International Journal of Management and Organizational Research

Advances in Digital Transformation Strategy Through IT-Business Alignment in Growth Enterprises

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Article Info

ISSN (online): 2583-6641
Volume: 02
Issue: 02
March-April 2023
Received: 02-02-2023
Accepted: 05-03-2023
Page No: 151-164

Abstract
In today's rapidly evolving business landscape, digital transformation has become a strategic imperative for growth enterprises seeking to enhance operational efficiency, improve customer experiences, and drive innovation. However, the successful execution of digital transformation initiatives hinges on the alignment between Information Technology (IT) and business objectives. This alignment ensures that technological investments directly support organizational goals and contribute to sustainable growth. Despite the significant attention given to digital transformation, there remains a gap in understanding the best practices and frameworks for achieving optimal IT-business alignment in growing enterprises. This explores recent advances in digital transformation strategies, with a focus on the role of IT-business alignment in driving business success. It examines the emerging trends in aligning IT initiatives with business goals, including agile methodologies, cloud adoption, data-driven decision-making, and the integration of Artificial Intelligence (AI) and Internet of Things (IoT) technologies. By reviewing case studies of growth enterprises, this highlights the critical factors that contribute to successful IT-business alignment, such as leadership commitment, cross-functional collaboration, and continuous adaptation to market changes. Additionally, this delves into the challenges faced by enterprises in achieving seamless integration between IT and business strategies, including resource constraints, organizational silos, and the complexity of managing legacy systems alongside new digital tools. The findings underscore the importance of a dynamic approach to alignment that evolves with technological advancements and business priorities. Ultimately, this research provides valuable insights for growth enterprises looking to refine their digital transformation strategies. It offers actionable recommendations on fostering stronger IT-business alignment, emphasizing its pivotal role in ensuring the long-term success of digital initiatives and driving competitive advantage in an increasingly digital world.

DOI: https://doi.org/10.54660/IJMOR.2023.2.2.151-164

Keywords: Advances, Digital transformation, Strategy, IT-business, Alignment, Growth enterprises

1. Introduction

Digital transformation has become a critical driver of success in modern businesses. It refers to the integration of digital technologies into all areas of a business, fundamentally changing how companies operate and deliver value to customers (Owobu*et al*., 2021; Ohei*et al*., 2023). The advent of technologies such as cloud computing, artificial intelligence (AI), data analytics, and the Internet of Things (IoT) has created opportunities for organizations to streamline operations, enhance customer engagement, and innovate faster. For growth enterprisesthose expanding rapidly or entering new marketsdigital transformation is essential to staying competitive and meeting the demands of a digital-first world (Owobu*et al*., 2021; Ojika*et al*., 2023).

However, the successful implementation of digital transformation strategies is not merely about adopting new technologies. It requires a strong alignment between Information Technology (IT) and business strategies (OJIKA*et al*., 2023). IT-business alignment ensures that technological investments are directly aligned with the organization's overall business objectives, enabling seamless integration and optimizing business outcomes. For growth enterprises, this alignment becomes increasingly important as they scale, manage more complex operations, and engage with a broader customer base (Nyangoma*et al*., 2023; Uzozie*et al*., 2023). Achieving this alignment is crucial to ensuring that IT investments contribute to driving business growth, rather than becoming a source of inefficiency or disconnected silos.

Growth enterprises face numerous challenges when it comes to adopting and executing digital transformation strategies. While large organizations may have the resources and established processes to support transformation, growth enterprises often encounter resource constraints, organizational resistance to change, and a lack of expertise in effectively managing digital initiatives (Onukwulu*et al*., 2023; Ogbuagu*et al*., 2023). Moreover, the rapid pace of technological advancement often leaves these enterprises struggling to prioritize the right technologies and adapt to evolving business needs.

Despite these challenges, one key factor that can significantly enhance the success of digital transformation efforts is the alignment between IT and business strategies. When IT and business functions work together toward common goals, it becomes easier to prioritize initiatives, manage risks, and ensure that technology investments directly support business objectives. However, achieving and maintaining this alignment is a continuous process, requiring clear communication, strong leadership, and an adaptive mindset (Collins*et al*., 2022; Alonge*et al*., 2023). This seeks to explore how growth enterprises can overcome the barriers to successful digital transformation through effective IT-business alignment, thereby ensuring that their transformation strategies lead to measurable and sustainable success.

The primary objective of this review is to explore recent advancements in digital transformation strategies through the lens of IT-business alignment. As digital transformation becomes more complex and integral to business success, understanding how IT-business alignment contributes to achieving transformation goals is crucial for growth enterprises. This research will examine how alignment strategies have evolved in response to new technologies and business demands, and how enterprises can leverage these advancements to improve their digital transformation efforts. Additionally, this aims to investigate how growth enterprises can enhance their digital transformation capabilities through better alignment between IT and business strategies. It will focus on identifying the key enablers of alignment, such as leadership involvement, organizational culture, and cross-functional collaboration, while also addressing the potential challenges faced by organizations during this process. By understanding the intersection of IT and business strategy, this research will provide actionable insights and recommendations for growth enterprises to refine their digital transformation strategies and improve their overall performance in a digital-first economy.

As businesses strive to adapt and thrive in an increasingly digital world, the alignment between IT and business strategies will continue to be a pivotal factor in the success of digital transformation efforts (Bristol-Alagbariya*et al*., 2022; Hassan*et al*., 2023). Thisseeks to contribute to the growing body of knowledge on digital transformation by providing a comprehensive examination of how IT-business alignment can be optimized in growth enterprises.

2. Methodology

The PRISMA methodology was employed to systematically review the advances in digital transformation strategy through IT-business alignment in growth enterprises. A comprehensive search was conducted across multiple databases, including Scopus, IEEE Xplore, and Google Scholar, focusing on peer-reviewed journal articles, conference proceedings, and technical reports. The search strategy incorporated relevant keywords such as "digital transformation," "IT-business alignment," and "growth enterprises" to capture studies that explore how IT-business alignment contributes to the successful digital transformation of growing businesses.

Inclusion criteria for the studies were set to select publications that provided empirical evidence or conceptual frameworks on the relationship between IT-business alignment and digital transformation strategies within growth enterprises. Articles published between 2010 and 2024 were included to ensure the relevance and timeliness of the findings. Studies that discussed either the theoretical or practical application of alignment strategies in medium to large enterprises undergoing digital transformation were prioritized.

Exclusion criteria involved discarding publications not directly focused on IT-business alignment or those that addressed digital transformation in the context of small or non-growth enterprises. Literature that lacked empirical data, case studies, or provided minimal insights into the strategic integration of IT and business operations was also excluded.

A total of 230 articles were identified through the initial search. After screening titles and abstracts for relevance, 98 articles were retained for full-text review. Duplicates and studies that did not meet the inclusion criteria were removed, resulting in 65 studies being analyzed. Data from these studies were extracted using a standardized form, and the findings were synthesized to identify key trends, challenges, and strategies in aligning IT and business for digital transformation in growth enterprises.

The results of the review indicated that successful IT-business alignment significantly contributes to the effective implementation of digital transformation strategies in growing enterprises. Key factors influencing this alignment included leadership commitment, organizational culture, and IT infrastructure adaptability. The synthesis of findings suggests that the integration of digital technologies with business strategy is not a one-time event but an ongoing process that requires continuous alignment and adaptation to market dynamics.

This systematic review adheres to the PRISMA guidelines by ensuring a transparent and reproducible methodology for selecting, reviewing, and synthesizing relevant studies. The results provide valuable insights for both practitioners and researchers in understanding the strategic importance of IT-business alignment in fostering digital transformation success in growing enterprises.

2.1 Conceptual Framework

Digital transformation has become a fundamental driver of business success, particularly for growth enterprises that must continuously evolve to stay competitive (Nyangoma*et al*., 2023; Bristol-Alagbariya*et al*., 2023). A robust conceptual framework for understanding digital transformation and its integration with IT-business alignment is crucial to ensure these enterprises can navigate technological advancements while adapting their business models, processes, and cultures. This framework addresses three critical areas: the definition of digital transformation, the theoretical underpinnings of IT-business alignment, and the importance of alignment in fostering growth.

Digital transformation refers to the integration of digital technologies into all aspects of business operations, fundamentally altering how businesses deliver value to customers, engage with stakeholders, and operate internally (Okolie*et al*., 2021; Ojika*et al*., 2023). This process is not just about adopting new technologies, but also about transforming organizational culture, business models, and processes to leverage the potential of digital tools.

Key components of digital transformation include technologies like cloud computing, artificial intelligence (AI), and the Internet of Things (IoT). Cloud computing enables businesses to scale their IT infrastructure rapidly and access computing resources on-demand, providing the flexibility to support dynamic business needs. AI contributes to digital transformation by automating processes, analyzing large datasets for decision-making, and enhancing customer experiences. IoT connects physical devices to the internet, offering real-time data insights that help businesses optimize operations and improve customer interactions (Jutaand Olutade, 2021; Ogbuagu*et al*., 2023).

The transformation of business models, processes, and culture is equally important. Business models shift from traditional approaches to digital-first strategies, where customer experience and data-driven decision-making become central. Processes become more agile and efficient, leveraging automation and digital tools for faster execution. Organizational culture must also evolve, fostering a mindset of innovation, collaboration, and adaptability to thrive in a digital environment.

IT-business alignment refers to the strategic synchronization between an organization's IT capabilities and its business goals, ensuring that technology supports and drives business objectives (Hamza*et al*., 2023; Nyangoma*et al*., 2023). This concept has been integral to organizational success for decades and continues to evolve as the role of technology becomes more pervasive.

Historically, IT-business alignment emerged from the realization that IT and business functions must collaborate to maximize value. Initially, IT was viewed as a separate, support function, but as digital technologies have become central to business operations, alignment has evolved into a more strategic priority. Early theories of IT-business alignment were largely concerned with ensuring that IT supported business goals without necessarily driving innovation or transformation.

One of the key theories in IT-business alignment is the Strategic Alignment Model (SAM) developed by Henderson and Venkatraman in 1993. This model underscores the importance of aligning four key domains: business strategy, IT strategy, organizational infrastructure and processes, and IT infrastructure and processes. SAM posits that alignment across these areas leads to improved performance, greater flexibility, and better decision-making. It highlights that businesses must not only align IT with business objectives but also integrate IT into the strategic fabric of the organization to unlock its full potential (Onukwulu*et al*., 2022; Aniebona*et al*., 2023).

In practice, IT-business alignment requires continuous communication between IT departments and business units to ensure that technological investments are strategically aligned with business priorities. Tools like enterprise architecture frameworks and alignment assessment models are commonly used to evaluate and improve alignment.

For growth enterprises, effective IT-business alignment is critical for fostering business agility, driving innovation, and maintaining a competitive advantage. Growth enterprises typically face a unique set of challenges, including the need to scale rapidly, manage changing customer demands, and differentiate themselves in increasingly competitive markets. Proper alignment between IT and business strategies enables these enterprises to leverage digital technologies effectively and respond to market dynamics (Aniebona*et al*., 2022; Okolie*et al*., 2023).

Business agility is one of the most significant benefits of IT-business alignment. When IT systems are aligned with business goals, organizations can quickly adapt to changes in the market or operational environment. This agility is essential for growth enterprises that need to innovate rapidly, launch new products, or enter new markets. The alignment ensures that technology investments are not only in place to support daily operations but also to facilitate swift changes and innovations.

Innovation is another area where alignment plays a pivotal role. IT-business alignment enables growth enterprises to leverage emerging technologies like AI, cloud computing, and IoT to develop innovative products, services, and solutions. When IT is closely aligned with business strategies, IT departments can contribute more strategically to innovation, helping businesses to anticipate trends, improve customer experiences, and differentiate from competitors (Alonge*et al*., 2023; Adepoju*et al*., 2023).

Competitive advantage is deeply intertwined with effective alignment. In the digital age, businesses that can harness technology to improve efficiency, customer satisfaction, and innovation are better positioned to outperform competitors. IT-business alignment ensures that technology investments are made with a long-term perspective, fostering sustainable growth and enabling the business to stay ahead of the curve.

The conceptual framework for understanding digital transformation and IT-business alignment in growth enterprises highlights the transformative power of digital technologies and the strategic importance of aligning IT with business goals. As growth enterprises continue to embrace digital transformation, IT-business alignment will remain central to their ability to innovate, scale, and compete effectively in an ever-changing market (Ikwuanusi*et al*., 2022; Bristol-Alagbariya*et al*., 2022).

2.2 Advances in digital transformation strategies

Digital transformation represents the profound changes organizations undergo by adopting digital technologies to enhance business models, operations, and customer interactions. The shift toward digitalization is propelled by technological advances that reshape industries, making IT a central driver of this transformation as shown in figure 1. As

businesses strive to remain competitive and innovative, it is essential to understand how IT contributes to this evolution, the role of emerging technologies, and the adoption of new methodologies such as Agile and DevOps (Odionu*et al*., 2022; Ikwuanusi*et al*., 2023). In this essay, we will explore the advances in digital transformation strategies with a focus on the role of IT, emerging technologies, digital ecosystems, and platform models, as well as Agile and DevOps methodologies.

Information Technology (IT) plays a pivotal role in digital transformation, serving as the backbone that enables various digital capabilities essential for business modernization. IT infrastructure and systems, including cloud platforms, data analytics, and integrated technologies, are at the core of transforming business processes.

Cloud computing, for instance, is one of the most significant IT advancements enabling digital transformation. Cloud platforms such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud provide businesses with scalable infrastructure, reducing the need for on-premises hardware (Hassan*et al*., 2021; Adepoju*et al*., 2022). These platforms offer flexible storage solutions, computational power, and various services that facilitate faster deployment and lower operational costs. By shifting to the cloud, organizations gain access to real-time data and can rapidly adapt to market demands.

Data analytics is another vital component, empowering businesses to gain actionable insights from vast amounts of structured and unstructured data. IT systems enable data collection, processing, and visualization, which help companies make informed decisions, optimize operations, and tailor offerings to customer needs. With the help of business intelligence (BI) tools and data analytics platforms, enterprises can enhance operational efficiency and improve customer experience by understanding patterns and trends (Olutade, 2020; Alonge*et al*., 2021).

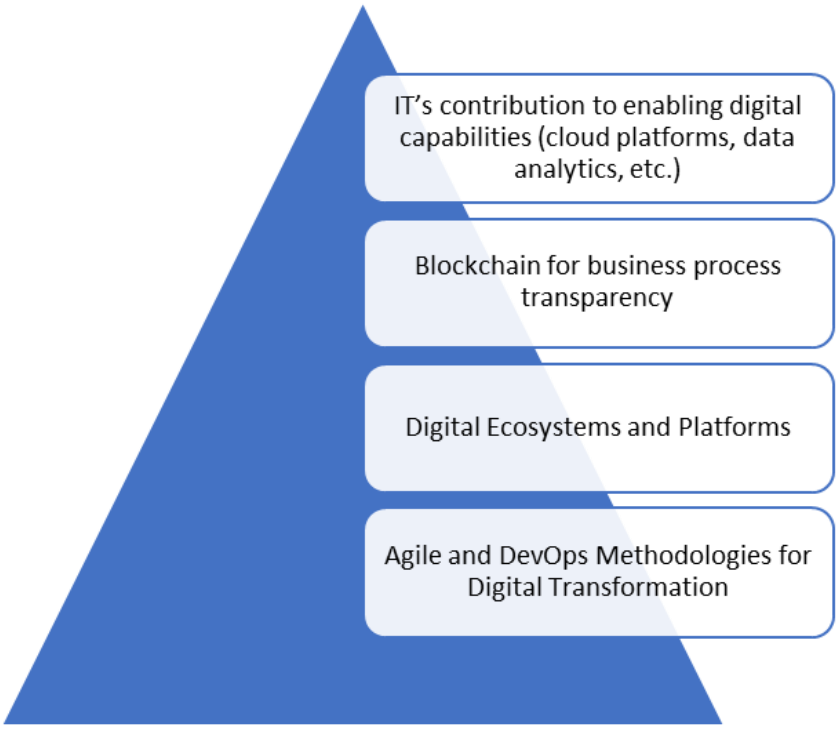

Fig 1: Advances in Digital Transformation Strategies

Moreover, IT enhances customer experience by leveraging technologies such as Customer Relationship Management (CRM) systems and AI-driven personalization engines. These technologies help businesses track customer behavior, predict needs, and offer tailored solutions in real time, thus improving engagement and satisfaction. Additionally, IT streamlines operational workflows, reduces manual tasks, and boosts productivity through automation, enabling companies to deliver faster and more efficient services.

The integration of emerging technologies such as Artificial Intelligence (AI), machine learning (ML), blockchain, and the Internet of Things (IoT) plays a critical role in advancing digital transformation (Collins*et al*., 2022; Hassan*et al*., 2023). These technologies offer new ways for businesses to optimize operations, ensure transparency, and deliver innovative products and services.

AI and machine learning have become integral to digital transformation. AI-driven systems can analyze complex datasets and make decisions that were previously beyond human capabilities. AI also powers chatbots, recommendation systems, and personalized marketing campaigns, driving enhanced customer engagement and improving decision-making. The continual evolution of AI allows businesses to innovate and adapt to changing conditions rapidly.

Blockchain, known for its decentralized and secure nature, is revolutionizing business processes by enhancing transparency and security. In industries such as finance, supply chain management, and healthcare, blockchain provides a trusted, immutable record of transactions and interactions. By adopting blockchain, businesses can reduce fraud, streamline processes, and ensure the integrity of data shared across multiple stakeholders (OJIKA*et al*., 2021; Onukwulu*et al*., 2022). This technology is particularly valuable for businesses seeking to create trust and accountability in a digital ecosystem.

The Internet of Things (IoT) is another technology transforming businesses by enabling the collection and

exchange of real-time data through connected devices. IoT allows organizations to monitor and control assets remotely, improving operational insights and efficiency. Similarly, IoT applications in smart cities, healthcare, and logistics provide valuable insights into resource management, customer behavior, and operational performance.

The rise of digital ecosystems and platform-based business models has significantly altered how organizations approach value creation and innovation. A digital ecosystem refers to a network of interconnected businesses, platforms, technologies, and customers that interact and exchange value. In such ecosystems, businesses leverage collaboration and data sharing to offer more comprehensive services and solutions (Ogbuagu*et al*., 2022; Hamza*et al*., 2023).

Platform-based business models enable companies to create value by facilitating connections between producers and consumers through digital platforms. Companies like Uber, Airbnb, and Amazon exemplify how platform models provide opportunities for businesses to scale quickly by focusing on network effects rather than traditional product development. The flexibility of these platforms allows businesses to expand their service offerings rapidly and enter new markets with relatively low overhead.

Furthermore, partnering with third-party providers is a key aspect of digital ecosystems. By collaborating with external vendors, technology providers, and startups, organizations can innovate faster, access specialized expertise, and gain new insights (Odionuand Ibeh, 2023; Hassan*et al*., 2023). These partnerships enable businesses to integrate complementary technologies and offer more holistic solutions to their customers.

To navigate the complexities of digital transformation, businesses are increasingly adopting Agile and DevOps methodologies to drive continuous transformation and improve collaboration between IT and business units.

Agile methodologies emphasize iterative development, flexibility, and customer collaboration. By breaking down projects into smaller, manageable tasks and continuously delivering value through short sprints, Agile enables businesses to respond more quickly to market changes and customer feedback. Agile's focus on adaptability and speed allows organizations to implement and scale digital transformation initiatives efficiently.

DevOps, a methodology that integrates development and IT operations, further enhances digital transformation by streamlining the software development lifecycle. DevOps enables faster, more reliable delivery of software by fostering collaboration between development and operations teams, automating repetitive tasks, and using continuous integration and deployment practices. The synergy between Agile and DevOps accelerates time-to-market for digital solutions, providing businesses with a competitive advantage (Alonge*et al*., 2021; Nyangoma*et al*., 2023).

Both methodologies help bridge the gap between IT and business units, ensuring alignment and reducing friction in the development and deployment of new technologies. By embracing Agile and DevOps, organizations can create a culture of continuous improvement, innovation, and responsiveness, which are essential for successful digital transformation.

Advances in digital transformation strategies are fundamentally reshaping the way businesses operate, compete, and innovate. IT's role in enabling digital capabilities, the integration of emerging technologies such as AI, blockchain, and IoT, the rise of digital ecosystems and platform models, and the adoption of Agile and DevOps methodologies are all critical components of this transformation. As businesses continue to evolve in the digital age, these strategies will remain essential for staying competitive and achieving sustainable growth. By leveraging the full potential of these advances, organizations can drive innovation, improve customer experiences, and enhance operational efficiency, thereby ensuring long-term success in an increasingly digital world (Collins*et al*., 2023).

2.3 IT-business alignment in growth enterprises

Achieving effective IT-business alignment is vital for the success of digital transformation efforts in growth enterprises. It ensures that IT investments are strategically directed to support the business's objectives, fostering improved efficiency, innovation, and competitive advantage. However, achieving alignment between IT and business functions remains a significant challenge for many organizations, particularly those experiencing rapid growth (Okolie*et al*., 2021; Ayodeji*et al*., 2023). This section explores the strategies for aligning IT and business objectives, the role of organizational culture, and the influence of leadership in driving alignment in growth enterprises.

To align IT and business objectives, organizations often turn to structured frameworks and governance models. Enterprise Architecture (EA) is one such framework that provides a comprehensive blueprint of the IT infrastructure, processes, and systems in relation to business objectives. EA allows organizations to map out how IT assets and services contribute to business goals and offers a structured approach to manage IT investments. By providing a clear, holistic view of IT and business processes, EA helps ensure that technology solutions align with the enterprise's strategic direction, supporting both short-term and long-term goals.

Another popular strategy for alignment is the Balanced Scorecard (BSC) framework. The BSC links strategic objectives in four key areasfinancial, customer, internal processes, and learning and growthwith specific performance measures. By using the BSC, enterprises can create a clear line of sight between business objectives and IT performance, ensuring that IT projects contribute to achieving broader business goals (Olutadeand Chukwuere, 2020; Adekunle*et al*., 2021). Additionally, the BSC facilitates alignment by promoting a balanced approach to performance measurement across both IT and business functions.

Effective governance models are also essential for managing IT-business alignment. These models define the processes, structures, and roles necessary to ensure that IT initiatives are prioritized based on business needs. A key component of governance is the establishment of cross-functional committees that involve both IT and business leaders. These committees ensure that decisions regarding IT investments are aligned with business strategies and that there is consistent communication between departments. By fostering a culture of shared responsibility, governance models help mitigate potential conflicts between IT and business priorities, improving overall alignment.

Organizational culture plays a pivotal role in fostering IT-business alignment. For alignment to be successful, there must be a culture of collaboration between IT and business departments. In many organizations, however, IT and business functions operate in silos, each with its own

priorities, objectives, and ways of working. These silos can create friction, slow decision-making processes, and impede the successful implementation of digital transformation strategies (Onukwulu*et al*., 2021).

To overcome these challenges, growth enterprises must promote cross-functional collaboration through a supportive organizational culture. This involves encouraging open communication, shared goals, and mutual respect between IT and business teams. It is essential to create an environment where both departments view each other as strategic partners, rather than separate entities with competing objectives. This can be facilitated through joint training sessions, workshops, and team-building activities that help both sides understand each other's challenges and opportunities.

Additionally, empowering cross-functional teams to work together on strategic projects fosters a more integrated approach to decision-making. These teams can collaborate on developing digital initiatives, ensuring that both technical feasibility and business relevance are considered in each project. By breaking down silos and promoting collaboration, organizations can create an environment that fosters continuous alignment between IT and business, enhancing the overall success of digital transformation efforts (Hussain*et al*., 2021; Balogun*et al*., 2022).

Leadership plays a crucial role in driving IT-business alignment, especially in growth enterprises. Effective leaders must not only recognize the importance of alignment but also actively work to create a unified vision between IT and business departments. One of the most critical leadership roles in this context is that of the Chief Information Officer (CIO). The CIO serves as the bridge between the IT department and the broader business organization, ensuring that IT strategies are aligned with business goals.

The CIO must facilitate communication between IT and business leaders, ensuring that both sides are engaged in decision-making processes related to digital transformation. By serving as a strategic partner, the CIO can help business leaders understand the capabilities of IT and ensure that technological innovations are leveraged to support business growth (Chukwuma-Eke*et al*., 2021; Ogbuagu*et al*., 2023). The CIO also plays a key role in advocating for IT investments, ensuring that IT priorities are reflected in the organization's broader strategy.

Leadership's commitment to alignment is also crucial in setting the tone for organizational culture. When executives and managers demonstrate a commitment to collaboration, it sends a strong message throughout the organization. This leadership commitment can help overcome resistance to change, align IT projects with business needs, and drive continuous improvement in digital transformation efforts. Moreover, strong leadership ensures that the necessary resources, both in terms of time and budget, are allocated to initiatives that promote IT-business alignment.

IT-business alignment is a strategic enabler for growth enterprises undergoing digital transformation. By employing frameworks such as Enterprise Architecture and the Balanced Scorecard, organizations can effectively align IT and business objectives. Moreover, fostering a culture of collaboration and ensuring strong leadership involvement, particularly through the CIO role, are critical for overcoming barriers and achieving successful alignment. Through these strategies, growth enterprises can leverage their IT capabilities to drive business innovation and ensure the long-term success of digital transformation initiatives (Chukwuma-Eke*et al*., 2022; Adekunle*et al*., 2023).

2.4 Case studies of successful digital transformation in growth enterprises

In recent years, many growth enterprises have successfully leveraged digital transformation strategies to enhance their competitiveness and operational efficiency. These success stories highlight the importance of aligning information technology (IT) capabilities with business objectives. Examining case studies from industries such as retail, finance, and healthcare provides valuable insights into how IT-business alignment contributes to business growth, as well as the challenges that organizations face during this transformation.

Successful digital transformation has been observed across various industries, where enterprises have embraced technology to not only improve operational efficiency but also to drive innovation and adapt to changing customer needs (Olutade*et al*., 2019; Adekunle*et al*., 2023).

In retail, companies like Walmart have effectively implemented digital technologies to streamline operations, improve the customer experience, and stay competitive. Walmart's investment in cloud computing, artificial intelligence, and data analytics allowed it to optimize inventory management, improve supply chain efficiency, and offer personalized shopping experiences. By aligning its IT strategy with business goals, Walmart transformed its business model from a traditional brick-and-mortar retailer to a robust omnichannel platform that seamlessly integrates online and in-store shopping (Adekunle*et al*., 2021; Onukwulu*et al*., 2023).

In the finance industry, JPMorgan Chase provides a strong example of digital transformation. The company has embraced blockchain technology and artificial intelligence to enhance security, improve customer service, and streamline financial operations. By aligning its IT infrastructure with business goals, JPMorgan Chase has not only increased operational efficiency but has also enabled faster and more secure transactions, positioning itself as a leader in the financial services sector.

In healthcare, Geisinger Health System in the U.S. exemplifies how digital transformation can improve patient care and operational efficiency. Geisinger's use of electronic health records (EHR), telemedicine, and predictive analytics has enabled better patient management, personalized treatments, and cost-effective care (Mustaphaand Ibitoye, 2022; Hussain*et al*., 2023). The organization's strategic alignment of IT and business objectives allowed it to leverage technology to provide better healthcare services while reducing costs.

These industry examples illustrate how growth enterprises in different sectors have successfully embraced digital transformation. In each case, aligning IT with business strategy allowed companies to innovate and maintain a competitive edge in rapidly evolving industries.

Several key success factors contribute to the successful digital transformation of growth enterprises. These include IT infrastructure readiness, a skilled workforce, and effective communication.

IT infrastructure readiness is a critical factor in ensuring that enterprises have the necessary technology in place to support digital transformation (Onaghinor*et al*., 2021). Organizations need robust, scalable, and flexible IT systems to support cloud computing, data analytics, and emerging technologies.

A skilled workforce is equally essential for a successful digital transformation. Organizations need employees with expertise in data analytics, cloud technologies, AI, and cybersecurity to implement and manage new systems effectively. Companies like JPMorgan Chase have prioritized training and upskilling their workforce to ensure they have the necessary skills to handle digital tools and leverage emerging technologies to drive innovation (Chianumba*et al*., 2021; OJIKA*et al*., 2021).

Effective communication between IT departments and business units is also a key enabler of digital transformation. When IT and business leaders communicate regularly and share goals and objectives, they can align technological initiatives with business priorities. This alignment ensures that technology investments are not just supporting day-to-day operations but also contributing to strategic objectives like market expansion, improved customer experience, and innovation (Okolie*et al*., 2022; Chukwuma-Eke*et al*., 2022).

While successful digital transformation can drive significant business benefits, many enterprises face substantial challenges during this process. Resistance to change, legacy systems, and a lack of expertise are common barriers that hinder the effective alignment of IT and business strategies.

Resistance to change is a frequent challenge in digital transformation efforts, particularly in established enterprises. Employees may feel threatened by new technologies or be reluctant to adopt new processes. Overcoming this resistance requires strong leadership, clear communication of the benefits of transformation, and employee training programs.

Legacy systems present another significant challenge for growth enterprises, especially those in sectors like finance and healthcare, where outdated IT infrastructure can impede progress. Legacy systems are often not compatible with newer technologies, making it difficult to integrate advanced solutions such as AI, cloud computing, and data analytics (Oyegbade*et al*., 2021; Adekunle*et al*., 2023). To overcome this challenge, organizations must invest in modernizing their IT infrastructure, often involving significant upfront costs. JPMorgan Chase, for example, had to upgrade its existing systems to support the implementation of blockchain technology and AI.

A lack of expertise in emerging technologies is another obstacle that many growth enterprises face. As digital transformation requires specialized skills in areas like AI, machine learning, and data science, companies often struggle to find and retain talent with the required technical expertise. This issue can slow down the adoption of new technologies and hinder the alignment of IT with business objectives. To address this challenge, many enterprises invest in training programs or partner with technology vendors to bring in external expertise.

The successful digital transformation of growth enterprises across industries such as retail, finance, and healthcare highlights the critical role of IT-business alignment in driving innovation, improving operational efficiency, and maintaining a competitive edge (Onukwulu*et al*., 2023; Kokogho*et al*., 2023). Key success factors, such as IT infrastructure readiness, a skilled workforce, and effective communication, enable organizations to leverage emerging technologies to meet business objectives. However, challenges such as resistance to change, legacy systems, and a lack of expertise must be carefully managed to ensure the effective alignment of IT and business strategies. As digital transformation continues to evolve, growth enterprises must prioritize alignment and invest in the necessary resources to navigate the complexities of technological change and remain competitive in their industries.

2.5 Challenges and barriers to IT-business alignment in digital transformation

The alignment between Information Technology (IT) and business strategies is a critical factor for the successful execution of digital transformation initiatives. IT-business alignment ensures that technology investments and digital initiatives effectively support business goals, enhance operational efficiency, and foster innovation as shown in figure 2. However, despite the recognized importance of IT-business alignment, several barriers hinder its achievement, particularly when organizations strive to implement digital transformation strategies (Oyeyipo*et al*., 2023; Ojadi*et al*., 2023). These barriers can be broadly categorized into technological and operational barriers, organizational and cultural barriers, and external barriers. Understanding these challenges is essential for organizations to effectively navigate their digital transformation journey.

One of the most significant technological barriers to IT-business alignment in digital transformation is the reliance on legacy IT infrastructure. Many organizations continue to depend on outdated IT systems that were not designed to support the complex requirements of modern digital technologies. Legacy systems often lack the flexibility, scalability, and interoperability needed to integrate with newer digital platforms and technologies such as cloud computing, artificial intelligence (AI), and data analytics tools. This misalignment between legacy IT and emerging technologies creates significant integration challenges, making it difficult to achieve seamless data flow, interoperability, and agility in business operations (Sikirat, 2022; Mustaphaand Ibitoye, 2022).

Moreover, upgrading or replacing legacy systems can be a costly and time-consuming process, which poses operational challenges. These legacy systems may also have proprietary architectures or be deeply embedded in organizational processes, creating resistance to change from both technical and business stakeholders (Adeleke*et al*., 2021; Nwokediegwu*et al*., 2023). Consequently, organizations may find themselves in a situation where IT modernization is delayed or compromised, hindering the overall success of digital transformation efforts.

Another major technological barrier is the resistance to adopting new technologies. Even though new technologies promise to streamline business processes, improve decision-making, and foster innovation, there is often reluctance from employees and leadership to embrace them. This resistance can stem from concerns about the complexity of new technologies, fear of job displacement, or skepticism about their value. Furthermore, the lack of technical expertise within an organization can limit the ability to implement and effectively use new technologies. Without strong internal support for technological change, digital transformation initiatives may stall or fail to deliver the desired outcomes.

Fig 2: Challenges and Barriers to IT-Business Alignment in Digital Transformation

In addition to technological obstacles, organizational and cultural barriers also play a crucial role in hindering IT-business alignment during digital transformation. One of the most prominent challenges is the conflicting goals between IT and business units. In many organizations, IT departments and business units operate in silos, with each focusing on their own set of priorities (Chukwuma-Eke*et al*., 2022; Ojadi*et al*., 2023). While IT departments may prioritize technical stability, security, and system integration, business units often emphasize customer experience, revenue growth, and operational efficiency. These differing priorities can lead to misalignment between IT initiatives and business objectives, slowing down the adoption of digital technologies and preventing the full potential of digital transformation from being realized.

Another cultural challenge is the lack of collaboration and communication between IT and business teams. Effective IT-business alignment requires close collaboration between both groups to ensure that technology decisions are made with a clear understanding of business needs and vice versa. However, many organizations struggle with insufficient communication between technical and non-technical teams. This communication gap can result in misunderstandings, delays in decision-making, and missed opportunities for innovation. Furthermore, a lack of shared goals or a unified vision for digital transformation can lead to fragmented efforts, where IT and business units work independently rather than synergistically. Overcoming this barrier requires fostering a culture of cross-functional collaboration, mutual respect, and shared ownership of digital initiatives (Onukwulu*et al*., 2023).

External factors also pose significant challenges to IT-business alignment in digital transformation. Regulatory constraints and industry standards are often a source of friction for businesses that aim to innovate quickly. In many industries, organizations must adhere to strict regulations regarding data privacy, security, and compliance, which can limit their ability to adopt certain technologies or implement new digital solutions. These regulatory requirements can slow down digital transformation efforts and create challenges in aligning IT infrastructure with business goals, as compliance often takes precedence over rapid innovation.

In addition to regulatory constraints, market competition and the pressure to innovate quickly can create external barriers to IT-business alignment. As organizations strive to stay competitive, they may rush to adopt new technologies without adequately considering their alignment with business strategies. This haste can lead to poorly executed digital transformation initiatives that fail to deliver the expected value. Furthermore, the pace of technological advancement means that organizations must continuously adapt to new market demands and trends. While innovation is essential for survival in today's fast-paced business environment, the constant pressure to innovate can result in fragmented or reactive digital transformation efforts, with businesses adopting technologies without a clear roadmap or cohesive strategy. This fragmented approach undermines the alignment between IT and business and can lead to wasted resources, missed opportunities, and suboptimal outcomes (Oyegbade*et al*., 2023).

Achieving IT-business alignment in digital transformation is fraught with challenges that arise from both internal and external factors. Technological and operational barriers, such as legacy IT infrastructure and resistance to new technologies, can impede the smooth integration of digital tools into existing business processes. Organizational and cultural barriers, including conflicting goals and a lack of collaboration, further complicate efforts to align IT initiatives with business objectives. Additionally, external pressures, such as regulatory constraints and the demand for rapid innovation, create further obstacles to alignment. To overcome these barriers, organizations must foster a culture of collaboration, invest in modernizing their IT infrastructure, and develop clear strategies that bridge the gap between business and technology. By addressing these challenges head-on, businesses can better align IT with business strategies and ensure the successful execution of digital transformation initiatives (Ojadi*et al*., 2023).

2.6 Future trends in IT-business alignment and digital transformation

As digital transformation continues to reshape industries, organizations are faced with the challenge of adapting their IT strategies to align with evolving business needs. With emerging technologies such as Artificial Intelligence (AI), automation, digital twins, and smart technologies, the future of IT-business alignment will require innovative approaches to ensure seamless integration and drive business growth as shown in figure 3(Onaghinor*et al*., 2021). This section explores the future trends shaping IT-business alignment and digital transformation, focusing on the role of AI and automation, the rise of digital twins and smart technologies, and the evolution of IT-business alignment frameworks.

AI and automation are poised to play a transformative role in shaping IT-business alignment strategies in the future. As AI technologies become more sophisticated, they will enable organizations to better align IT initiatives with business objectives by providing real-time insights and predictive analytics. AI-driven tools can analyze vast amounts of data from both IT and business operations, allowing enterprises to make data-driven decisions that align technology investments with business priorities.

Automation, on the other hand, will significantly streamline business processes, reducing the complexity of manual tasks

and enhancing operational efficiency. The automation of routine IT operations, such as system monitoring, patch management, and data backups, allows IT teams to focus on higher-value, strategic tasks. In business operations, automation will enable the seamless integration of IT systems with business processes, ensuring that technology supports business needs in real time (Adekunle*et al.*, 2021). Furthermore, automation will drive improvements in customer experiences by enabling personalized, real-time responses to customer queries and requests, thereby aligning IT systems with customer-facing business objectives.

As AI and automation continue to evolve, they will facilitate a more agile approach to IT-business alignment, enabling organizations to adapt more quickly to market changes and business challenges. The future of IT-business alignment will be characterized by intelligent systems that can continuously optimize both IT infrastructure and business processes, driving greater efficiency and innovation.

The concept of digital twinsvirtual replicas of physical assets, systems, or processeshas gained significant traction in recent years, and its impact on IT-business alignment is expected to grow. Digital twins enable businesses to simulate, monitor, and optimize their operations in real time, providing a new level of insight into business processes and system performance (Ogbuague*t al.*, 2022). By integrating digital twins into their IT-business alignment strategies, enterprises can optimize resource management, reduce operational costs, and improve decision-making processes.

This real-time optimization ensures that IT systems are closely aligned with business objectives, particularly in industries where efficiency and operational excellence are key to maintaining competitive advantage. Similarly, digital twins can be used in supply chain management, enabling businesses to predict disruptions and optimize inventory levels, improving the overall business strategy and IT integration (Oyegbade*et al.*, 2022).

The rise of smart technologies, including smart factories, cities, and infrastructure, will further enhance the synergy between IT and business strategies. In smart cities, for example, sensors and IoT devices connected to centralized IT systems can provide real-time data on traffic patterns, energy usage, and public services, enabling cities to make data-driven decisions that enhance citizen quality of life while optimizing resource allocation. Similarly, smart factories powered by AI, IoT, and digital twins will enable manufacturers to align their IT infrastructure with operational goals, leading to increased production efficiency, reduced downtime, and enhanced innovation.

The future of digital transformation will see greater integration of smart technologies across industries, and as these technologies mature, they will further blur the lines between IT and business operations, driving a more seamless and optimized approach to business processes (Egbumokei*et al.*, 2021).

As organizations continue to integrate new technologies, the frameworks for IT-business alignment must evolve to address the challenges posed by these innovations. Traditional alignment frameworks, such as Enterprise Architecture (EA) and the Balanced Scorecard, have been instrumental in bridging the gap between IT and business goals. However, the rapid pace of technological change demands that these frameworks be adapted to accommodate new digital realities.

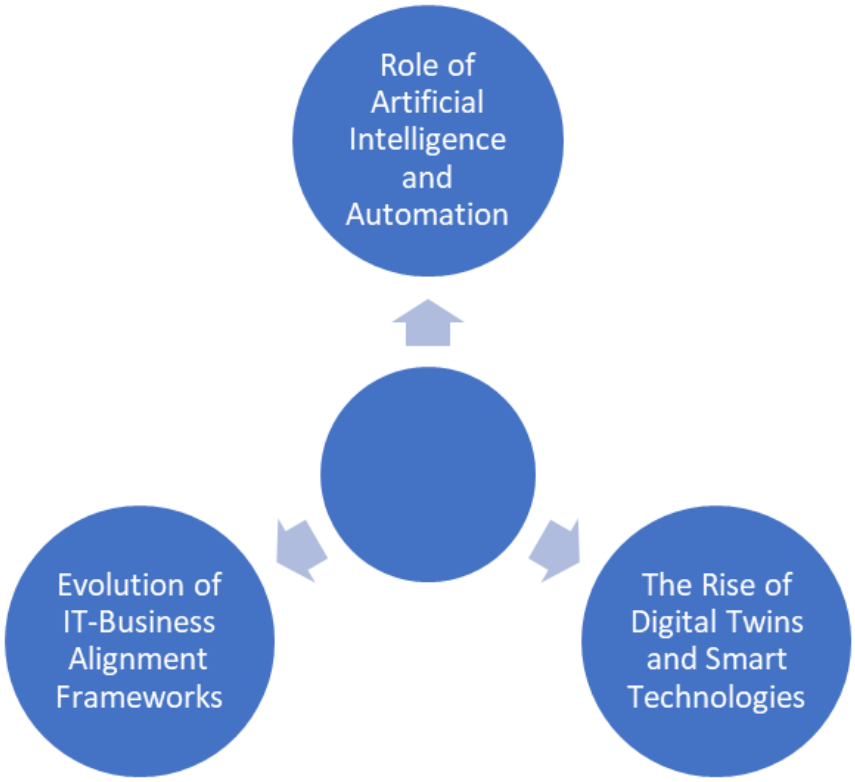

Fig 3: Future Trends in IT-Business Alignment and Digital Transformation

One significant evolution is the integration of agile methodologies into IT-business alignment frameworks. Agile approaches, which emphasize flexibility, collaboration, and iterative development, are well-suited for the fast-changing nature of digital transformation. As organizations adopt cloud-based infrastructure, microservices, and AI-driven solutions, alignment frameworks must incorporate agile practices to ensure that IT and business departments can

collaborate more dynamically. This shift will foster quicker responses to market shifts, improve decision-making processes, and ensure that IT and business strategies remain in sync.

Furthermore, future IT-business alignment frameworks will need to embrace the increased reliance on data-driven decision-making. With the growing importance of big data, IoT, and AI, alignment strategies will need to incorporate real-time data analytics and insights to ensure that IT investments are continuously aligned with evolving business goals (Fiemotongha*et al*., 2023). Data-driven frameworks will enable organizations to align IT capabilities with business needs more effectively, providing the agility required to meet changing market demands.

As new business models emergesuch as platform-based business models and digital ecosystemsIT-business alignment frameworks must also adapt to foster cross-organizational collaboration. In a digital ecosystem, businesses no longer operate in isolation; they collaborate with partners, suppliers, and customers. Aligning IT and business strategies in such interconnected environments will require more sophisticated frameworks that promote shared goals and seamless integration across organizations (Oyeniyi*et al*., 2021).

3. Conclusion

This essay has explored the advances in digital transformation through IT-business alignment in growth enterprises. The integration of technologies like cloud computing, artificial intelligence (AI), and the Internet of Things (IoT) has become crucial in reshaping business models, processes, and organizational culture. Successful digital transformation requires not just the adoption of these technologies, but also their strategic alignment with business objectives. The findings highlight that growth enterprises that align their IT infrastructure with business goals experience greater innovation, improved operational efficiency, and enhanced competitiveness. Moreover, the Strategic Alignment Model (SAM) has proven to be a critical theoretical framework for understanding how enterprises can synchronize IT and business strategies to achieve sustained growth and agility.

For growth enterprises aiming to enhance their digital transformation strategies, several recommendations emerge. First, it is essential to invest in scalable IT infrastructure that can support the integration of emerging technologies. Enterprises should prioritize upskilling their workforce to handle the complexities of new digital tools and foster a culture of innovation. Furthermore, effective communication between business and IT leaders is crucial to ensure that technological investments align with strategic business objectives. Emphasizing a customer-centric approach in digital transformation efforts can help companies deliver better services, optimize processes, and enhance overall business agility.

While this review has highlighted the importance of IT-business alignment in digital transformation, several areas remain underexplored. Future research could focus on the role of leadership and organizational culture in driving alignment, particularly in large, complex enterprises. Additionally, exploring the impact of artificial intelligence and machine learning on IT-business alignment in different industries could yield valuable insights. Another promising area for future study is the evolution of digital transformation strategies in the face of emerging technologies like blockchain and quantum computing. Understanding how these innovations can be integrated into existing IT-business frameworks will be crucial for organizations looking to stay competitive.

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