptual framework for a research model, Digital transformation drivers, Enterprise architecture, enhanced BITA, and the Theoretical analysis model. Section IV describes the Methodology, which consists of sample demographic information, data analysis, and interpretation among the various objectives. Section V describes the discussion section, and Section VI explains the summary of the research key findings.

II. LITERATURE REVIEW

Various types of hypothesis statements should be explained based on DT and EA, which means the success should be influenced and demonstrate the impact of EA practices on the organization's strategy. According to the authors, (Kotusev & Kurnia, 2021), the EA lacks a theoretical framework. Based on the various theories, it is essential to analyze the organization's interaction through EA artifacts, followed by network theory, boundary object theory, and cognitive fit theory. Most viewpoints analyze the EA, which is crucial for understanding the interaction between IT and improving the IS planning and strategic decision-making process. According to authors (Kotusev & Kurnia, 2021), the EA framework has a direct limitation in terms of creativity. Others, including Tamm et al., discussed the EA as a method for integrating various technologies related to maintaining organizational adaptability. This research paper discusses how technological environments should determine the balance among EA performance. (Tamm et al., 2022; Glaser et al., 2025). It is a simple technique for literature analysis of the adoptability of EA frameworks, which has the conventional method of stable contexts. Following the various research scholars, who discussed the EA and presented innovative ideas from an organizational perspective. (Sadeghi, 2018). Most digital companies are unsustainable, yet they understand the new modifications, including various technologies like AI, IoT, and blockchain. (Nhabomba et al., 2025).

The role of EA is to serve as the sustainable management region, adhering to strict environmental guidelines. According to the European Union, the Sustainable Development Goals are used to create both types of digital transformation and ecological compliance. (Chauhan & Bhatia, 2025; Beese et al., 2023). Conversely, in regions with less stringent regulations, such as certain Asian countries, digital transformation efforts tend to overlook sustainability (Nosova et al., 2021; Odionu et al., 2024). This suggests that sustainability is becoming an essential consideration in EA; however, its adoption is largely ineffective due to a region's regulatory climate and societal attitudes towards environmental concerns. According to the authors Zhang et al., 2024; Goerzig & Bauernhansl, 2018) describe the impacts of digital adoption on productivity based on economic development, which consists of the digital media phase. Economic growth supported the analysis of digitalization developed in the region, particularly in terms of its impact on digital industrialization. (Zhang et al., 2024).

III. A CONCEPTUAL MODEL FOR IMPROVING BUSINESS IT ALIGNMENT THROUGH ENTERPRISE ARCHITECTURE IN DIGITAL TRANSFORMATION CONTEXTS

The conceptual model, which focuses on improving Business IT Alignment (BITA) through Enterprise Architecture (EA) during digital transformations, draws upon numerous theoretical frameworks to provide a thorough explanation. Institutional Theory focuses on external constraints, including competition, technological disruptions, and legislation, that influence a business's decision to adopt Enterprise Architecture for gaining legitimacy and adaptiveness. (Rehman et al., 2024). The Strategic Alignment Model (SAM) serves as the primary framework showcasing the role of EA in integrating business and IT activities to ensure strategic alignment and functional integration. Dynamic Capabilities Theory (DCT) explains how EA increases agility within organizations by enabling the detection of opportunities, innovative resource allocation, and the ability to shift resources in fast-changing environments. (Nie & Liu, 2024; Wang & Zhang, 2025). Sociotechnical Systems Theory (STS), which seeks to ensure that technological systems evolve simultaneously with human systems, emphasizes the importance of coordinating the human, procedural, and technological components of EA to sustain effectiveness and efficiency. Finally, the Resource-Based View (RBV) perceives EA and IT resources as strategic assets that could provide a sustained competitive advantage for the firm by fostering innovation, delivering value, and enhancing the firm's performance over time. (Bhattacharya, 2018). This theoretical framework illustrates that EA serves as a mediator between the pressures of digital transformation and the alignment results, allowing firms to progressively and systematically enhance their BITA, agility, and competitiveness in turbulent environments. (Henderson & Venkatraman, 1994).

3.1 Strategic Alignment Model

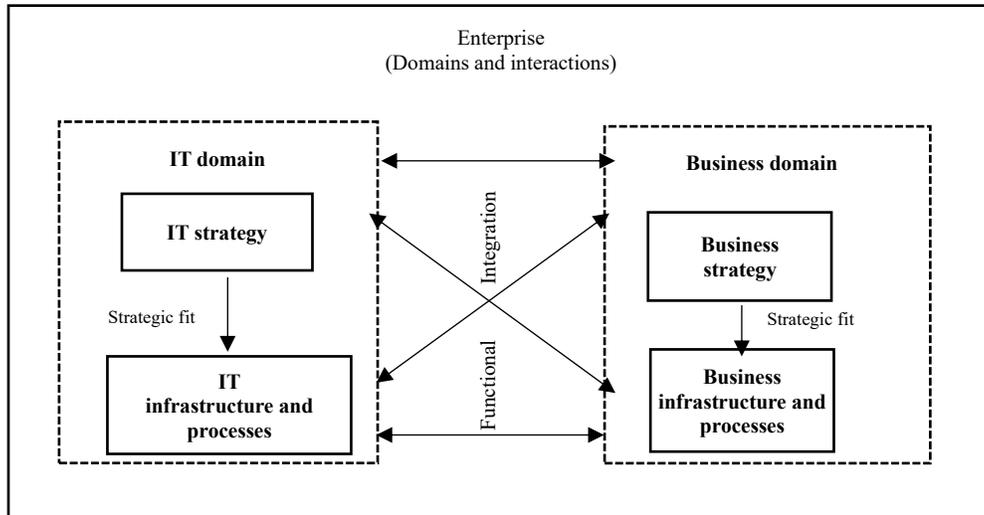


Fig. 1 Strategic Alignment Model

Fig. 1 illustrates the synergy between IT and other departments within a company, as shown by the strategic alignment model. From the model, we gather that IT and business strategies must be in “strategic fit” to be aligned. Also, the convergence of the two domains, IT and business, entails their infrastructures and processes, where the business IT infrastructure is functionally aligned with the business

infrastructure. (Ahriz et al., 2018). This is to ensure that IT resources are used effectively to reach business goals. The figure illustrates the central role of strategic fit and functional integration for the success of the entire firm.

3.2 Conceptual Framework for Research Model

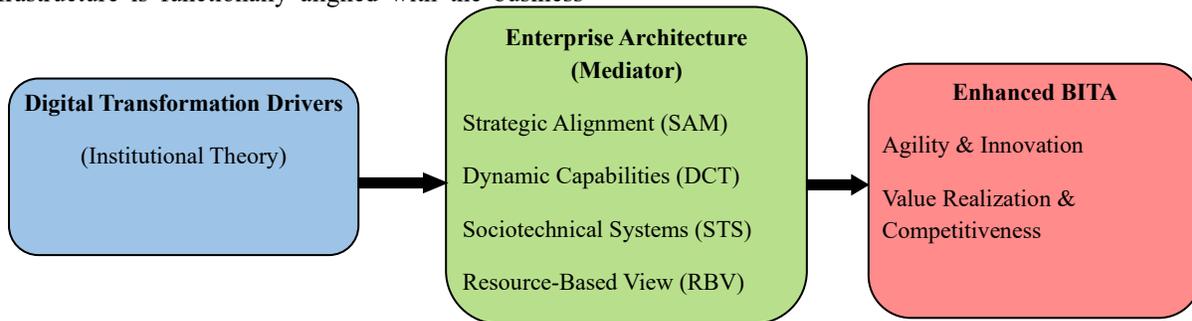


Fig. 2 Conceptual Framework for Research Model

The Above (Fig. 2) discusses how enterprise architecture should be served through a mediator between the digital transformation driver and enhanced for business in IT Alignment, which encompasses multiple frameworks. The Institutional theory primarily focuses on the external pressure driving digital initiatives, and the Strategic alignment model is used to ensure business alignment of IT strategies. Dynamic capability theory primarily focuses on how organizations adapt to innovation in response to various changing conditions. STS mainly describes the human, social, and technical dimensions, and RBV defines the effective use of organizational resources and capabilities. To combine all these frameworks complements each other and provides offers through a multi-lens perspective, followed by EA, which should absorb institutional pressure, align strategic priorities, and ensure sociotechnical balance and leverage resources.

3.2.1 Digital Transformation Drivers (Institutional Theory)

Transformative technologies, evolving consumer preferences, market competition, and even regulatory policies are all factors that prompt enterprises to rethink how IT supports the implementation of their business strategies. (Wang & Zhang, 2025). This phenomenon is illuminated by Institutional Theory, which argues external organizational constraints tend to shape the practices of organizations, driving them to adopt Enterprise Architecture to ensure they remain relevant, flexible, competitive, and sustain organizational integrity. In this case, digital transformation drivers are the socio-political and macroeconomic forces that necessitate higher Business-IT Alignment, or BITA. (Sun et al., 2025).

3.2.2 Enterprise Architecture (Mediator)

Enterprise Architecture (Fig 2) serves as the basic mediator that connects a business strategy with its supporting IT functions. Also known as ‘IT Architecture’ or ‘Enterprise Architecture Planning,’ EA employs a systematic approach to ensure technological expenditures in a company are in line with its business objectives, making EA an essential enabler in the context of digital transformation. EA’s mediating role is founded on a variety of different theories. The Strategic Alignment Model (SAM) illustrates how EA transforms strategic objectives into functional and strategic IT-enabled processes. Dynamic Capabilities Theory (DCT) focuses on the business EA’s role in responding to change by enhancing the identification of opportunities, innovative ideas, and the concept of resource reallocation, known as business flexibility. Sociotechnical Systems Theory (STS) emphasizes the integrative role of EA, where people, processes, and technology are seamlessly combined to ensure that digital transformation efforts are both technically sound and socially acceptable. The Resource-Based View (RBV) of EA IT focuses on viewing EA and IT capabilities as strategic resources that, when properly managed, can accrue sustained value and a competitive advantage. These diverse perspectives illustrate the various ways in which order can be maintained with EA in the background.

3.2.3 Enhanced Bita

The right side of the conceptual framework focuses on the outcomes expected from employing EA in relation to the

motivations for digital transformation. The pivotal objective is to achieve improved Business IT Alignment, which indicates that IT systems and capabilities fully support the business strategy and operational requirements. In addition to alignment, EA fosters increased organizational agility and innovation, enabling the business to quickly adapt to technological advances and market shifts, while also driving innovation in its offerings. EA also helps firms unlock value and remain competitive by enabling better resource allocation, increasing customer satisfaction, and maintaining strong performance over time. These outcomes illustrate the advantages EA provides, which is rooted in various theories, enabling firms to integrate IT with business processes and succeed in turbulent and complex digitally transformed environments. The overarching progression shown in the conceptual framework illustrates the flow from external factors to strategic outcomes. Institutional factors driving digital transformation create the need for alignment. EA serves as the intermediary that assimilates these factors into the systemic integration of business and IT. This process employs the Strategic Alignment Model, Dynamic Capabilities Theory, Sociotechnical Systems Theory, and the Resource-Based View. Proper application of EA facilitates improved BITA, enhanced flexibility, innovation, and sustained value creation. This comprehensive flow illustrates that the effectiveness of alignment and the success of the transformation are contingent upon the firm’s utilization of EA in balancing external requirements with internal goals and resources.

3.2.4 Theoretical Analysis Model

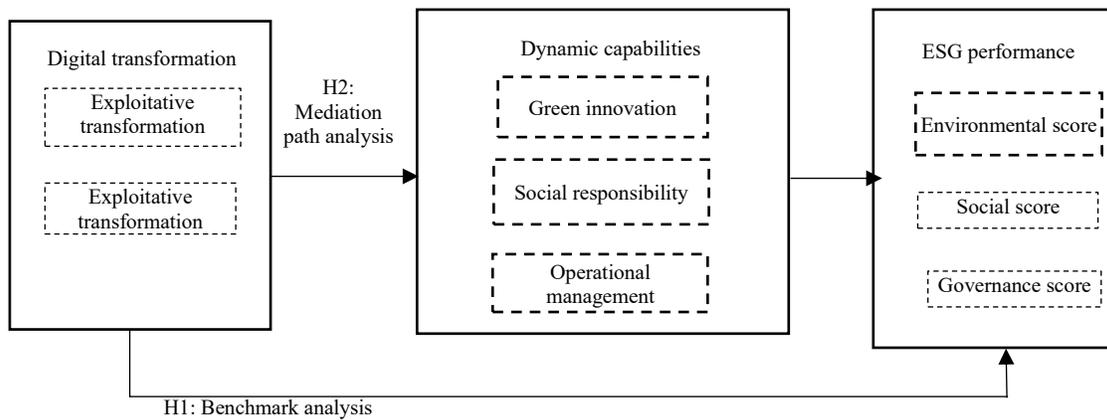


Fig. 3 Theoretical Analysis Model

The model Fig: 3 demonstrates the effect of skillful changes on performance within an organization. Organizational change initiatives are categorized into two types: exploitative transformation and explorative transformation. The former concentrates on the fine-tuning and optimization of prevailing processes, while the latter prioritizes innovation and the exploration of new ideas. Both of these approaches yield dynamic capabilities such as green innovation, social responsibility, and effective management. These competencies serve as intermediaries that enhance the connection between transformation initiatives and performance outcomes, evaluated across environmental,

social, and governance dimensions. The arrows reflect the hypothesized paths, with benchmark analysis focusing on direct links and mediation path analysis investigating the indirect impact of dynamic capabilities in connecting transformation efforts to organizational performance.

IV. METHODOLOGY

This study utilizes a mixed-methods approach, combining qualitative and quantitative techniques, to examine and reinforce theoretical frameworks about the role of Enterprise Architecture (EA) in enhancing Business-IT Alignment

(BITA) within the realm of digital transformation. A systematic literature review (SLR) of scholarly articles, books, and practitioner frameworks, such as TOGAF and Zachman, is performed to identify critical constructs and develop a conceptual model. The model integrates the Strategic Alignment Model (SAM), Dynamic Capabilities Theory (DCT), Sociotechnical Systems Theory (STS), Resource-Based View (RBV), and Institutional Theory to illustrate how EA links the factors driving digital transformation with organizational outcomes, including agility, innovation, and competitiveness. To explore the relationships between constructs and assess the strength of the conceptual framework, Structural Equation Modeling (SEM) is suggested for empirical validation. (Jasim & Mustafa, 2022; Wang & Zhang, 2025). The primary qualitative analysis included a methodological gap based on future studies to capture the organizational insights. The quantitative research primarily focused on SEM for validating the conceptual model. This provides the various offers to test the relationship between the current methodology and specifies the data collection design (Sample frame, population, data collection). Also, statistical analyses such as data cleaning, descriptive statistics, regression, hypothesis testing, and SEM were performed using SPSS to ensure the results are trustworthy and dependable. This methodology combines the synthesis of theories and modern statistical approaches, providing not only a robust conceptual framework but also adding empirical rigor, which facilitates both theoretical and practical contributions in the context of digital transformation.

4.1 Sample Demographic Information

TABLE I SAMPLE DEMOGRAPHIC INFORMATION

Demographic Information	
Gender	Male
	Female
Age Group	Below 25 Years
	25-34 Years
	35-44 Years
	45-54 Years
	55 Years and Above
Educational Qualification	Certificate
	Diploma
	Bachelor Degree
	Master Degree
	Doctoral Degree
Current role with the Organization	CEO/Top Management
	CIO/IT Director
	Business Manager/Department Head
	IT manager/System Architect
	Others
What is the size of your Organization	Micro (1-9 employees)
	Small (10-50 employees)
	Medium (51-250 employees)
	Large (251+ employees)
Experiences	1 to 2 Years
	3 to 5 Years
	6 to 15 Years
	Above 15 years

Income Status	RM10000
	RM 15000 to RM 20000
	RM 25000 to RM 30000
	Above RM 35000

The demographic characteristics of the responders, as detailed in TABLE I, encompass a broader spectrum, including gender, age, education, professional role, organizational size, work experience, and income level. There is a reasonable balance of younger and older respondents, as both male and female participants fall within the age range of 25 to over 55. With the responders holding educational qualifications ranging from certificates and diplomas to bachelor's, master's, and doctoral degrees, there is a diverse academic background among them. Survey responders also hold diverse organizational positions, which include, but are not limited to: CEOs, CIOs, business managers, and IT managers. This demonstrates that the study encompasses both strategic and operational perspectives. Micro, small, medium, and big businesses are represented, and professional experience ranges from 1-2 years to over 15 years, covering both early-career and highly seasoned experts. Finally, the variety in income levels indicates that the sample comprises individuals from diverse economic backgrounds, which helps us gain a clearer picture of the study population. This research primarily focused on the operating organization in Malaysia, using the Malaysian Ringgit as the currency for this study. Demographic information from the Malaysian enterprises across different operational sizes and roles was included in the data collection. This is the main logic for using it as a local currency.

4.2 Data Analysis & Interpretation

4.2.1 Objective-1

were found, particularly between organizational performance (v1), decision-making (v2), and market competitiveness (v3), implying that aligning IT strategy improves decision-making processes as well as the organization's ability to compete in the market. Also, financial performance (v6) and customer happiness (v7) are both strongly related to alignment, which means that better alignment leads to better financial results and a better customer experience. Better resource allocation (v4) and communication (v5) between IT and business teams make agility (v8) better, which makes the company more responsive to changes in the market. But several big problems were found, such as problems (v9) with alignment, people (v10) not wanting to change, and not having enough trained IT workers (v11), all of which make the alignment process harder. Equally important are a coherent strategy for digital transformation and enhanced cross-departmental collaboration for streamlining alignment processes. Alignment is greatly enhanced through the use of agile techniques. Overall, the analysis underscores the importance of strategic alignment between IT and business objectives in relation to organizational performance, identifying communication, resource allocation, and collaboration as

primary enabling factors, and change aversion as well as gaps in requisite skills as hurdles to success.

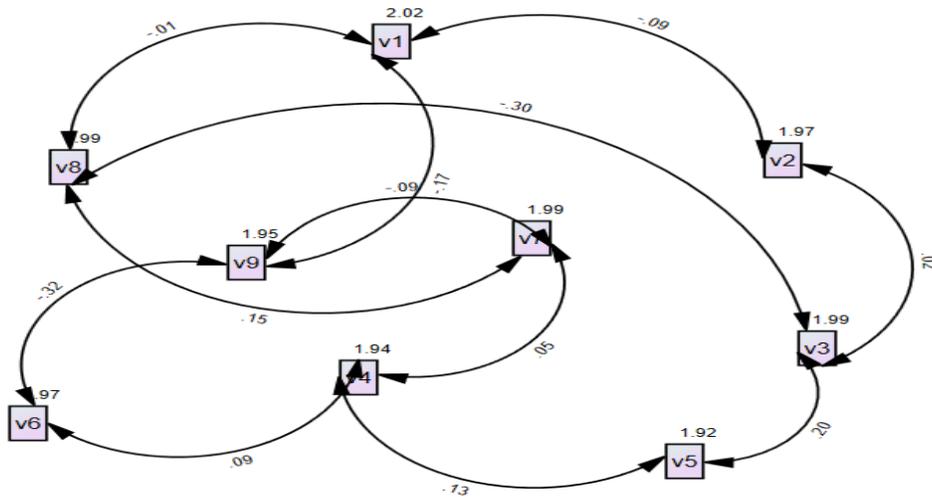


Fig. 4 SEM Analysis of Optimizing IT Strategy Alignment through

Organizational Behavior and Effective Solutions

The Structural Equation Modeling (SEM) (Fig 4) research reveals significant relationships between various components of aligning IT strategy with business goals and their impact on organizational performance. Strong positive connections

CMIN

TABLE II OUTPUT SUMMARY OF CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model (DM)	21	83.125	24	.000	3.464
Saturated model (SM)	45	.000	0		
Independence model (IM)	9	128.038	36	.000	3.557

To interpret TABLE II above, the Chi-Square Goodness of Fit (CMIN) provides some critical quantitative indicators on how well models integrate IT disciplines in strategic alignment with the business frameworks. The CMIN value for the Default model is 83.125 with 24 DF (p = 0.000). This model CMIN value is statistically significant. Also, the CMIN/DF ratio of 3.464 is within the acceptable range of 2 to 5, confirming a reasonable fit between model and data. For comparison, the Saturated model, which is a perfect fit, has a CMIN value of 0.000, indicating no residuals and thus an

optimal fit to the data. The Independence model, which suggests no relationship between the variables, has a CMIN of 128.038 with 36 DF, p=0.000, which is precisely what was expected, a good fit. The CMIN/DF ratio of 3.557, though still within the acceptable range, indicates the model is not performing as well as the Default model. In summary, the Default model's fit is good, making it the best for exploring the relationship between IT plans and business objectives. Conversely, the Independence model significantly underperforms the Default model.

4.2.2 Objective-2

Enterprise architecture (EA) (Fig 5) stands out in aligning IT with business objectives and enhances internal communication, decision-making, and operational effectiveness. EA helps optimize operational processes, reducing redundancy and accelerating the realization of IT solution value, with effectiveness ratings between 1.90 and 2.06. EA promotes IT investment alignment, nurtures business goal achievement, supports digital transformation, fosters the adoption of emerging technologies like AI and IoT, and supports evolving IT infrastructure needs. EA promotes interdepartmental collaboration, organizational adaptability, and responsiveness to market changes. This promotes effective digital transformation and business growth.

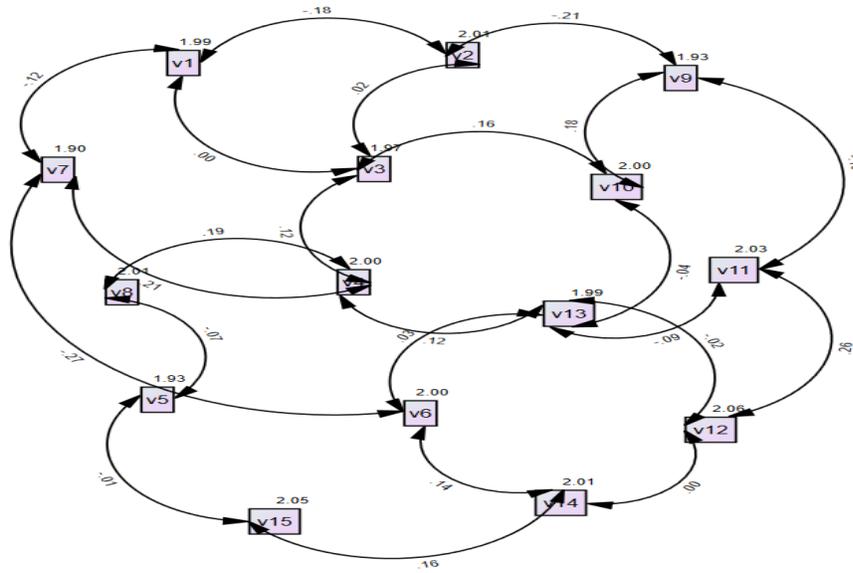


Fig. 5 SEM Analysis of Role of Enterprise Architecture (EA)

CMIN

TABLE III OUTPUT SUMMARY OF CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
DM	38	181.470	82	.000	2.213
SM	120	.000	0		
IM	15	241.332	105	.000	2.298

To interpret the above TABLE III represents the CMIN (Chi-Square Minimum) statistics, which show how well the model fits in structural equation modeling. The chi-square value for the Default Model is 181.470, which means it is statistically significant. It has 82 degrees of freedom (DF) and a p-value

of 0.000. The CMIN/DF ratio of 2.213 shows a moderate fit, as ratios between 2 and 3 usually mean an adequate fit. The Saturated Model has a CMIN of 0.000 and 0 degrees of freedom, indicating a perfect match to the data, as expected. The Independence Model, on the other hand, has a CMIN of 241.332, 105 degrees of freedom, and a p-value of 0.000, indicating a good fit. The CMIN/DF ratio for this model is 2.298, which is a little higher than the Default Model but still in the acceptable range. Overall, the Default Model provides a decent match, the Saturated Model entirely fits the data, and the Independence Model provides a less favorable, but still acceptable fit.

4.2.3 OBJECTIVE-3

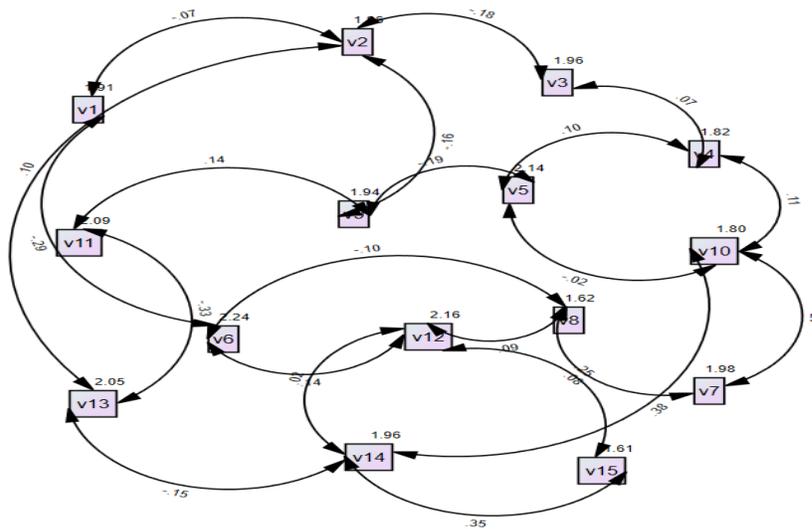


Fig. 6 SEM Analysis of Review and assess various theoretical models and frameworks.

The Strategic Alignment Model (SAM) (Fig. 6) has helped the company bridge the gap between its IT and business strategies, which is beneficial (V6: 2.24). Over time, alignment has improved, resulting in increased innovation and competitive advantage (V10: 1.80), as well as improved decision-making and resource allocation (V7: 1.62). Digital transformation frameworks have been successfully utilized to amalgamate technology with company strategies, hence enhancing organizational effectiveness (V3: 1.94, V8: 1.62). The corporation also routinely analyzes and improves its IT-business alignment strategy based on these theoretical frameworks (V4: 1.94), which helps it continually improve. However, there are still obstacles in adapting SAM and other theoretical models to real-world scenarios. These models fail to address the organization's structural complexities or the rapid changes in technology and market conditions, which is why they are not widely adopted (V13: -2.05), and people are resistant to embracing them (V12: -0.10, V14: -2.24). The organization also struggles to adapt these frameworks to its changing business demands and IT landscape, which makes it less flexible (V15: -1.96). Even with these problems, it's evident how SAM helps align business and IT (V5: 1.96), and the company still utilizes these frameworks to inform its strategic decisions.

The FMIN (TABLE IV) values indicate the extent to which the theoretical frameworks for using enterprise architecture to improve business-IT alignment align with the observed data during the digital transformation. The Default Model, which has an FMIN value of 0.600, shows that the frameworks utilized for alignment are a good fit for the organization's transformation initiatives. The F0 value of 0.434 further supports this by showing the observed fit statistic. The LO 90 and HI 90 values (0.336 and 0.548, respectively) illustrate the range in which the actual FMIN value may fall with 90% confidence, which means there is an opportunity for improvement. The Saturated Model value of 0.000, on the other hand, is a perfect fit but is only helpful as a comparison point. The Independence Model, with a higher FMIN value of 0.832, demonstrates a poor fit, underlining that theoretical frameworks cannot be effective without taking into account the interdependencies between business and IT alignment and enterprise architecture. We must consider these interdependencies to ensure more successful alignment and transformation, as the Default and Independence models differ significantly. In conclusion, the Default Model fits rather well, but there is still room for improvement to make sure that business and IT strategies work better together throughout digital transformation.

FMIN

TABLE IV OUTPUT SUMMARY OF FMIN

Model	FMIN	F0	LO 90	HI 90
DM	.600	.434	.336	.548
SM	.000	.000	.000	.000
IM	.832	.622	.504	.755

4.2.4 OBJECTIVE-4

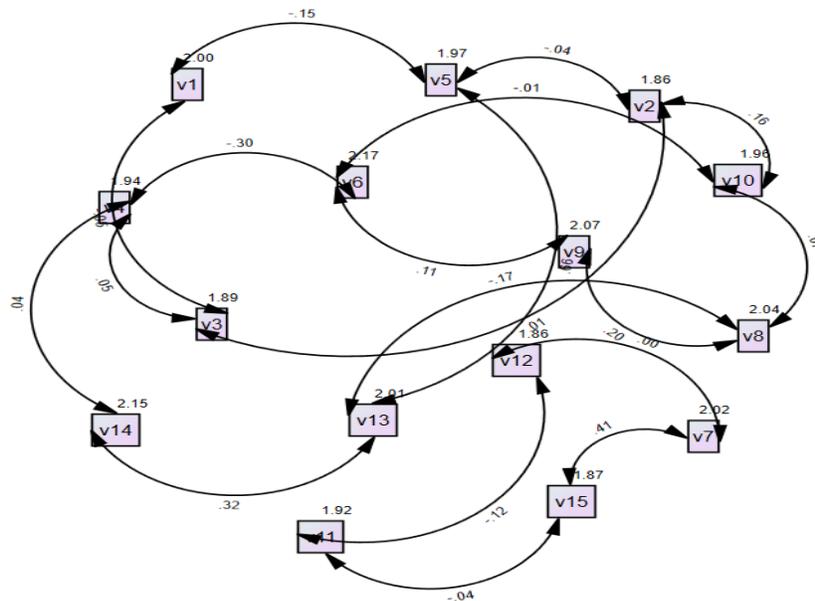


Fig. 7 SEM Analysis of Identify the Key Challenges

Fig. 7 presents a structural equation model featuring several key variables (V1 to V15) that influence the effective integration of IT and business during digital transformation. V1 (-.15) indicates that poor communication between IT and business leaders significantly hinders their ability to work together effectively. V2 (-.30) identifies resistance to change as a significant impediment to successful alignment, but V3 (2.00) demonstrates that technical improvements outpace the organization's capacity to align IT with changing business goals. V4 (-.17) indicates that company leaders lack sufficient skills and expertise in IT and digital transformation, exacerbating alignment problems. V5 (-.11) states that when business goals and IT capabilities don't align, it hinders digital transformation and reduces efficiency. V6 (1.89) emphasizes the importance of organizational culture, noting that a supportive culture facilitates effective teamwork. V7 (2.15) supports this by stating that an innovation-driven culture is ideal for integrating IT with business strategies. V8 (2.07) emphasizes the importance of senior management commitment, a necessity for successful digital transformation projects. V9 (-.17) views disengagement from IT and from business teams as a significant factor of misalignment. V10 (1.92) notes that working in silos impedes strategic alignment. V11 (1.86) suggests that frameworks such as the Strategic Alignment Model (SAM) support the intertwining of IT and business objectives. V12 (2.02) states that digital transformation frameworks like the Capability Maturity Model (CMM) aligns initiatives particularly well. V13 (2.01) proposes that a balance of formal frameworks and informal practical insights (for example, feedback loops) can help businesses sustain alignment over time. V14 (1.87) suggests that external IT business consultants or specialists can assist in identifying the most effective strategies for integrating business processes with IT. Finally, V15 (2.02) emphasizes the importance of Enterprise Architecture (EA) in offering

structure and clarity to digital transformation efforts and ensuring effective alignment of IT and business strategy. This approach emphasizes the multifaceted issue of the integration of business strategy with IT and illustrates the interplay of these IT and organizational factors to enhance performance.

CMIN

TABLE V OUTPUT SUMMARY OF CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
DM	34	443.177	86	.000	5.153
SM	120	.000	0		
IM	15	570.748	105	.000	5.436

To interpret TABLE V, the CMIN (Chi-Square Minimum) values for the models show how well they match the data. The Default Model has a CMIN value of 443.177 with 86 degrees of freedom, giving in a CMIN/DF ratio of 5.153, which is greater than the standard threshold of 3, suggesting that the model and data do not fit well together. This indicates that the model might not properly illustrate how the data is connected, so it needs to be changed more. The Saturated Model, which indicates a perfect match, has a CMIN of 0.000 and no degrees of freedom, suggesting that it completely reproduces the data but is unsuitable for practical study. Lastly, the Independence Model has a CMIN of 570.748 and 105 degrees of freedom. This means that it also has a CMIN/DF ratio of 5.436, indicating that it doesn't fit well, similar to the default model. This model doesn't take into account any connections between the variables, and the high CMIN/DF ratio shows that it doesn't fit the data very well. Overall, both the Default Model and Independence Model reveal poor fit, and while the Saturated Model verifies a perfect fit, it is not practical for real-world modeling, pointing to the need for further development of the models utilized.

4.2.5 Factor Analysis

TABLE VI OPTIMIZING IT STRATEGY ALIGNMENT THROUGH ORGANIZATIONAL BEHAVIOR AND EFFECTIVE SOLUTIONS

Alignment of IT Strategies	Aligning IT initiatives with business goals makes the organization work better. (V1)	2.02
	Aligning IT plans with business goals makes it easier for people in the company to make decisions.	1.97
	Businesses can get an advantage in the market by coordinating their information technology strategy with their overall plans. (V3)	1.99
	Aligning IT strategies with business goals has resulted in more effective resource allocation and prioritization.	1.94
	IT and business teams work closely together to align their strategies effectively. (V5)	1.92
Organizational Behavior	Aligning IT strategies with business goals has boosted financial performance. (V6)	0.97
	Matching IT strategies with business goals has led to improved customer satisfaction. (V7)	1.99
	Aligning IT with the business has made the organization more agile and responsive to market changes. (V8)	1.99
Challenges	Our organization faces major obstacles in syncing IT strategies with business goals. (V9)	1.95
	Resistance to change is a significant barrier to aligning IT and business strategies. (V10)	0.15
	The lack of skilled IT professionals hampers the alignment of IT strategies with business objectives. (V11)	0.2
Solution and Improvements	Creating a clear roadmap for digital transformation can improve alignment between IT and business strategies. (V12)	1.97
	Increased cross-functional collaboration between IT and business teams is essential for better alignment. (V13)	1.95
	The adoption of agile methodologies will help improve the alignment of IT strategies with business objectives. (V14)	1.92

The questionnaire demonstrates that aligning IT plans (TABLE VI) with business objectives improves organizational performance, decision-making, and competitiveness. But things like not wanting to change and not having enough trained IT workers make alignment harder. Creating a digital transformation strategy, encouraging cooperation across departments, and using agile methods are all thought to be important steps toward better aligning IT and business strategies.

The TABLE VII illustrates the role of Enterprise Architecture (EA) in facilitating digital transformation and highlights the importance of aligning IT plans with company objectives. According to respondents, EA is essential for making sure

that IT systems and business strategy are in sync (v1, v2). Enterprise Architecture, combined with facilitated alignment, enhances business strategy execution (V3). It provides a guarantee that IT expenditure aligns with business priorities (V4), which in turn improves communication between IT and business teams (V5). Following the term of efficacy, EA has been proven to analyze redundancies effectively (V6). Streamline process as (V7), decision making (V8), and resource use as (V10). EA facilitates the digital transformation through the adoption of new technologies (V12), thereby increasing the organization's flexibility (V13). This helps IT infrastructure grow by meeting the rising needs (V14) and encourages the department to connect through transformation projects (V15).

TABLE VII ROLE OF ENTERPRISE ARCHITECTURE (EA) IN ALIGNING BUSINESS STRATEGIES WITH IT SYSTEMS AND ITS EFFECTIVENESS IN STREAMLINING OPERATIONS, REDUCING INEFFICIENCIES, AND SUPPORTING DIGITAL TRANSFORMATION EFFORTS

Role of enterprise architecture	Our organization relies on Enterprise Architecture (EA) to ensure that IT strategies align with business goals.	1.99
	Our organization’s leadership views Enterprise Architecture (EA) as a critical component for aligning IT systems with business strategies. (v2)	2.04
	The alignment of IT strategies with business objectives through EA has led to more effective execution of business strategies. (v3)	1.97
	EA ensures IT investments align directly with business priorities.	2.00
	Communication between IT and business teams has improved due to the implementation of Enterprise Architecture (EA). (v5)	1.93
Effectiveness	Enterprise Architecture (EA) has been effective in reducing redundancies and inefficiencies in our IT infrastructure. (v6)	2.00
	Through EA, our organization has been able to streamline operations and improve coordination between IT and business functions. (v7)	1.90
	The implementation of EA has led to faster decision-making and more efficient use of resources. (v8)	2.08
	EA has contributed to reducing the time required to implement new IT solutions or changes in the organization. (v9)	1.93
	Enterprise Architecture (EA) has helped to identify and eliminate unnecessary IT investments, reducing operational costs. (v10)	2.00
Digital Transformation and Organizational Agility	Enterprise Architecture (EA) has been instrumental in supporting our organization’s digital transformation efforts. (v11)	2.03
	EA has helped our organization identify and integrate emerging technologies (e.g., AI, cloud, IoT) to drive digital transformation. (v12)	2.06
	The use of EA has enabled our organization to remain agile and responsive to market changes and customer demands. (v13)	1.99
	Through EA, our organization has been able to scale IT infrastructure to meet the increasing demands of digital transformation. (v14)	2.01
	EA has played a key role in improving collaboration across different departments (IT, business, and leadership) during digital transformation projects. (v15)	2.05

The TABLE VIII compares numerous theoretical models and frameworks for aligning IT and business strategies within an organization. Most people are familiar with and understand the SAM, which is used to analyze IT business operations.(V1, V5). The firm also employs specialized IT-business alignment theories to assist strategic decisions (V2), and digital transformation frameworks have been utilized to align business and IT objectives (V3) effectively. However, issues remain, such as the difficulties in adapting theoretical models to real-world contexts (V11) and the limitations of existing frameworks in dealing with the intricacies of the organization's structure. People also don't want to use these frameworks because they find them too complicated or struggle to understand them (V13). Even with these

problems, using theoretical frameworks has helped with making better decisions, allocating resources (V7), and coming up with new ideas (V10). However, it hasn't fully taken into consideration how quickly technology evolves or how company demands change (V14, V15). Though theoretical models have had some useful applications, the organization is encountering difficulties in adjusting them to its ever-changing surroundings.

The TABLE IX highlights some of the main challenges that arise when creating business plans that integrate with IT systems. Difficulty in communicating between IT and business leadership (V1) and aversion to change (V2) are two major obstacles to alignment in the digital transformation

process. A lack of understanding of information technology and digital transformation among company executives (V4) and the quickening speed of technical change (V3) both make alignment more difficult. When business goals and IT capabilities don't align (V5), tasks are completed less efficiently and take longer. Strong innovation culture (V7), dedication from senior management (V8), and collaboration amongst teams (V9) are essential success elements in solving these problems, which are influenced by organizational culture. But departments that work in silos (V10) also make

it harder to get everyone on the same page. Theoretical frameworks, including the Strategic Alignment Model (SAM) (V11) and digital transformation frameworks like the Capability Maturity Model (CMM) (V12), offer significant advice; nevertheless, a more pragmatic approach that integrates formal models with feedback loops (V13) is seen as exceptionally beneficial. To recruit outside consultants (V14) for analyzing the importance of corporate architecture (V15), which offers a good way to improve alignment.

TABLE VIII EXAMINE AND EVALUATE DIFFERENT THEORETICAL MODELS AND FRAMEWORKS

Theoretical Models and Frameworks	The Strategic Alignment Model (SAM) is widely understood and applied in our organization for aligning IT and business strategies. (V1)	1.91
	We have used specific IT-business alignment theories to guide our organization's strategic decisions. (V2)	1.90
	Digital transformation frameworks have been applied effectively to align business and IT Strategies in our organization. (V3)	1.96
	Our organization regularly reviews and updates its IT-business alignment strategies based on theoretical frameworks. (V4)	1.82
	There is a clear understanding of how theoretical models like SAM contribute to business and IT alignment across our organization. (V5)	2.14
Application and Effectiveness of Theoretical Frameworks	The Strategic Alignment Model (SAM) has significantly helped in bridging the gap between business and IT in our organization. (V6)	2.24
	IT-business alignment theories have provided a structured approach to improve decision-making and resource allocation in our organization. (V7)	1.98
	Digital transformation frameworks have guided the effective integration of technology with business strategies in our organization. (V8)	1.62
	The alignment between IT and business in our organization has been significantly improved through the adoption of theoretical frameworks. (V9)	1.94
	The use of theoretical models for business-IT alignment has led to more innovation and competitive advantage in our organization. (V10)	1.8
Challenges and Limitations of Theoretical Framework	There are challenges in applying theoretical models like SAM and other IT-business alignment theories to real-world organizational contexts. (V11)	2.09
	Theoretical frameworks for digital transformation often do not fully address the complexities and unique challenges of our organization's structure. (V12)	2.16
	There is resistance to adopting theoretical models for IT-business alignment within our organization due to a lack of understanding or perceived complexity. (V13)	2.05
	Theoretical frameworks for business-IT alignment do not sufficiently account for rapid changes in technology and market conditions in our organization. (V14)	1.96
	Our organization struggles to adapt existing theoretical models to meet our evolving business needs and IT landscape. (V15)	1.61

TABLE IX IDENTIFY THE KEY CHALLENGES

Business Strategy Alignment	Lack of clear communication between IT and business leadership is a significant challenge in aligning IT strategies with business objectives. (V1)	2.00
	Resistance to change within the organization hinders the successful alignment of IT and business strategies during digital transformation efforts. (V2)	1.86
	The pace of technological advancements outpaces the organization's ability to align IT with evolving business goals. (V3)	1.89
	Inadequate skills or knowledge of IT and digital transformation among business leaders is a major barrier to alignment. (V4)	1.94
	Misalignment of business priorities and IT capabilities leads to inefficiencies and delays in digital transformation initiatives. (V5)	1.97
Organizational Culture	Organizational culture plays a significant role in achieving alignment between IT and business strategies. (V6)	2.17
	The culture of innovation within our organization supports the alignment of IT strategies with business objectives. (V7)	2.02
	Top management's commitment to IT-business alignment through digital transformation initiatives is crucial for success. (V8)	2.04
	There is a lack of collaboration between business and IT teams, which results in poor alignment and execution of digital transformation strategies. (V9)	2.07
	IT and business departments in our organization often operate in silos, making it difficult to align strategies effectively. (V10)	1.96
Theoretical Insights	Theoretical frameworks such as the Strategic Alignment Model (SAM) provide valuable insights for bridging the gap between IT and business strategies. (V11)	1.92
	Digital transformation frameworks, like the Capability Maturity Model (CMM), are effective tools for guiding businesses in aligning their IT and business strategies. (V12)	1.86
	Using a combination of formal models and practical insights (e.g., feedback loops, iterative assessments) can help businesses continuously align IT and business strategies. (V13)	2.91
	Engaging external consultants or industry experts to advise on best practices for aligning IT and business strategies is an effective solution. (V14)	2.15
	The role of enterprise architecture (EA) in aligning IT and business strategies should be more strongly emphasized to provide structure and clarity for digital transformation initiatives. (V15)	1.87

V. DISCUSSION

EA (Enterprise Architecture) is essential for ensuring that IT systems are aligned with business goals through digital transformation. The above diagram analyzes the various IT components that collaborate with the different business functions. This enables people to make better decisions, leading to IT investments that directly support the business goals. EA continuously helps to improve the business IT strategies, followed by the dynamic relation that consists of nodes and arrows. This helps address the various issues related to communication gaps and resistance to change. These types of frameworks are supported by theoretical knowledge, as seen in the strategic alignment model and capability maturity model, which ensure that business and IT programs align through technological improvements. Most organizations are successful in implementing effective IT administration driven by digital transformation, which also enhances their competitive edge through the use of EA-enabled systems.

VI. CONCLUSION

Most of the organizational analysis of the digital transformation, followed by the digital age, helps achieve effective business IT-Alignment (BITA). As a developing technology, new business models and customer expectations help to increase the gap between the strategic goals and the IT capabilities. Enterprise Architecture is a crucial component in addressing various challenges, providing a formal framework for unique business needs in IT. Following the current technology, there is a contribution to the enhancement of BITA, which is frequently analyzed through technical or administrative dimensions instead of using integrated theoretical perspectives. This research primarily integrates key theoretical frameworks, including the strategic alignment model, dynamic capability theory, and the sociotechnical system. These theories provide a holistic approach to Enterprise Architecture, enhancing business information technology alignment in dynamic contexts. This research primarily aimed to improve academic understanding and provide practical ideas for applying the EA technique to promote agility, creativity, and value creation. It's also an analysis of the theoretical linkage and provides related insights for an actionable device. This also highlights the EA's strategic role in analyzing the business level through digital transmission of the completion.

REFERENCES

- [1] Ahriz, S., Benmoussa, N., El Yamami, A., Mansouri, K., & Qbadou, M. (2018). An Elaboration of a Strategic Alignment Model of University Information Systems based on SAM Model. *Engineering, Technology & Applied Science Research*, 8(1), 2471-2476. <https://doi.org/10.48084/etasr.1696>
- [2] Alghamdi, H. (2024). Assessing the impact of enterprise architecture on digital transformation success: A global perspective. *Sustainability*, 16(20), 8865. <https://doi.org/10.3390/su16208865>
- [3] Andriushchenko, K., Buriachenko, A., Rozhko, O., Lavruk, O., Skok, P., Hlushchenko, Y., ... & Kondarevych, V. (2020). Peculiarities of sustainable development of enterprises in the context of digital transformation. *Entrepreneurship and sustainability issues*, 7(3), 2255. [http://doi.org/10.9770/jesi.2020.7.3\(53\)](http://doi.org/10.9770/jesi.2020.7.3(53))
- [4] Anthony Jnr, B. (2021). Managing digital transformation of smart cities through enterprise architecture—a review and research agenda. *Enterprise Information Systems*, 15(3), 299-331. <https://doi.org/10.1080/17517575.2020.1812006>
- [5] Arasuraja, G. (2025). Integrating Digital Transformation in Global Marketing Strategies: A Data-Driven Approach to Business Management and Accounting Analytics. *Global Perspectives in Management*, 3(3), 12-17.
- [6] Avison, D., Jones, J., Powell, P., & Wilson, D. (2004). Using and validating the strategic alignment model. *The Journal of Strategic Information Systems*, 13(3), 223-246. <https://doi.org/10.1016/j.jsis.2004.08.002>
- [7] Beese, J., Haki, K., Schilling, R., Kraus, M., Aier, S., & Winter, R. (2023). Strategic alignment of enterprise architecture management—how portfolios of control mechanisms track a decade of enterprise transformation at Commerzbank. *European journal of information systems*, 32(1), 92-105. <https://doi.org/10.1080/0960085X.2022.2085200>
- [8] Bhattacharya, P. (2018). Aligning enterprise systems capabilities with business strategy: An extension of the strategic alignment model (SAM) using enterprise architecture. *Procedia computer science*, 138, 655-662. <https://doi.org/10.1016/j.procs.2018.10.087>
- [9] Busch, N. R., & Zalewski, A. (2025). A systematic literature review of enterprise architecture evaluation methods. *ACM Computing Surveys*, 57(5), 1-36. <https://doi.org/10.1145/3706582>
- [10] Chauhan, P., & Bhatia, A. D. (2025). Digital Transformation in Public Sector ICT: A Case Study-Based Comparative Analysis. *International Academic Journal of Innovative Research*, 12(3), 27-32. <https://doi.org/10.71086/IAJIR/V12I3/IAJIR1222>
- [11] Demlehner, Q., & Laumer, S. (2020). Why context matters: Explaining the digital transformation of the manufacturing industry and the role of the industry's characteristics in it. *Pacific Asia Journal of the Association for Information Systems*, 12(3), 3. <https://doi.org/10.17705/1pais.12303>
- [12] Glaser, P. L., Sallinger, E., & Bork, D. (2025). The extended EA ModelSet—a FAIR dataset for researching and reasoning enterprise architecture modeling practices. *Software and Systems Modeling*, 1-19.
- [13] Goerzig, D., & Bauernhansl, T. (2018). Enterprise architectures for the digital transformation in small and medium-sized enterprises. *Procedia Cirp*, 67, 540-545. <https://doi.org/10.1016/j.procir.2017.12.257>
- [14] Hartl, E. (2019, August). A Characterization of Culture Change in the Context of Digital Transformation. In *AMCIS*. 1-10.
- [15] Henderson, J. C., & Venkatraman, N. (1994). Strategic alignment: a model for organizational transformation via information technology. 202-220. <https://doi.org/10.1093/oso/9780195068061.003.0009>
- [16] Jasim, B. M., & Mustafa, A. A. (2022). The Impact of Green Transformational Leadership on Developing the Performance of Green Products: A Field Study. *International Academic Journal of Social Sciences*, 9(2), 194-201. <https://doi.org/10.9756/IAJSS/V9I2/IAJSS0928>
- [17] Kaidalova, J., Kurt, S., & Ulf, S. (2018). How digital transformation affects enterprise architecture management—a case study. *International Journal of Information Systems and Project Management*, 6(3), 5-18.
- [18] Kotusev, S., & Kurnia, S. (2021). The theoretical basis of enterprise architecture: A critical review and taxonomy of relevant theories. *Journal of Information Technology*, 36(3), 275-315. <https://doi.org/10.1177/0268396220977873>
- [19] Nhabomba, A., Alturas, B., & Alexandre, I. M. (2025). Enterprise Architecture Assessment and User Satisfaction Model Estimate in Statistical Organizations of African Countries. *The Electronic Journal of Information Systems in Developing Countries*, 91(5), e70028. <https://doi.org/10.1002/isd2.70028>

- [20] Nie, Y., & Liu, F. (2024). Visual Inheritance in the Digital Age: Image Reconstruction of Shanghai Time-Honored Cosmetics Brands Under the Influence of Internet of Things. *J. Internet Serv. Inf. Secur.*, 14(4), 224-233. <https://doi.org/10.58346/JISIS.2024.I4.013>
- [21] Nosova, S., Norkina, A., Makar, S., & Fadeicheva, G. (2021). Digital transformation as a new paradigm of economic policy. *Procedia Computer Science*, 190, 657-665. <https://doi.org/10.1016/j.procs.2021.06.077>
- [22] Odionu, C. S., Adepoju, P. A., Ikwuanusi, U. F., Azubuike, C., & Sule, A. K. (2024). The role of enterprise architecture in enhancing digital integration and security in higher education. *International Journal of Engineering Research and Development*, 20(12), 392-398.
- [23] Pancote, A., Souza, A., & Veiga, C. P. D. (2025). Enterprise architecture and building blocks: steering digital transformation in dynamic environments. *Kybernetes*. <https://doi.org/10.1108/K-02-2024-0444>
- [24] Pattij, M., van de Wetering, R., & Kusters, R. (2022). Enhanced digital transformation supporting capabilities through enterprise architecture management: A fsQCA perspective. *Digital Business*, 2(2), 100036. <https://doi.org/10.1016/j.digbus.2022.100036>
- [25] Rehman, Z., Tariq, N., Moqurrab, S. A., Yoo, J., & Srivastava, G. (2024). Machine learning and internet of things applications in enterprise architectures: Solutions, challenges, and open issues. *Expert Systems*, 41(1), e13467. <https://doi.org/10.1111/exsy.13467>
- [26] Sadeghi, K. (2018). Virtualization and encapsulation dynamic e-business services in a service-oriented architecture. *International Academic Journal of Science and Engineering*, 5(1), 163-169. <https://doi.org/10.9756/IAJSE/V5I1/1810015>
- [27] Slaiby, W., Bejjani, G., & Noun, R. (2025). Business Management in the Era of Distributed Networks: Enhancing Organizational Performance and Innovation in Virtual Teams. *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications*, 16(2), 535-545. <https://doi.org/10.58346/JOWUA.2025.I2.032>
- [28] Sun, Z., Zhao, L., Mehrotra, A., Salam, M. A., & Yaqub, M. Z. (2025). Digital transformation and corporate green innovation: An affordance theory perspective. *Business Strategy and the Environment*, 34(1), 433-449. <https://doi.org/10.3390/systems13010043>
- [29] Tamm, T., Seddon, P. B., & Shanks, G. (2022). How enterprise architecture leads to organisational benefits. *International journal of information management*, 67, 102554. <https://doi.org/10.1016/j.ijinfomgt.2022.102554>
- [30] Vigren, O., & Eriksson, K. (2025). A multilayer network model for studying business ecosystems: insights from enterprise architectures in the real estate sector. *Journal of European Real Estate Research*, 18(1), 170-191. <https://doi.org/10.1108/JERER-04-2024-0027>
- [31] Wang, S., & Zhang, H. (2025). Digital transformation and innovation performance in small-and medium-sized enterprises: A systems perspective on the interplay of digital adoption, digital drive, and digital Culture. *Systems*, 13(1), 43. <https://doi.org/10.3390/systems13010043>
- [32] Wang, X., Zhang, Z., & Chun, D. (2025). Resource Bricolage, Digital Transformation, and Business Model Innovation: Based on the Conditional Process Analysis of Entrepreneurship. *Systems*, 13(5), 355. <https://doi.org/10.3390/systems13050355>
- [33] Zhang, Q., Wu, P., Li, R., & Chen, A. (2024). Digital transformation and economic growth Efficiency improvement in the Digital media era: Digitalization of industry or Digital industrialization?. *International Review of Economics & Finance*, 92, 667-677. <https://doi.org/10.1016/j.iref.2024.02.010>