EXAMINING THE ROLE OF BUSINESS ARCHITECTURE PRACTICES

IN DIGITAL TRANSFORMATION OUTCOMES

by

Dennis James O'Higgins

DISSERTATION

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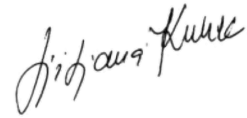

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Dedication

I dedicate this dissertation to my beloved family, whose unwavering patience and steadfast support have been the cornerstone of my journey to complete this project. Without your encouragement and understanding, this endeavour would not have been possible. Your enduring presence, especially during the challenging moments, has been my greatest source of strength.

In particular, to my dear mother, I offer my deepest gratitude. You have been my guiding light throughout my life, instilling in me a boundless passion for learning. Your endless patience and willingness to indulge my incessant questions of "but why" have shaped me into the curious and inquisitive individual I am today. Your love and encouragement have been the driving force behind my pursuit of knowledge, and I am forever grateful for the gift of curiosity you have bestowed upon me.

This dissertation is a testament to the love, support, and inspiration provided by my family and, most notably, my mother. Thank you for being the foundation upon which my academic journey has been built.

ABSTRACT

EXAMINING THE ROLE OF BUSINESS ARCHITECTURE PRACTICES

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Dennis James O'Higgins
2025

Keywords: Business Architecture, Digital Transformation, Strategic Alignment, Organisational Efficiency, Service Delivery, Thematic Analysis, Structural Equation Modelling (SEM).

Abstract:

This research explores the role of Business Architecture (BA) as a critical enabler of Digital Transformation (DT) success, addressing a significant challenge faced by organisations today: aligning digital initiatives with strategic goals. Despite considerable investments in DT, many organisations fail to realise expected benefits due to disconnects between digital efforts and organisational objectives. BA provides a structured approach to harmonize business strategy with operational capabilities, potentially bridging these gaps.

The study adopts a sequential explanatory mixed-methods design, combining quantitative data from a survey of 129 BA practitioners and organisational leaders with qualitative insights from two focus groups involving 25 participants. In the quantitative phase, Structural Equation Modelling (SEM) assesses the relationships between BA practices, DT outcomes, and organisational factors, focusing on constructs such as

strategic alignment, operational efficiency, and service delivery. The qualitative phase complements these findings by delving into practitioners' experiences, providing context and depth to the observed quantitative trends.

Results from SEM reveal that BA practices significantly enhance DT outcomes, particularly through fostering alignment between DT initiatives and strategic goals, improving operational efficiency, and supporting robust service delivery. Organisations with mature BA practices show stronger alignment between their digital strategies and overall objectives, yielding performance gains and a competitive edge. The focus group discussions underscore the importance of leadership support, cross-functional collaboration, and a change-embracing culture as essential enablers for effective BA implementation in DT.

This study makes contributions to both academic literature and practitioner knowledge by empirically validating BA's role in DT. The research highlights actionable insights for organisations aiming to leverage BA for successful digital transformation, emphasizing the need for strategic alignment, strong leadership, and a culture that supports continuous adaptation to change. These findings offer a pathway for organisations seeking sustainable competitive advantages in the evolving digital landscape.

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CHAPTER I: INTRODUCTION

1.0 Introduction

The Fourth Industrial Revolution has fundamentally reshaped the business landscape, driven by the proliferation and integration of digital technologies across sectors. Digital Transformation (DT), defined as the strategic deployment of digital technologies to optimise operations, drive innovation, and enhance customer experiences, has become essential to competitive advantage and operational resilience (Manda & Backhouse, 2018; Hinterhuber et al., 2021). CEOs and executives increasingly prioritise DT to enable digitally driven business models that leverage efficiencies and create new growth opportunities (Geissinger et al., 2020). However, while investment in DT has risen sharply, evidence suggests that a substantial number of DT initiatives fail to meet expectations.

Failure rates for DT initiatives are frequently cited at between 70% and 95%, a reflection of persistent challenges such as misalignment between digital strategies and organisational goals, cultural resistance, and inadequate execution frameworks (Tabrizi et al., 2019; Vial., 2019). Further, Al-Malaise Al-Ghamdi (2017) highlights how organisations struggle to measure the tangible and intangible impacts of DT, a critical factor in determining the value derived from transformation efforts. The literature underscores that achieving DT success requires more than just technology implementation; it necessitates a cohesive framework that integrates DT with an organisation's strategic and operational objectives. Herein lies much of the difficulty. In large, complex and often fragmented organisations, the systematic alignment of resources and operations around strategy is exceptionally challenging and often elusive.

Business Architecture is a discipline that aligns an organisation's vision with its operational processes by providing a holistic view of its strategy, capabilities, and information systems (Simon et al., 2013; Andreini et al., 2022). As Al-Malaise Al-Ghamdi (2017) identifies, business architecture can be pivotal in enabling organisations to manage

DT complexity by bridging the gap between strategic intent and operational execution. This study explores how business architecture can serve as a foundation for aligning digital initiatives with core business objectives, thus enhancing DT outcomes in complex organisational environments.

1.1 Research Problem

In today's fast-paced business environment, digital transformation (DT) has become a central strategy for organisations seeking to drive innovation, optimise operational efficiency, and maintain a competitive edge in a digitally driven global economy (Vial, 2019; Verhoef et al., 2021). While the potential benefits of DT are well-documented, realising these benefits proves challenging, with implementation often requiring organisations to navigate multifaceted issues that extend beyond mere technological adoption. Key among these challenges is the role of business architecture, a discipline designed to align an organisation's strategic objectives with its structural, operational, and technological capabilities (Alghamdi, 2024; Tabrizi et al., 2019). As organisations contend with the complexity and scale of DT initiatives, business architecture is increasingly recognised as a framework that can bridge the gap between high-level strategy and operational execution (Simon et al., 2013; Schallmo et al., 2024).

Business architecture provides a comprehensive perspective on an organisation's processes, strategy, information flows, and IT assets, facilitating alignment across all levels and functions of the business (Simon et al., 2013; Andreini et al., 2022). By integrating an organisation's capabilities and delivery mechanisms with its overarching strategic direction, business architecture theoretically serves as a fundamental enabler of DT, ensuring that transformation efforts are systematically aligned with long-term objectives (Bernard, 2012). However, despite its theoretical promise, the practical impact of business architecture on DT success is not fully understood. Organisations frequently struggle to translate the principles of business architecture into actionable practices that deliver measurable results, a challenge

compounded by the abstract nature of alignment frameworks and a lack of empirical

validation (Bernard, 2012; Al-Malaise Al-Ghamdi, 2017; Vial, 2019; Andreini et al., 2022).

Organisations today face a critical juncture in their approach to business architecture.

On one side, there is a growing imperative to elevate business architecture from a tactical tool

to a core strategic asset, requiring endorsement and integration at the executive level. This

shift demands that organisations embed business architecture within strategic planning and

governance structures, positioning it as an integral component of DT initiatives. On the other

side, there is an urgent need to identify and understand the organisational factors that

facilitate or hinder the success of business architecture within DT contexts. Questions arise

around the conditions that enable business architecture to drive DT, including the influence of

factors such as leadership commitment, organisational culture, and resource allocation. These

considerations are essential for both researchers and practitioners seeking to determine how

business architecture can be systematically leveraged to enhance DT outcomes (Geissinger et

al., 2020; Mugge et al., 2020).

The emphasis on accountability in the digital age further compounds the challenge.

Organisations are increasingly tasked with quantifying the tangible and intangible impacts of

business architecture within DT frameworks. Al-Malaise Al-Ghamdi (2017) and Vial (2019)

note, organisations face significant challenges in developing reliable metrics to measure the

contribution of business architecture, particularly as many of its benefits—such as strategic

alignment, increased agility, and enhanced coordination—tend to yield value over extended

periods rather than offering immediate returns. Establishing robust methods for evaluating the

strategic contributions of business architecture in DT contexts remains an underdeveloped

area within current research, presenting a critical gap that this study seeks to address.

Notwithstanding the acknowledged advantages, substantial barriers inhibit the

effective deployment of business architecture within DT efforts. Organisations frequently

encounter structural and cultural obstacles, such as resistance to change, limited executive

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buy-in, and constrained resources, which can impede the integration of business architecture frameworks (Bernard, 2012; Möhring et al., 2023). These barriers not only challenge the adoption of business architecture but also limit its capacity to deliver sustained benefits. Consequently, even organisations with a strong commitment to DT often lack the necessary frameworks to operationalise business architecture in a manner that supports long-term transformation. Research into the specific organisational conditions and practices that facilitate or impede business architecture within DT is thus essential for advancing both theoretical understanding and practical outcomes (Alghamdi, 2024). These questions remain insufficiently answered, representing critical areas of enquiry for scholars and practitioners alike. Furthermore, the dynamic and rapidly changing nature of the global business environment necessitates an agile approach to business architecture. De Kinderen and Proper (2013) argue that for business architecture to maintain strategic relevance, organisations must adopt proactive and adaptive practices, preparing for emergent trends and challenges in technology and market shifts. This dynamic approach to business architecture underscores the need for a framework that balances alignment and adaptability, enabling organisations to respond to change while maintaining coherence in their DT strategies.

The research problem exposes the need for an exploration of the intricate relationship between business architecture practices and DT outcomes in modern organisations. This study will investigate how business architecture can function as a strategic enabler for DT, focusing on the conditions, metrics, and practices that enhance its effectiveness. By addressing these questions, this research aims to contribute both theoretically and practically to the discourse on business architecture in the digital era, offering actionable insights for organisations striving to optimise their DT initiatives through structured architectural frameworks.

1.2 Purpose of Research

The primary purpose of this research is to examine the role of business architecture in facilitating successful digital transformation. While DT presents significant potential for competitive advantage, the high rate of failure highlights the gap in effectively executing digital strategies. This study argues that business architecture offers a structured approach to bridging this gap by aligning an organisation's strategic objectives with its digital capabilities, thus enabling a cohesive and scalable transformation process (Babar & Yu, 2015; van de Wetering, 2021).

Accordingly, this research project moves beyond viewing business architecture as a tool for alignment, investigating instead how it can drive organisational agility, support innovation, and enhance resilience in response to digital disruptions. By examining business architecture within a multidimensional theoretical framework, this study contributes to existing literature by exploring how business architecture can serve as a strategic asset for organisations seeking to navigate DT challenges (Alghamdi, 2024; Schallmo et al., 2024). The findings aim to provide both theoretical insights and practical recommendations for organisations looking to optimise their DT efforts.

1.3 Significance of the Study

This research holds significance for both academic and practical domains. Academically, it addresses notable gaps in the literature by examining business architecture as a structured framework that enhances digital transformation outcomes—an area with limited empirical investigation to date (Ross et al., 2006; Vial, 2019; Alghamdi, 2024). By providing insights into how business architecture can be systematically integrated within digital transformation efforts, this study contributes to a deeper theoretical understanding of its role in aligning strategic objectives with operational realities, thereby expanding current scholarship. For practitioners, particularly executives and transformation leaders, this study offers valuable guidance on implementing business architecture as a strategic tool to ensure that digital transformation initiatives align closely with organisational objectives. Through a

comprehensive framework, it demonstrates how business architecture can effectively support digital transformation by aligning strategic goals with operational capabilities, thus enabling organisations to pursue transformation with a coherent and structured approach (Bodine & Hilty, 2009; van de Wetering, 2021).

The research delivers critical insights into the organisational factors that impact the effectiveness of business architecture. These insights equip practitioners with evidence-based guidance on areas where business architecture can have the most significant impact on digital transformation outcomes. By focusing on these high-impact areas, executives can direct their resources more effectively, maximising the potential of business architecture to drive meaningful results (Ross et al., 2006; van de Wetering, 2021; Schallmo et al., 2024). In addition to offering practical insights, this study advances methods for assessing and articulating the value of business architecture within digital transformation initiatives. It provides leaders with tools to demonstrate and justify investments in architectural frameworks to stakeholders and decision-makers, thereby strengthening the case for business architecture as a strategic investment (Kireyeva et al., 2019). By establishing clear metrics and assessment techniques, the study aids organisations in quantifying the value that business architecture brings to transformation efforts.

Finally, this research explores the challenges and opportunities inherent in implementing business architecture, offering strategies to help practitioners navigate common barriers to its effective integration. In presenting solutions to these barriers, the study highlights pathways to enhance the success of digital transformation initiatives, positioning business architecture as a key enabler of sustainable organisational change (Gkrimpizi et al., 2023).

1.4 Research Questions

This study investigates the impact of business architecture on DT outcomes through the following research questions:

1. How is business architecture conceptualised, and what impact do business architecture practices have on DT outcomes?

2. To what extent do organisational and environmental factors influence the maturity and effectiveness of business architecture practices in supporting DT?

3. What barriers and opportunities do practitioners identify for leveraging business architecture in DT within the next five years?

1.5 Delimitations

Theoretical and methodological delimitations are crucial in defining the scope of research, as they outline the specific boundaries of the study's conceptual framework and chosen approach, helping to focus inquiry while acknowledging areas not covered (Miles & Huberman, 1994; Yin, 2018). In theoretical terms, delimitations clarify the constructs and frameworks selected, providing a structured lens through which phenomena are examined, while methodological delimitations specify the research methods employed, including constraints related to sample selection, data collection, and analysis (Creswell & Creswell, 2018).

1.5.1 Theoretical Delimitations

This research employs a multidimensional theoretical framework, integrating several perspectives to comprehensively analyse the role of business architecture in DT. Each theoretical approach provides unique insights into the factors influencing DT outcomes and the ways in which business architecture can support strategic alignment and operational integration.

- Dynamic Capabilities Framework: The dynamic capabilities framework (Teece, Pisano, & Shuen, 1997) forms the foundation for this study, as it highlights an organisation's ability to adapt and reconfigure resources in response to change. This framework is especially relevant for understanding how business architecture facilitates organisational flexibility in DT.

- Technology-Organisation-Environment (TOE) Framework: The TOE framework offers a structured approach for analysing the impact of technological, organisational, and environmental factors on DT adoption. By integrating TOE, this study examines how external pressures such as competition and regulatory requirements shape business architecture practices and DT outcomes (Schallmo et al., 2024).

- Resource-Based View (RBV): RBV focuses on leveraging internal resources and capabilities for competitive advantage, relevant to understanding how business architecture can align organisational strengths with digital initiatives (Bodine & Hilty, 2009). This approach contextualises business architecture as a resource that underpins DT success.

- Institutional Theory: Institutional Theory provides insights into how organisations respond to external pressures, including regulatory and industry standards, which can impact business architecture practices within DT, particularly in regulated sectors (Gkrimpizi et al., 2023).

- Contingency Theory: Contingency Theory suggests that there is no universal approach to organisational design, instead suggesting that practices are contingent on specific contexts. This theory complements the dynamic capabilities approach by examining how contextual factors (e.g., industry type, organisational size) shape the application of business architecture in DT (Bernard, 2012).

By integrating these frameworks, this research adopts a holistic approach to analysing business architecture's role in DT, acknowledging the complex interplay of internal resources, external pressures, and contextual factors.

1.5.2 Methodological Delimitations

This study adopts a mixed-methods approach, combining quantitative surveys with qualitative insights from semi-structured focus groups. Each method provides unique

strengths and limitations, but clear methodological delimitations are necessary to clarify the scope and boundaries of the research approach chosen.

1. Quantitative data collection via surveys enables the gathering of broad, generalisable insights, yet it is often limited by response bias and the challenges of self-reported data (Fowler, 2014; Bryman, 2016). Given that survey respondents are self-selected, a risk of non-response bias exists, as those more familiar or engaged with digital transformation and business architecture may be more inclined to participate. This bias can affect representativeness, potentially limiting generalisability across varied organisational contexts (Dillman et al., 2014). Additionally, self-reported data may be subject to participants' varying interpretations of key constructs, which can impact the reliability of findings (Podsakoff et al., 2003).

2. The qualitative component, involving semi-structured focus groups, provides in-depth, contextually rich data, allowing exploration of individual perceptions and organisational experiences (Patton, 2015; Yin, 2018). However, qualitative data are inherently subjective, reflecting personal insights that may not be easily generalisable across different organisational types or industries (Silverman, 2016). Further, the semi-structured nature of focus groups means that responses may vary in depth, posing challenges for consistency and comparability of findings across participants (Merriam & Tisdell, 2016).

3. Sample size and selection also pose additional methodological delimitations. Due to resource constraints, the study's sample may not fully capture the diversity of organisations, industries, and geographical contexts affected by business architecture in digital transformation. Consequently, the findings provide insights that may be indicative rather than exhaustive (Creswell & Creswell, 2018). Smaller sample sizes in qualitative research, while depth-oriented, may not allow

for full saturation of themes across all possible organisational contexts (Guest et al., 2006).

4. Data integration and interpretation in mixed-methods research require balanced analysis to avoid overemphasising one data set at the expense of the other. While the mixed-methods approach aims to triangulate data for a richer perspective, challenges remain in merging quantitative breadth with qualitative depth without compromising interpretive integrity (Tashakkori & Teddlie, 2010). To address this, the study employs rigourous integration techniques recommended in mixed-methods literature to ensure equal consideration of both data sets, enhancing the credibility of the findings (Creswell & Plano Clark, 2017).

Despite these methodological limitations, the chosen approach provides a robust and multi-dimensional analysis of business architecture's role in digital transformation. By transparently addressing these limitations, the study ensures a balanced perspective, recognising the contextual and methodological factors that shape the findings.

1.6 Structure of the Thesis

The thesis is structured as indicated in table 1.1.

Table 1.1: *Structure of the thesis*

Chapter 1: Introduction	Setting the research context and outlining the problem, purpose, significance, research questions, and theoretical foundations.
Chapter 2: **Literature review**	Synthesising research on business architecture and DT, and identifying theoretical and empirical gaps.
Chapter 3: **Methodology**	Detailing the research design, data collection methods, and analysis techniques.
Chapter 4: **Findings**	Presenting results from the data analysis and addressing the research questions.
Chapter 5: Discussion	Interpreting findings in light of the literature and theoretical frameworks, and exploring practical and theoretical implications.
Chapter 6: Conclusion	Summarising key findings, contributions, and recommendations for future research.

CHAPTER II: LITERATURE REVIEW

2.0 Introduction to the Literature Review

The increasing importance of digital transformation (DT) and business architecture (BA) has reshaped the contemporary business landscape. The Fourth Industrial Revolution, driven by rapid advancements in digital technologies, has compelled organisations to reconsider traditional approaches, placing DT at the forefront of strategic imperatives across sectors (Hinterhuber et al., 2021; Vial, 2019). Simultaneously, business architecture has evolved as a pivotal discipline within enterprise architecture, providing a structured approach to align strategy with operational capabilities (Simon et al., 2013; Möhring et al., 2023). As organisations seek to enhance competitiveness, improve operational efficiency, and innovate in response to digital disruption, BA has gained recognition as a framework that facilitates effective strategy execution and alignment in complex, dynamic environments (Westerman et al., 2014; Lankhorst, 2017; van de Wetering, 2021).

The focus of this literature review is to provide a critical examination of the research landscape surrounding DT and BA, identifying current knowledge, theoretical foundations, and empirical studies that highlight how BA can address the challenges and misalignments often encountered in DT initiatives. It will draw upon foundational theories such as the Dynamic Capabilities Theory, the Technology-Organisation-Environment (TOE) framework, and the Resource-Based View (RBV), each of which offers a unique lens to understand the conditions required for successful DT. These frameworks support the view that BA enables organisations to develop the flexibility, alignment, and resources necessary to succeed in increasingly competitive markets.

Key research questions guiding this literature review include (1) How does BA support the alignment of strategic objectives with DT initiatives? (2) What are the primary

barriers and complexities that BA addresses within DT, particularly in relation to organisational culture and structure? and (3) How can BA's effectiveness in DT initiatives be systematically assessed and measured? Through these questions, this review aims to shed light on the theoretical and practical implications of BA in DT, addressing gaps in existing research while laying a foundation for future empirical studies.

Each section of this literature review will systematically address these areas of inquiry. Section 2.2 will examine the foundational theories and definitions related to DT and BA, providing conceptual clarity. Section 2.3 will discuss the strategic drivers and expected benefits of DT, establishing the motivation behind DT initiatives and highlighting the strategic need for BA. Section 2.4 will then explore the challenges and common misalignments in DT, emphasizing BA's role in bridging gaps between digital strategy and execution. Section 2.5 will address the organisational complexities and barriers encountered in DT efforts, particularly socio-technical issues that BA aims to mitigate. Section 2.6 will analyse various frameworks for assessing DT success and BA's impact, examining the need for robust, standardised assessment metrics. Section 2.7 will highlight BA's function as a bridge between strategy and execution, detailing core practices and empirical studies that underscore its strategic value. Finally, Section 2.8 will summarize the key findings, research gaps, and directions for further investigation, ultimately setting the stage for this study's empirical research.

This literature review will examine the intersection of DT and BA to provide an understanding of BA's role in enhancing the alignment, agility, and execution of digital strategies in complex organisations. Through a comprehensive review of both theoretical and empirical literature, this chapter will establish a foundation for analysing how BA can be strategically employed to address the challenges that have historically limited DT success, especially in multi-dimensional organisational contexts.

2.1 Theoretical Foundations and Core Concepts

The rapid advancement of digital technologies has catalysed significant transformations across various industries, compelling organisations to adopt digital transformation (DT) as a strategic priority. DT is characterized by the integration of digital technologies into all aspects of business, fundamentally altering traditional structures, processes, and customer interactions (Berman, 2012; Vial, 2019). Business architecture (BA), on the other hand, has emerged as a critical discipline within the broader field of enterprise architecture, providing a structured approach to align strategy with execution, particularly within complex digital transformation efforts (Lankhorst, 2017). This section delves into the theoretical foundations underpinning DT and BA, emphasizing the relevance of frameworks such as the Dynamic Capabilities Theory, Technology-Organisation-Environment (TOE) framework, and Resource-Based View (RBV) in establishing the necessary conditions for effective digital transformation.

2.1.1 Digital Transformation (DT)

Definition and Scope: Digital transformation encompasses the deployment of digital technologies to fundamentally reshape business operations and models, aiming for improvements in customer experience, operational processes, and organisational culture (Westerman et al., 2014). Unlike digitisation, which focuses on converting analog information to digital form, or digitalisation, which enhances existing processes with digital tools, DT aims for an end-to-end transformation that integrates digital into the organisation's strategic core (Vial, 2019; van de Wetering, 2021). The comprehensive nature of DT necessitates changes not only in technology adoption but also in organisational structures, employee roles, and decision-making processes (Berman, 2012; Alghamdi, 2024). Studies indicate that DT requires a cross-functional approach that breaks down silos and leverages digital tools to foster real-time data sharing and enhanced decision-making (Matt et al., 2015). For instance, the banking sector's DT efforts have not only digitized transaction processes but also transformed the customer experience through real-time insights,

personalized services, and digital-only branches (Lacity & Willcocks, 2013). Such examples illustrate how DT goes beyond technology implementation to redefine how organisations create and capture value.

Drivers and Development of DT: Organisations pursue DT to enhance competitiveness, improve customer engagement, and drive innovation. Competitive pressures compel firms to adopt digital capabilities that can differentiate them in a crowded marketplace (Hinterhuber et al., 2021; Shehadeh et al., 2023). The advent of AI, big data, and cloud computing has enabled companies to gain insights into consumer behaviour, optimise supply chains, and create agile responses to market trends (Kane et al., 2015; Zamani, et al., 2022). Customer-centricity is another major driver; organisations are increasingly leveraging digital technologies to enhance customer interactions and deliver personalized experiences across multiple touchpoints (Geissinger et al., 2020).

Further, regulatory pressures, environmental concerns, and social expectations are driving DT efforts. For example, digital platforms for monitoring and reporting on sustainability metrics have become increasingly important as companies respond to environmental regulations (Rupeika-Apoga & Petrovska, 2022). The COVID-19 pandemic also accelerated DT across sectors, with studies indicating that digital adoption advanced by as much as six to ten years due to the need for remote operations and digital customer interactions (LaBerge et al., 2020). This heightened focus on DT underlines its critical role in future-proofing businesses against both competitive and regulatory risks.

DT has evolved from isolated technological initiatives, such as implementing ERP or CRM systems, to holistic transformations that affect every function of the organisation. Historically, DT was viewed as an IT-led initiative aimed at optimising back-office processes; however, over the last decade, it has expanded to include customer-facing processes, data-driven decision-making, and agile business models that allow for real-time responsiveness (Verhoef et al., 2021). Research by McKinsey (LaBerge et al., 2020)

highlights that the COVID-19 pandemic acted as a catalyst, significantly accelerating DT adoption timelines across industries, from banking and retail to healthcare and manufacturing. Today, DT efforts encompass not only technological change but also fundamental shifts in organisational culture, structure, and leadership. Leading companies, such as Amazon and Google, have demonstrated that an agile, digital-first approach is essential for sustained competitive advantage (Berman & Bell, 2011). Such evolution underscores the need for a coherent framework that integrates strategy, culture, and technology, which business architecture can facilitate by providing a structured approach to align digital initiatives with broader organisational goals (Bodine & Hilty, 2009).

2.1.2 Business Architecture (BA)

Business architecture originated within enterprise architecture (EA) as a framework to support IT-driven strategic alignment. Initially focused on IT systems and infrastructure, BA has since evolved to become a distinct discipline, providing a holistic view of an organisation's strategic goals, processes, capabilities, and information flows (Op't Land & Proper, 2009; Beese et al., 2023). Defined as "a blueprint of the enterprise that provides a common understanding of the organisation and aligns strategic objectives with operational demands" (Kuehn et al., 2018), BA enables organisations to translate strategy into actionable plans that guide operational activities and resource allocation.

The development of BA has been marked by efforts to separate it from purely IT-driven EA, with organisations such as The Open Group and Business Architecture Guild establishing standards like the BIZBOK (Business Architecture Body of Knowledge) (Hendrickx et al., 2015). Today, BA is recognised as essential for creating agility, facilitating change, and ensuring alignment across business and technology functions, particularly in digital transformation efforts where traditional organisational structures may hinder swift adaptation (Ross et al., 2006; Alghamdi, 2024).

Core Elements of BA: BA encompasses several core elements, including capability mapping, value stream analysis, and organisational alignment frameworks. Capability mapping provides a high-level view of an organisation's competencies, identifying areas of strength and opportunity (Tamm et al., 2011; Aleatrati Khosroshahi et al., 2018). Value stream analysis examines the flow of value-creating processes from start to finish, focusing on how each activity contributes to customer outcomes (Proper & Lankhorst, 2013). By mapping capabilities and value streams, BA enables organisations to prioritise initiatives that align with their strategic objectives and to assess the impact of DT on these core activities (Martin & Osterling, 2014). Furthermore, strategic alignment frameworks within BA help organisations translate their vision into measurable objectives and initiatives, ensuring coherence between digital goals and organisational resources (Versteeg & Bouwman, 2006). These frameworks are particularly valuable in large, complex organisations where alignment challenges can derail DT efforts (Simon et al., 2013; Roelens, 2019).

BA's Strategic Role: The strategic role of Business Architecture in DT lies in its ability to facilitate alignment between business strategy and operational capabilities. Research indicates that organisations with mature BA practices achieve higher success rates in DT initiatives, as BA helps to clarify roles, streamline processes, and manage cross-functional dependencies (Hendrickx et al., 2015; Alghamdi, 2024). For example, companies like Microsoft and IBM have implemented BA frameworks to align cloud computing and AI initiatives with long-term strategic goals, ensuring that these investments support broader organisational objectives (Iyamu & Kekwaletswe, 2016). By providing a roadmap that links digital initiatives to core business functions, BA helps organisations achieve both agility and coherence, enabling them to respond quickly to market changes while maintaining strategic focus (Westerman et al., 2014). BA also facilitates cross-functional collaboration by creating a shared language and framework that aligns stakeholders from various departments, reducing the silos that can hinder DT success.

2.1.3 Theoretical Frameworks Supporting DT and BA

Dynamic Capabilities Theory

The Dynamic Capabilities Theory, introduced by Teece, Pisano, and Shuen (1997), claim that an organisation's ability to adapt and reconfigure resources in response to environmental changes is critical to sustained competitive advantage. In DT, dynamic capabilities are essential, as they enable organisations to leverage digital resources to sense and seize market opportunities (Eisenhardt & Martin, 2000). BA plays a key role in building these capabilities by aligning processes, resources, and strategic goals, thus fostering the flexibility needed to respond to technological disruptions (Teece, 2007). Dynamic capabilities theory has been applied to explain successful DT in sectors such as technology and finance, where rapid innovation and adaptability are crucial (Bharadwaj et al., 2013). BA contributes to these capabilities by ensuring that digital initiatives are coherent with the organisation's strategic intent, allowing for continuous evolution in response to new technologies and market demands.

Technology-Organisation-Environment (TOE) Framework

The TOE framework, developed by Tornatzky and Fleischer (1990), examines how technological, organisational, and environmental factors shape technology adoption. This framework is particularly relevant to DT, as it accounts for external pressures, such as regulatory requirements and competitive pressures, which influence digital strategies. BA supports TOE by providing a framework for aligning internal capabilities with these external factors, ensuring that digital initiatives are well-integrated within the broader market and regulatory context (Boh & Yellin, 2007). Empirical studies demonstrate that organisations with strong BA frameworks are better equipped to respond to TOE factors, particularly in regulated industries such as healthcare and finance, where compliance is essential (Matt et al., 2015). BA enables organisations to manage these external pressures effectively by aligning digital initiatives with both internal and external demands.

Resource-Based View (RBV)

The RBV suggests that unique resources and capabilities are fundamental to competitive advantage (Barney, 1991). In the context of DT, RBV underscores the importance of leveraging an organisation's existing strengths—such as knowledge, skills, and data assets—to drive transformation. BA complements RBV by mapping and deploying these resources in a way that aligns with DT objectives (Amit & Zott, 2015). Through capability mapping and strategic alignment, BA ensures that digital initiatives are resource-efficient and focused on leveraging the organisation's intrinsic assets. BA thus becomes a strategic tool that allows organisations to differentiate themselves in competitive markets, as it facilitates the coherent application of unique resources to digital initiatives. Studies confirm that organisations with resource-based BA practices outperform those without by achieving higher alignment and more consistent DT outcomes (Bodine & Hilty, 2009).

Institutional Theory

Institutional Theory examines how external pressures, such as industry norms and regulations, influence organisational practices (Scott, 2008). This theory is relevant to DT, as organisations are often compelled to adopt digital practices to remain compliant or competitive. BA aligns DT initiatives with regulatory requirements, helping organisations navigate these external pressures while maintaining internal coherence (Gkeredakis & Scott, 2022). Institutional Theory's emphasis on compliance and alignment with industry standards is particularly relevant in sectors like healthcare and finance, where strict regulatory adherence is mandatory.

Contingency Theory

Contingency Theory argues that there is no one-size-fits-all approach to organisational design; instead, practices must align with specific environmental conditions (Lawrence & Lorsch, 1967). This perspective is significant in DT, as it implies that digital initiatives must be adapted to each organisation's unique context. BA facilitates this

alignment by allowing organisations to tailor digital strategies to meet specific contextual demands, ensuring that DT initiatives are flexible and context-sensitive (Proper & Lankhorst, 2014). In sum, BA provides a dynamic framework that supports the tailored application of DT in various organisational contexts.

2.2 Strategic Drivers and Benefits of Digital Transformation (DT)

Digital transformation (DT) has become a core strategic imperative across industries, driven by both internal ambitions for improved efficiency and external pressures such as technological advances, competitive dynamics, regulatory changes, and evolving customer expectations (Vial, 2019; Hinterhuber et al., 2021). The motivations behind DT reflect a convergence of factors that emphasise not only the potential to streamline operations and innovate but also the need to meet emerging compliance and sustainability standards (Gurumurthy et al., 2021). This section examines the primary strategic drivers for DT, followed by an analysis of the core benefits that organisations seek through these initiatives. By identifying these motivations and expected outcomes, this section provides a foundation for understanding how DT has become an integral component of modern business strategies and how business architecture (BA) plays a pivotal role in facilitating successful transformation.

2.2.1 Key Motivations for DT

Competitiveness as a Strategic Driver: The need to maintain and enhance competitiveness is one of the most significant drivers of DT. The rise of technology-driven firms and the entry of digital-first companies into traditional markets have forced established organisations to adapt quickly or risk losing market share (Berman, 2012; Kane, 2019). Digital tools, such as big data analytics, artificial intelligence (AI), and cloud computing, enable companies to optimise their processes, reduce costs, and create differentiated customer experiences, positioning them more favorably in a competitive landscape (Lacity & Willcocks, 2013). In retail, for instance, Walmart's deployment of data analytics and AI-

driven inventory management systems exemplifies how DT can enhance competitive positioning by optimising supply chains and delivering better customer experiences. Walmart's investments have allowed it to compete directly with digital-native companies like Amazon, highlighting the importance of digital capabilities in today's marketplace (Geissinger et al., 2020). Similarly, JPMorgan Chase in financial services leverages AI for fraud detection and personalized customer engagement, underscoring DT's role in both operational efficiencies and customer trust-building (Ramesh & Delen, 2021). Research indicates that companies that achieve digital maturity gain significant competitive advantages, with digital leaders often outperforming laggards by substantial margins in revenue growth and profitability (Hinterhuber et al., 2021; Kane et al., 2015).

Customer-Centric Transformation: A customer-centric approach is central to DT, as today's customers expect seamless, personalized interactions across channels and devices (Geissinger et al., 2020). Companies are increasingly adopting digital tools to gather and analyse customer data, enabling them to tailor products and services to individual needs and preferences (Markovits, 2022). Deloitte (2020) suggests that organisations prioritizing digital customer engagement see marked improvements in customer loyalty and satisfaction, linking DT directly to customer retention. For example, in the financial services sector, banks like HSBC have embraced mobile banking apps, AI-driven chatbots, and personalized recommendations as part of their DT initiatives. These tools not only improve service accessibility but also foster a closer relationship between the bank and its customers, aligning with DT's goal of enhanced customer-centricity (Ramesh & Delen, 2021). Similarly, in telecommunications, Vodafone has adopted DT strategies, integrating machine learning and predictive analytics to improve customer experiences and reduce churn rates (Vial, 2019). By enhancing customer engagement, companies aim to build loyalty and differentiation, positioning themselves as leaders in an increasingly customer-focused market (Kane, 2019).

Innovation and New Business Models: The pursuit of innovation and the development of new business models are powerful motivators for DT. Digital technologies enable organisations to explore novel ways of creating and delivering value, from launching digital platforms to using data for new insights (Schallmo et al., 2017). According to a study by McKinsey, 70% of executives consider DT to be fundamentally about business innovation, with digital technologies offering pathways to diversify revenue streams and enhance product offerings (LaBerge et al., 2020). Tesla's approach to DT demonstrates the potential for creating new business models through digital transformation. Tesla integrates hardware, software, and data analytics to offer features such as over-the-air updates, autonomous driving capabilities, and a subscription model for premium services. This model not only generates recurring revenue but also enhances customer value, illustrating how DT can shift traditional paradigms (Bonnet, 2022). The media industry also showcases DT's role in innovation; streaming services like Netflix leverage AI for content recommendations, creating a unique, data-driven business model that reshapes entertainment consumption (Geissinger et al., 2020).

Regulatory Compliance and Risk Management: DT is increasingly being driven by regulatory and compliance demands, particularly in industries such as finance, healthcare, and telecommunications, where strict data protection and reporting standards apply (Schmidt et al., 2018). Digital tools help organisations maintain compliance by automating data collection, enhancing accuracy, and enabling real-time reporting. For example, many financial institutions use AI and machine learning to meet anti-money laundering (AML) and know-your-customer (KYC) requirements, reducing the risk of non-compliance and associated fines (Rupeika-Apoga & Petrovska, 2022). DT helps ensure compliance with patient data protection regulations in the healthcare sector, such as HIPAA (Health Insurance Portability and Accountability Act) in the United States. By implementing digital record systems and advanced encryption, healthcare providers can enhance both regulatory

compliance and data security, thereby reducing operational risk (Westerman et al., 2014). The potential of DT to support regulatory adherence highlights its importance as a risk mitigation strategy, particularly in sectors where compliance is critical to operational continuity.

Environmental Sustainability: Environmental sustainability has become an essential consideration for companies, as regulatory bodies and consumers demand more eco-friendly practices (Cichosz et al., 2020). DT supports sustainability by enabling organisations to monitor resource usage, reduce waste, and optimise energy consumption through tools such as IoT devices and predictive analytics (Gong et al., 2020). For example, Siemens employs digital twins—a virtual model that mirrors real-world processes—to optimise energy efficiency in manufacturing, reducing both costs and environmental impact (Kane, 2019). Companies are also integrating DT into supply chain management to improve transparency and traceability, particularly for sourcing ethically produced materials. Unilever, for example, has incorporated blockchain technology to track the origins of its raw materials, ensuring sustainable sourcing and meeting consumer expectations for ethical practices (Schallmo et al., 2017). These initiatives illustrate how DT can align with sustainability goals, creating value beyond profitability and addressing broader societal concerns.

2.2.2 Benefits Realisation and the Role of Strategic Alignment

The anticipated benefits of DT are substantial; however, they are not automatically achieved through the adoption of digital tools alone. Realizing the benefits of DT requires careful alignment between digital initiatives and the organisation's strategic objectives. Research indicates that alignment between digital transformation and business goals is a critical factor in determining success, as poorly aligned DT initiatives often fail to deliver the expected value (Markovits, 2022; Vial, 2019). This section explores the key benefits that organisations seek from DT and examines the role of strategic alignment in ensuring that these benefits are fully realised.

Enhanced Operational Efficiency: DT offers substantial opportunities for operational efficiencies by automating processes, reducing errors, and optimising resource allocation. For instance, robotic process automation (RPA) has been shown to reduce operational costs by up to 30%, making it a highly attractive investment for companies looking to streamline back-office functions (Hess et al., 2016). In logistics, firms like DHL use IoT and AI to optimise delivery routes and improve inventory management, reducing waste and enhancing speed (Schallmo et al., 2017). However, research highlights that achieving these efficiencies often depends on aligning DT with operational goals. A study by PwC (2021) found that companies with clear operational alignment are 40% more likely to achieve targeted efficiency improvements than those without strategic alignment. Such data underscore the importance of BA in structuring DT initiatives that are consistent with operational priorities, maximizing resource utilization and enhancing productivity (Westerman et al., 2014).

Improved Decision-Making Through Data Analytics: Data analytics is a cornerstone of DT, enabling organisations to derive actionable insights from vast amounts of data. Real-time access to data enhances decision-making agility, allowing firms to respond quickly to market changes (Kane, 2019; Vial, 2019). In retail, Walmart and Target utilize predictive analytics to optimise inventory, forecast demand, and reduce stockouts, leading to improved sales and customer satisfaction (Geissinger et al., 2020). Despite the potential of data analytics, studies suggest that the effectiveness of these insights depends on data governance and organisational alignment. Gartner (2020) found that only 30% of companies fully realise data analytics benefits due to a lack of alignment with business goals. BA frameworks are essential in standardizing data practices, ensuring that analytics initiatives are relevant to strategic priorities, and creating a single source of truth for data-driven decisions (Proper & Lankhorst, 2013).

Enhanced Agility and Responsiveness: The agility that DT provides enables organisations to respond swiftly to evolving market conditions and capitalize on new

opportunities. Research by McKinsey (LaBerge et al., 2020) found that agile organisations outperform their peers by a factor of five in terms of speed to market and innovation adoption. By digitizing processes, organisations can pivot operations, scale quickly, and adapt to unforeseen changes. Procter & Gamble exemplifies agility through DT, with a digital strategy that integrates analytics, cloud solutions, and agile processes across global teams, allowing it to adjust rapidly to supply chain disruptions and consumer trends (Bodine & Hilty, 2009). Strategic alignment is critical in fostering this agility, as it ensures that DT initiatives are scalable and coherent across various functions.

Long-term Value Creation: Beyond immediate gains, DT provides a foundation for sustainable growth and long-term value creation by enabling organisations to innovate, adapt, and evolve continuously. Companies that leverage DT strategically can develop new revenue streams, improve customer loyalty, and sustain competitive advantages (Bonnet, 2022). Netflix's evolution from DVD rentals to a streaming platform exemplifies this potential, as the company used data analytics and machine learning to personalize content recommendations, thereby reshaping customer engagement (Hess et al., 2016). The long-term value of DT initiatives, however, hinges on strategic alignment with overarching business goals. Research by BCG (2022) reveals that organisations with integrated DT frameworks are twice as likely to maintain competitive advantages over time, further underscoring the importance of BA in guiding sustainable digital innovation. BA ensures that DT initiatives are future-oriented and aligned with long-term objectives, supporting enduring value creation.

2.3 Organisational and Structural Challenges in Digital Transformation (DT)

The promise of digital transformation (DT) to drive innovation, efficiency, and competitive advantage is clear; however, organisational and structural barriers frequently impede its successful Realisation. Current estimates indicate that 70-90% of DT initiatives fail to deliver expected outcomes (Ramesh & Delen, 2021; Tabrizi et al., 2019). This section critically explores the organisational and structural challenges that undermine DT efforts,

such as complexity and fragmentation, cultural resistance, resource limitations, strategic misalignment, and legacy systems. The discussion is supported by recent literature and grounded in theoretical frameworks like Contingency Theory, Complexity Theory, and the Resource-Based View (RBV), which together provide a comprehensive lens for understanding these barriers. Furthermore, this section considers the potential of business architecture (BA) as a structured framework to address these challenges and facilitate DT success.

2.3.1 Complexity and Fragmentation in Large Organisations

The structural complexity within large organisations poses a formidable barrier to DT initiatives. With intricate hierarchies, functional silos, and multi-layered decision-making processes, many large firms find it difficult to achieve the agility and cross-functional integration necessary for digital success. Contingency Theory, with its assertion that organisational effectiveness is contingent on aligning structure with environmental demands, suggests that organisations entrenched in traditional, rigid structures may struggle to adapt to the dynamic demands of DT (Lawrence & Lorsch, 1967; Donaldson, 2001). Modern empirical studies affirm this, showing that organisations with more flexible structures are better positioned to integrate digital initiatives (Geissdoerfer et al., 2020; Asif & Searcy, 2021).

The concept of organisational fragmentation, defined as the lack of coordination across business units, exacerbates these structural issues, particularly in global organisations with diverse regulatory environments. Here, Complexity Theory provides insight by viewing organisations as complex adaptive systems where structural fragmentation can lead to competing priorities, inefficient resource allocation, and misaligned goals (Anderson, 1999; Uhl-Bien et al., 2007). Recent research in healthcare and finance underscores this fragmentation, highlighting how siloed operations prevent the seamless integration of data systems necessary for cohesive DT initiatives (Vial, 2019; Cichosz et al., 2020). In

healthcare, for example, the adoption of integrated electronic health records (EHRs) is frequently impeded by the siloed structures of hospitals, which limit interdepartmental data sharing and regulatory compliance (Westerman et al., 2014; Hess et al., 2022).

The role of BA in addressing organisational complexity and fragmentation is crucial. BA frameworks help to break down silos by providing a unified strategy that aligns business processes, data flows, and digital initiatives across functions and geographies. By aligning organisational structure with digital strategy, BA mitigates fragmentation and enhances the agility needed to navigate complex regulatory and operational landscapes (Proper & Lankhorst, 2013; Simon et al., 2019).

2.3.2 Cultural Resistance and Change Management Challenges

Cultural resistance is widely recognised as a major barrier to DT, often arising from a deeply embedded reluctance to change established practices and values. Employees may view DT as disruptive, particularly if it threatens established workflows or introduces uncertainties regarding job security (Tabrizi et al., 2019). Change Management Theory and Schein's Organisational Culture Model emphasise that DT success relies on addressing these cultural factors through structured change management processes that foster buy-in and reinforce new behaviours (Kotter, 1996; Schein, 1985). Studies indicate that organisations that integrate structured change management models see higher success rates in DT, underscoring the importance of aligning cultural values with transformation goals (Cameron & Green, 2019; Schroeder & Lam, 2019). Contemporary critiques of change management models, however, argue that traditional frameworks may oversimplify the socio-political dynamics within organisations, especially in larger and more hierarchical institutions (Burnes & Jackson, 2011). In practice, resistance is often compounded by power dynamics and competing interests within departments, which can create additional barriers to implementing new digital practices (Ford & Ford, 2020). In industries with a strong regulatory framework, such as finance, the tendency to adhere to risk-averse practices further complicates the adoption of

DT, indicating that cultural change must be supported by leadership commitment and contextual sensitivity (Geissinger et al., 2020; Bharadwaj et al., 2022). BA plays a pivotal role in facilitating cultural alignment with DT by embedding digital objectives within the organisation's existing cultural framework. By mapping digital goals to core organisational values, BA helps to reduce resistance by demonstrating how digital initiatives align with employees' roles and organisational purpose (Doucet et al., 2009; Schallmo et al., 2020). This approach aligns with the concept of "cultural ambidexterity"—the ability to balance cultural stability with openness to innovation, which has been identified as essential for successful DT in traditional sectors (Junni et al., 2015; Iyamu & Kekwaletswe, 2016).

2.3.3 Resource Constraints and Competing Priorities

Resource constraints represent another significant obstacle to DT, as organisations often face high costs associated with technology, infrastructure, and workforce training. According to the Resource-Based View (RBV), an organisation's competitive advantage hinges on its ability to effectively allocate scarce resources (Barney, 1991; Peteraf, 1993). However, many organisations underinvest in DT due to budgetary limitations and competing priorities, resulting in fragmented digital initiatives that lack the scale needed for transformative impact (Cichosz et al., 2020). The recent economic downturn has exacerbated this issue, as organisations prioritise immediate financial stability over long-term digital investments (Gurumurthy et al., 2021). This challenge is particularly pronounced in sectors with narrow profit margins, such as retail and manufacturing, where operational costs often overshadow digital priorities. PwC (2021) found that firms with constrained DT budgets experience diminished ROI due to insufficient resource allocation, which hampers their ability to implement cohesive digital solutions. Competing priorities further complicate this scenario; in capital-intensive industries like energy, where large-scale infrastructure projects demand substantial funding, DT initiatives may be sidelined in favor of immediate operational needs (Bonnet, 2022; Stahl et al., 2023). BA frameworks provide a solution by

enabling organisations to prioritise digital initiatives in alignment with strategic objectives, ensuring efficient resource deployment. By clarifying the expected value of each digital project, BA helps decision-makers allocate resources in ways that support long-term DT goals, effectively bridging the gap between short-term financial demands and long-term transformation objectives (Ross et al., 2006; Proper & Lankhorst, 2019).

2.3.4 Misalignment and Lack of Strategic Coherence

Strategic misalignment is a prevalent issue in DT, often resulting from a failure to integrate digital initiatives within the broader organisational strategy. Studies indicate that misalignment between DT and core business strategy leads to isolated digital projects that lack coherence, scalability, and long-term value (Markovits, 2022; BCG, 2020). Strategic Management Theory suggests that functional and business strategies must be aligned to optimise organisational outcomes (Porter, 1996), yet the rapid pace and technological complexity of DT initiatives often outpace strategic planning, resulting in a disconnect between digital teams and executive leadership. For instance, digital customer engagement tools are frequently deployed in the automotive sector without alignment to broader customer relationship strategies, limiting their impact on loyalty and retention (Schallmo et al., 2017). Empirical evidence shows that organisations with integrated digital and business strategies achieve higher success rates, emphasizing the importance of strategic coherence (Boston Consulting Group, 2020). BA frameworks address this challenge by creating a structured approach to embedding DT initiatives within the organisational strategy, ensuring alignment and coherence between digital projects and long-term business objectives (Simon et al., 2013; Doucet et al., 2021).

2.3.5 Organisational Inertia and Legacy Systems

Organisational inertia, a resistance to abandoning established routines and practices, presents a substantial obstacle to DT, particularly in legacy-dominated industries.

Institutional Theory recognises that organisations are inclined toward stability and continuity, and this internalized focus on the status quo can hinder disruptive changes like DT (DiMaggio & Powell, 1983; Scott, 2013). Research shows that inertia is most pronounced in regulated sectors, where compliance requirements reinforce traditional workflows and limit experimentation (Vial, 2019; Bharadwaj et al., 2022). Legacy systems—outdated technologies that constrain digital agility—exacerbate organisational inertia. Known as "technological debt," these systems accumulate constraints that limit an organisation's ability to adopt modern, scalable digital platforms (Lacity & Willcocks, 2013; Hess et al., 2016). For example, many banks continue to rely on mainframe systems that are incompatible with cloud-based or mobile applications, limiting their ability to modernize customer services (Cichosz et al., 2020). The cost of updating or replacing legacy systems often deters investment in DT, perpetuating dependency on outdated technologies that cannot support digital goals.

BA frameworks mitigate both organisational inertia and legacy constraints by providing a phased approach to modernization. By prioritizing gradual system integration and promoting scalable architectures, BA helps organisations replace outdated systems without destabilizing core operations. This aligns with Institutional Theory's emphasis on adaptive change, enabling organisations to balance innovation with continuity to maintain operational stability. In heavily regulated sectors, BA provides a structured pathway for modernization by enabling phased, compliant updates that reduce technological debt while maintaining essential legacy functions. By framing digital transformation as an evolution rather than a radical shift, BA helps organisations manage inertia, ensuring that both leadership and employees are prepared to embrace gradual change (Proper & Lankhorst, 2019; Alghamdi, 2024).

2.3.6 Emerging Challenges in Data Governance, Skills Gap, and Digital Ethics

The increasing reliance on data-driven DT initiatives introduces new challenges around data governance, compliance, skills shortages, and ethical considerations. Data Governance Models, such as the DAMA-DMBOK framework, provide guidelines for managing data integrity and ensuring compliance with privacy regulations, including GDPR and CCPA. However, empirical studies show that many organisations lack a comprehensive data governance structure, resulting in fragmented practices that hinder their ability to leverage data for strategic purposes (Kshetri, 2014; Erevelles et al., 2016). In global organisations, the challenge is compounded by the need to adhere to diverse data protection standards across jurisdictions, further complicating efforts to maintain consistent data practices (Hess et al., 2022).

The digital skills gap poses another substantial barrier to DT, as organisations struggle to find employees with expertise in fields like data analytics, artificial intelligence (AI), and cybersecurity. McKinsey (2021) reports that companies facing talent shortages in these areas experience up to 30% lower DT success rates, illustrating the critical importance of digital proficiency for achieving transformation goals. The Resource-Based View (RBV) positions human capital as a key resource for competitive advantage, and in the context of DT, digital skills represent a valuable but scarce resource that organisations must actively cultivate (Barney, 1991). Despite the availability of reskilling programmes, organisations continue to face challenges in bridging the skills gap, particularly in rapidly evolving fields like AI, where the pace of technological change often outstrips workforce training efforts (Schroeder & Lam, 2019). In addition, DT introduces complex ethical challenges, especially as AI and automation reshape organisational operations. Digital Ethics Theory emphasises the responsibility of organisations to consider the ethical implications of digital technologies, such as potential workforce displacement, surveillance, and algorithmic bias (Floridi, 2016; Brynjolfsson & McAfee, 2014). The rapid adoption of AI-driven decision-making raises ethical concerns, particularly when these technologies influence hiring, pricing, and customer

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interactions. Without appropriate oversight, AI can perpetuate biases embedded within training data, leading to discriminatory outcomes that damage organisational reputation and violate regulatory standards.

BA frameworks play a vital role in addressing these emerging challenges by embedding ethical, compliance, and workforce considerations into DT strategies. Through BA, organisations can establish governance frameworks that ensure data privacy and security, enabling them to adhere to regulatory requirements while optimising data usage for strategic insights (Proper & Lankhorst, 2019). BA can also guide skills development by identifying the critical digital competencies needed to support DT initiatives, allowing organisations to structure training programmes that build these skills systematically. Finally, BA provides a foundation for integrating ethical guidelines into digital practices, helping organisations navigate the complexities of AI ethics and responsibly manage the impact of DT on employees and stakeholders.

2.4 Frameworks for Measuring the Success of Digital Transformation (DT) Initiatives

The evaluation of digital transformation (DT) initiatives remains a complex, multidimensional challenge. While DT is widely pursued to enhance organisational efficiency, customer engagement, and innovation, measuring its success is not straightforward due to the multifaceted nature of transformation efforts. Traditional financial metrics often fall short of capturing the broader impacts of DT, as these transformations involve both tangible and intangible changes across the organisation (Legner et al., 2017). This section critically evaluates key frameworks used to assess DT success, including the Balanced Scorecard, the Digital Maturity Model, the Dynamic Capabilities Framework, and newer, integrative models tailored for digital transformations. The discussion is grounded in theoretical perspectives such as Stakeholder Theory and Value-Based Management, highlighting the limitations of existing approaches and the evolution of more holistic measurement tools.

2.4.1 Balanced Scorecard (BSC) and Its Adaptations

The Balanced Scorecard (BSC), introduced by Kaplan and Norton (1992), has been a widely used performance measurement framework, assessing organisations across four dimensions: financial, customer, internal business processes, and learning and growth. While the BSC provides a structured, multi-dimensional approach, its emphasis on financial outcomes has led some scholars to question its applicability in digital transformation contexts, where success often includes non-financial metrics like agility, innovation, and customer experience (Legner et al., 2017). In response, several adaptations of the BSC have emerged to better suit DT's requirements, integrating metrics that focus on digital capabilities, organisational resilience, and user engagement (Kaplan & Norton, 2005; Hasan & Chyi, 2017).

Recent studies have highlighted the utility of the BSC in aligning DT goals with broader organisational strategy. By modifying the customer and learning dimensions to include digital experience metrics, organisations can better track the impact of DT on customer engagement and internal knowledge development (Reis, & Melão, 2023). For instance, in the retail sector, adapting the BSC to track metrics like digital customer retention rates and employee digital competency enables organisations to capture DT's broader strategic impact (Schallmo et al., 2020). However, the BSC has been critiqued for lacking flexibility in rapidly changing digital environments. Critics argue that its relatively fixed categories and focus on historical data hinder its ability to adapt to the iterative nature of DT, where metrics must evolve alongside transformation processes (Matt et al., 2015). This limitation underscores the need for more dynamic measurement frameworks that can accommodate the agility required in DT.

2.4.2 Digital Maturity Models (DMM)

The Digital Maturity Model (DMM), popularized by Westerman et al. (2012) and further developed by industry bodies like Deloitte and PwC, evaluates an organisation's digital progress across dimensions such as strategy, culture, technology, and customer engagement. The DMM focuses on an organisation's ability to adopt digital technologies and transform its operations, offering a diagnostic tool that benchmarks progress and identifies gaps in digital capabilities (Chanias & Hess, 2016). Unlike the BSC, which emphasises financial metrics, the DMM prioritises the process of transformation, assessing an organisation's preparedness and adaptive capacity for digital change.

DMMs have gained traction due to their applicability across industries, with customization options that enable organisations to tailor the model to their specific digital objectives. In the banking sector, for example, a customized DMM can evaluate an institution's ability to integrate AI and blockchain technologies, assessing readiness in areas such as IT infrastructure, regulatory compliance, and talent acquisition (Gong et al., 2020). The DMM's process-oriented focus makes it particularly suited to DT, as it captures not only the current state of digital capability but also the organisation's potential for future innovation. Despite its strengths, the DMM has been criticized for its reliance on subjective assessments and lack of standardised metrics, which can lead to inconsistencies in evaluation across different organisational contexts (Fitzgerald et al., 2014). Further, the model's emphasis on digital capabilities can obscure the actual business outcomes of DT, making it difficult for organisations to link digital maturity directly to value creation. This limitation suggests that while DMMs are valuable diagnostic tools, they may need to be supplemented with additional frameworks that link maturity to performance outcomes.

2.4.3 Dynamic Capabilities Framework

The Dynamic Capabilities Framework (DCF), developed by Teece et al. (1997), provides a theoretical basis for assessing an organisation's ability to adapt and respond to changing environments, a core requirement of successful DT. The framework identifies three primary capabilities—sensing, seizing, and transforming—that organisations need to sustain competitive advantage in volatile markets (Teece, 2007). In the context of DT, DCF evaluates an organisation's responsiveness to digital innovation, capturing the adaptive processes that drive transformation outcomes.

Research indicates that organisations with strong dynamic capabilities are more successful in DT, as these capabilities enable them to anticipate technological shifts, mobilize resources, and reconfigure operations to leverage digital advancements (Kane et al., 2015; Naimi-Sadigh et al., 2022). For instance, in high-tech industries, firms that excel at sensing market trends and transforming their business models to integrate digital solutions have achieved higher levels of digital maturity and performance (Karimi & Walter, 2015). However, critics argue that the DCF's focus on high-level organisational capabilities makes it difficult to operationalize in specific DT initiatives. The abstract nature of sensing, seizing, and transforming can limit the framework's practical applicability, as organisations struggle to identify concrete metrics for each capability. Recent adaptations have attempted to bridge this gap by developing sector-specific DCF metrics that link capabilities to measurable outcomes, such as innovation rates, customer retention, and digital revenue growth (Schroeder & Lam, 2019; Bharadwaj et al., 2022).

2.4.4 Integrated Measurement Frameworks: The Digital Transformation Index and Value-Based Models

Recognising the limitations of traditional frameworks, several contemporary studies and consulting firms have developed integrated measurement frameworks that combine elements of the BSC, DMM, and DCF. The Digital Transformation Index (DTI), for instance,

introduced by consulting firms like Dell Technologies and IDC, measures DT success across five dimensions: customer experience, operational efficiency, innovation, data management, and security. By synthesizing insights from multiple frameworks, the DTI offers a comprehensive, multi-dimensional approach to assessing DT, focusing on both process maturity and business impact (Dell Technologies, 2021).

Value-based models also represent a shift toward more outcome-oriented DT measurement. Value-Based Management (VBM), which aligns transformation metrics with shareholder and stakeholder value, has emerged as a critical approach for quantifying DT's financial and strategic impact (Rappaport, 1986; Damodaran, 2020). In DT contexts, VBM frameworks prioritise metrics that demonstrate value creation, such as digital revenue growth, cost savings from automation, and improvements in customer lifetime value (Kollmann et al., 2021). By linking DT initiatives to value-based metrics, organisations can provide stakeholders with clear evidence of digital transformation's return on investment.

Integrated frameworks such as DTI and VBM are particularly valuable for organisations seeking to justify DT investments, as they offer a balanced perspective that includes both digital maturity and tangible business outcomes. However, these frameworks are relatively new and require further empirical validation to establish their reliability across different industries. Moreover, the integration of diverse metrics can lead to complexity in data collection and analysis, which may present challenges for organisations with limited resources or data management infrastructure (Dell Technologies, 2021; Kollmann et al., 2021).

2.4.5 Critical Challenges in DT Measurement and the Role of Business Architecture

Despite advancements in DT measurement frameworks, significant challenges remain. Traditional models often emphasise process maturity or financial outcomes, overlooking the intangible benefits of DT such as organisational agility, employee engagement, and innovation capacity (Vial, 2019). Moreover, the lack of standardised

metrics for DT success creates inconsistencies across industries, complicating benchmarking efforts and limiting the comparability of transformation outcomes (Gartner, 2020).

Business Architecture (BA) has the potential to address these challenges by integrating measurement frameworks within a cohesive organisational structure that aligns DT metrics with strategic objectives. Through BA, organisations can develop a custom measurement approach that captures both the quantitative and qualitative impacts of DT, facilitating a more comprehensive assessment of transformation outcomes (Proper & Lankhorst, 2019; Simon et al., 2019). For instance, BA can help organisations tailor BSC and DCF metrics to their unique digital goals, providing a structured pathway for tracking both process improvements and value creation. Furthermore, BA supports continuous evaluation and iterative refinement of DT initiatives, allowing organisations to adapt their measurement frameworks as transformation progresses. This approach aligns with the dynamic, evolving nature of DT, enabling organisations to measure not only the immediate impacts but also the long-term value generated by digital transformation efforts.

2.5 Business Architecture as a Bridge between Strategy and Execution

As organisations navigate the complexities of digital transformation (DT), the need for a cohesive framework that aligns strategic goals with operational execution has become paramount. Business Architecture (BA) serves as a structured approach to bridging this gap, enabling organisations to translate high-level strategies into actionable plans that resonate with both technological and business objectives. Defined as "a blueprint of the enterprise that provides a common understanding of the organisation and is used to align strategic objectives and tactical demands" (Kuehn et al., 2018), BA has evolved from its roots in enterprise architecture to become a critical discipline for aligning digital initiatives with organisational goals. This section critically examines BA's role in connecting strategy and execution within the context of DT, analysing its practical applications, limitations, and contributions to DT success.

2.5.1 Evolution of Business Architecture in the Context of Digital Transformation

Historically, BA was considered a subdomain of Enterprise Architecture (EA), primarily focused on aligning IT infrastructure with business needs (Ross et al., 2006; Versteeg & Bouwman, 2006). Early BA efforts were often limited in scope, with an emphasis on technical specifications rather than strategic alignment (Tozer, 1986). However, as digital transformation has become an essential strategic priority, BA has shifted toward a broader role that incorporates not only IT alignment but also the alignment of organisational structure, processes, and capabilities with strategic objectives (Hendrickx et al., 2015; Tortora et al., 2021).

In recent years, professional bodies like the Business Architecture Guild have accelerated the formalization of BA as an independent discipline. The development of frameworks like the Business Architecture Body of Knowledge (BIZBOK) has provided practitioners with standardised methodologies, helping to distinguish BA from traditional EA and elevate its strategic significance (Business Architecture Guild, 2020). These developments reflect an acknowledgment that BA is critical for navigating the complexities of DT, as it enables organisations to coordinate digital initiatives with their overall strategic vision.

2.5.2 Business Architecture's Role in Strategic Alignment and Execution

The primary value of BA lies in its ability to facilitate strategic alignment, ensuring that DT initiatives support the broader organisational objectives rather than becoming isolated technological projects. By providing a holistic view of the organisation's processes, capabilities, and information flows, BA enables decision-makers to prioritise digital investments that drive business value. The Resource-Based View (RBV) and Contingency Theory underscore BA's importance in creating a competitive advantage by aligning resources, capabilities, and strategic goals to environmental demands (Barney, 1991; Donaldson, 2001).

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BA achieves this alignment through the development of business capability maps, value streams, and process models that delineate the connections between strategic goals and operational functions. For instance, a BA framework in a manufacturing firm might map digital initiatives directly to production capabilities, ensuring that DT efforts optimise critical areas like supply chain efficiency and product quality (Schallmo et al., 2020). By translating high-level objectives into specific, measurable capabilities, BA helps organisations operationalize their DT strategies, promoting coherence across departments and functions (Kornyshova & Barrios, 2020; Doucet et al., 2021).

2.5.3 Business Architecture and Organisational Agility

Organisational agility—the ability to respond rapidly to market changes and emerging digital trends—is increasingly recognised as a key factor in DT success. Agility requires not only adaptive technology but also flexible business processes and structures that can support continuous innovation. Complexity Theory, which views organisations as adaptive systems, suggests that agility depends on the seamless integration of strategy and execution (Anderson, 1999). BA supports this integration by providing a structured approach to organisational redesign, facilitating rapid adjustments in processes, resources, and priorities (Junni et al., 2015; Geissdoerfer et al., 2020). In practice, BA fosters agility by enabling organisations to modularize their processes, making it easier to adapt specific functions without disrupting the entire system. This modularity is essential in industries like retail and telecommunications, where organisations must frequently recalibrate operations to respond to shifts in consumer demand and technological advancements (Schroeder & Lam, 2019). Through value-stream mapping and capability-based planning, BA frameworks provide the agility to iteratively improve and realign digital initiatives in response to real-time insights, enhancing the organisation's capacity for innovation and resilience (Proper & Lankhorst, 2019; Amit & Zott, 2021).

2.5.4 Addressing Cultural and Structural Barriers through Business Architecture

One of the persistent challenges in DT is overcoming cultural and structural barriers that can inhibit the implementation of digital initiatives. Cultural resistance, as noted in Schein's Organisational Culture Model, often arises from deeply ingrained practices and values that conflict with the goals of DT (Schein, 1985). Moreover, structural issues—such as rigid hierarchies and functional silos—limit cross-functional collaboration, reducing the effectiveness of DT efforts (Lawrence & Lorsch, 1967; Tabrizi et al., 2019).

BA frameworks help to address these barriers by promoting cross-functional alignment and facilitating organisational restructuring where necessary. By creating a shared vision and language around digital goals, BA fosters a collaborative culture that encourages buy-in from all levels of the organisation. For instance, in a financial services firm, BA might be used to design digital processes that involve both IT and compliance teams, ensuring alignment with regulatory standards while fostering a collaborative approach to innovation (Cichosz et al., 2020). This alignment enables organisations to build consensus around DT goals, minimizing resistance and enhancing the likelihood of successful implementation (Kane et al., 2015; Verhoef et al., 2021). Further, BA frameworks enable organisations to create agile structures that reduce hierarchies and support dynamic roles, aligning with the demands of digital work environments. By developing flexible organisational structures, BA supports the adoption of cross-functional teams and promotes a more agile, collaborative approach to digital initiatives (Gurumurthy et al., 2021; Doucet et al., 2021).

2.5.5 Measuring and Sustaining the Impact of Business Architecture in Digital Transformation

The success of BA in DT hinges on its ability to drive measurable outcomes that align with both strategic and operational objectives. Effective BA frameworks incorporate performance metrics that assess alignment, agility, and value Realisation throughout the DT process (Ross et al., 2006; Kornyshova & Barrios, 2020). These metrics provide an evidence-

based foundation for evaluating the impact of BA, linking digital initiatives to tangible business outcomes such as increased efficiency, improved customer satisfaction, and enhanced financial performance. In measuring BA's effectiveness, recent research highlights the need for integrated, multi-dimensional metrics that capture both quantitative and qualitative outcomes (Schallmo et al., 2020; Tortora et al., 2021). For example, in the telecommunications sector, metrics might include customer retention rates, digital revenue growth, and operational efficiency gains, alongside employee engagement scores and innovation capacity. These metrics reflect the dual value of BA: its role in optimising current operations and its contribution to future-readiness in an evolving digital landscape. Continuous evaluation is essential for sustaining BA's impact in DT. By establishing feedback loops within the BA framework, organisations can regularly reassess alignment and make adjustments to ensure that DT remains relevant to organisational goals and market demands. This iterative approach aligns with principles of Agile Methodology and the Dynamic Capabilities Framework, which emphasise continuous adaptation and responsiveness in volatile environments (Teece, 2007; Hess et al., 2016).

2.5.6 Challenges and Limitations of Business Architecture in Digital Transformation

While BA offers substantial benefits, there are inherent challenges and limitations that organisations must address to maximize its effectiveness in DT. One of the primary limitations is the resource intensity of implementing a robust BA framework. Organisations must invest in skilled personnel, comprehensive training, and supportive technologies to operationalize BA effectively. For smaller firms or those with limited resources, these requirements can be prohibitive, leading to inconsistent or incomplete adoption of BA practices (Reis & Melão, 2023). Moreover, the BA discipline is still evolving, with limited empirical research validating its long-term impact on DT across diverse industries. Scholars argue that while BA frameworks theoretically support strategic alignment, their practical application often varies, with inconsistent definitions of "capabilities" and "value streams"

creating ambiguity and potential misalignment (Bernard, 2012; Tortora et al., 2021). Further empirical studies are needed to establish standardised BA practices and assess their scalability across sectors.

The effectiveness of BA in DT depends heavily on organisational culture and leadership commitment. Without active support from executive leadership and alignment with the organisation's strategic vision, BA efforts may become disconnected from core objectives, limiting their impact. Studies indicate that successful BA implementation requires an environment of openness, collaboration, and long-term commitment to continuous improvement, factors that are not universally present in all organisations (Schallmo et al., 2020; Alghamdi, 2024).

2.6 Defining Core Business Architecture Practices

As organisations increasingly pursue digital transformation (DT), Business Architecture (BA) has emerged as a critical framework for aligning strategic objectives with operational execution. Defined as "a blueprint of the enterprise that provides a common understanding of the organisation and is used to align strategic objectives and tactical demands" (Kuehn et al., 2018), BA involves several core practices that collectively enable organisations to bridge the gap between strategy and execution, fostering agility, customer-centricity, and digital integration. This section examines key BA practices—capability mapping, value-stream analysis, business process modelling, stakeholder engagement, and enterprise modelling—highlighting their theoretical foundations, practical applications, interdependencies, and limitations.

2.6.1 Capability Mapping and Strategic Alignment

Capability mapping is foundational to BA, focusing on identifying and categorizing organisational capabilities to facilitate alignment with strategic goals. Rooted in the Resource-Based View (RBV), capability mapping positions capabilities as unique, valuable resources that can drive competitive advantage when strategically aligned (Barney, 1991;

Peteraf, 1993). This approach enables organisations to prioritise digital initiatives that enhance core capabilities, ensuring that DT investments directly contribute to strategic outcomes. Empirical evidence supports capability mapping as a valuable tool for directing digital resources to high-impact areas. In healthcare, for instance, capability mapping often identifies patient data management and telemedicine capabilities as priorities for digital investment, thus aligning DT with essential patient care objectives and compliance needs (Schroeder & Lam, 2019; Benedetti et al., 2022). By focusing DT efforts on critical capabilities, organisations can optimise resource allocation and enhance the relevance of digital initiatives. However, capability mapping is resource-intensive, requiring substantial time and expertise to effectively map, assess, and continuously refine capabilities. Without sustained executive commitment, capability mapping can fail to yield actionable insights, limiting its impact on DT. Moreover, in volatile environments where strategic priorities shift rapidly, static capability maps may lose relevance, underscoring the need for iterative, dynamic approaches (Kornyshova & Barrios, 2020). BA frameworks can mitigate these limitations by integrating real-time data and enabling iterative updates, thus enhancing the adaptability of capability mapping in dynamic DT contexts.

2.6.2 Value Stream Analysis and Customer-Centric Transformation

Value Stream Analysis (VSA) is a core BA practice that emphasises end-to-end value creation, mapping the activities and processes contributing to customer outcomes. Grounded in Customer Value Theory, VSA aligns DT with customer needs by identifying and optimising processes that directly enhance customer experience and engagement (Woodruff, 1997). This approach resonates in sectors like retail, where customer-centric transformation is critical to maintaining competitiveness. In practice, VSA enables organisations to streamline operations and integrate digital solutions tailored to customer demands. In e-commerce, for example, VSA might reveal bottlenecks in the supply chain that delay deliveries. By

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implementing real-time tracking and predictive analytics, companies can optimise these processes, reducing lead times and enhancing customer satisfaction (Schallmo et al., 2020; Markovits, 2022). This focus on customer-centricity enables DT to deliver immediate, measurable benefits to customers, increasing retention and brand loyalty. The effectiveness of VSA is often constrained by organisational silos, as successful value-stream optimization requires cross-functional collaboration and data transparency (Proper & Lankhorst, 2019). In environments where departments operate independently, VSA's customer-centric objectives can be undermined by competing priorities, leading to fragmented DT efforts that lack coherence. To address these challenges, BA frameworks must foster integrated, cross-functional approaches that prioritise VSA as a cohesive, organisation-wide effort, ensuring alignment with overarching DT goals (Kane et al., 2015; Sarker et al., 2021).

2.6.3 Business Process Modelling and Operational Excellence

Business Process Modelling (BPM) is an essential BA practice for documenting, analysing, and improving workflows, a foundational step in achieving operational excellence within DT. Informed by Process Theory, which underscores the importance of optimising workflows to enhance organisational performance, BPM enables organisations to visualize and refine processes in line with digital objectives (Pentland, 2003). By identifying and eliminating inefficiencies, BPM supports the integration of automation, AI, and other digital tools, fostering agility and reducing operational costs. The financial sector illustrates BPM's practical value in DT, as banks often leverage BPM to streamline compliance workflows, integrating digital solutions that enhance efficiency while adhering to regulatory requirements. By documenting processes, banks can identify areas where automation can reduce manual workloads, increasing accuracy and decreasing processing time (Bernard, 2012; Geissdoerfer et al., 2020). This structured approach to process improvement aligns DT with operational resilience, enabling organisations to maintain compliance while achieving cost savings and customer satisfaction. However, BPM's effectiveness is limited by its

tendency toward static documentation, which may struggle to keep pace with rapid technological and organisational changes. In fast-evolving industries like technology, static BPM models can quickly become obsolete, necessitating more dynamic and iterative approaches. Additionally, BPM's focus on process efficiency can conflict with broader strategic goals, as narrowly targeted improvements may not translate into organisation-wide transformation. BA frameworks can enhance BPM's adaptability by incorporating agile principles, enabling iterative process optimization that supports continuous DT adaptation (Doucet et al., 2021; Alghamdi, 2024).

2.6.4 Stakeholder Engagement and Cross-Functional Collaboration

Stakeholder engagement is a critical BA practice for ensuring that DT initiatives resonate across the organisation. Stakeholder Theory emphasises the importance of aligning transformation goals with the interests of all stakeholders, suggesting that inclusive engagement is essential for DT success (Freeman, 1984). Engaging stakeholders across departments fosters a shared understanding of DT objectives, building consensus and reducing resistance to change. Research confirms the importance of stakeholder engagement in complex, regulated sectors. In telecommunications, for example, effective stakeholder engagement ensures that DT initiatives address compliance and operational requirements, promoting alignment across IT, compliance, and customer service teams (Hess et al., 2016). By engaging stakeholders early, BA frameworks facilitate the integration of diverse perspectives, enabling DT initiatives that reflect the organisation's holistic goals and operational realities (Sarker et al., 2021). Nonetheless, stakeholder engagement poses challenges in siloed or hierarchical organisations, where cross-functional communication is limited. In such settings, competing departmental goals may undermine DT cohesion, leading to fragmented initiatives that fail to deliver consistent value. Additionally, balancing diverse stakeholder priorities requires careful negotiation and leadership, as BA must align short-term operational needs with long-term strategic goals. Effective stakeholder engagement thus

requires strong executive support and structured communication channels to unify cross-departmental efforts (Ford & Ford, 2020; Schroeder & Lam, 2019).

2.6.5 Enterprise Modelling and Organisational Agility

Enterprise modelling, a comprehensive BA practice that integrates capability mapping, VSA, and BPM, fosters organisational agility by creating flexible, adaptable structures. Drawing on Complexity Theory, enterprise modelling positions organisations as complex adaptive systems that must dynamically adjust to environmental changes, emphasizing the importance of modular structures that support continuous adaptation (Anderson, 1999; Uhl-Bien et al., 2007). This practice enables organisations to reconfigure processes and capabilities in response to new digital demands, a critical requirement for DT success. In the fast-paced technology sector, enterprise modelling supports agility by allowing organisations to iteratively adjust workflows and resources. For example, a technology firm undergoing DT might use enterprise modelling to modularize its product development processes, enabling rapid response to market shifts and technological advancements (Gong et al., 2020; Vial, 2019). This adaptability enhances the organisation's capacity for innovation, enabling it to capture new opportunities in an evolving digital landscape. However, enterprise modelling is resource-intensive, requiring significant investment in talent, technology, and continuous refinement. In traditional industries, achieving the modularity necessary for agility may be constrained by legacy systems and entrenched hierarchies, which limit the flexibility of enterprise models. Furthermore, enterprise modelling's broad scope may introduce challenges in maintaining coherence across departments, as modular structures can lead to decentralized decision-making that risks fragmentation. Effective enterprise modelling therefore requires careful integration within a cohesive BA framework to balance agility with strategic alignment (Tortora et al., 2021; Schallmo et al., 2020).

2.6.6 Interdependencies and Synergies Among Core BA Practices

The effectiveness of BA in DT is amplified by the interdependencies and synergies among its core practices. For example, capability mapping and VSA work in tandem to ensure that digital initiatives enhance critical capabilities while aligning with customer needs. Similarly, BPM and enterprise modelling reinforce each other by fostering operational excellence and adaptability, creating a resilient, agile structure that supports continuous improvement. These interdependencies reflect BA's role as an integrated framework, rather than a collection of isolated practices, enabling organisations to approach DT as a cohesive, organisation-wide effort (Ross et al., 2006; Proper & Lankhorst, 2019). The integration of these practices is crucial for creating a BA framework that supports sustainable DT. For instance, while capability mapping identifies strategic priorities, VSA and BPM provide the operational focus needed to realise these priorities, creating a seamless bridge from strategy to execution. Enterprise modelling enhances this integration by modularizing processes, ensuring that BA practices remain flexible and responsive to changes in the digital landscape (Bernard, 2012; Geissdoerfer et al., 2020). This interconnected approach allows BA to provide a structured yet adaptable pathway for navigating the complexities of DT, reinforcing its role as a strategic enabler of transformation.

2.7 Business Architecture and Organisational Change Management

Organisational Change Management (OCM) is a cornerstone of successful digital transformation (DT), focusing on the structured management of human, cultural, and operational shifts. Business Architecture (BA), as an integrative framework, provides essential tools for embedding OCM principles within DT initiatives, helping organisations align change processes with their strategic and operational objectives. This section examines the multifaceted interplay between BA and OCM, exploring how BA builds readiness, manages resistance, fosters sustainability, and enables a culture receptive to digital evolution.

2.7.1 Theoretical Foundations: Linking BA and OCM

The integration of BA and OCM draws on foundational theories that guide change in organisations. Lewin's Change Model, which conceptualizes change as a sequence of unfreezing, changing, and refreezing, serves as an anchor for BA's role in systematically transforming organisational structures and processes (Lewin, 1947). Within BA, this model is applied through stages like capability mapping (unfreezing), the design of DT initiatives (changing), and the institutionalization of new workflows and norms (refreezing), creating a structured pathway for sustainable change (Kotter, 2012; Geissdoerfer et al., 2020).

Schein's Model of Organisational Culture (Schein, 1985) further illuminates the cultural underpinnings of change, suggesting that deeply held values, beliefs, and assumptions significantly shape responses to DT. BA contributes to cultural alignment by mapping organisational values with DT goals, identifying cultural strengths and barriers that may influence change (Sarker et al., 2021; Benedetti et al., 2022). Through this lens, BA frameworks facilitate a more culturally sensitive approach to OCM, reducing friction and enhancing engagement at all organisational levels. Likewise, Stakeholder Theory highlights the importance of diverse stakeholder engagement in successful DT, positing that all stakeholders' needs should be considered to achieve a holistic transformation (Freeman, 1984). BA frameworks address this by integrating diverse departmental insights into capability maps and value streams, aligning DT initiatives with stakeholder expectations and fostering a shared vision across departments (Ford & Ford, 2020; Proper & Lankhorst, 2019). This alignment is essential to reducing resistance and fostering a collaborative environment for DT. Kotter's Eight-Step Model of Change, which outlines a structured pathway for leading change, reinforces BA's role in implementing DT by establishing urgency, forming guiding coalitions, and consolidating gains (Kotter, 1996; Markovits, 2022). BA's structured approach to change management facilitates these steps by ensuring that DT initiatives resonate with the organisation's strategic imperatives and operational realities.

2.7.2 Building Change Readiness Through Business Architecture

Change readiness is vital for DT success, as it measures an organisation's capacity and willingness to embrace digital initiatives. Weiner's Theory of Organisational Readiness for Change identifies two key components: change commitment and change efficacy (Weiner, 2009). BA frameworks foster readiness by establishing clear alignment between digital initiatives and core capabilities, enhancing both commitment and efficacy. Capability mapping, a primary BA practice, is central to building change readiness as it clarifies the strategic importance of digital initiatives. For example, in healthcare, BA might prioritise capabilities like patient data security and interoperability, ensuring DT initiatives address these critical areas (Schroeder & Lam, 2019; Hendrickx et al., 2015). By aligning digital goals with operational imperatives, BA provides transparency and direction, reinforcing employees' confidence in the transformation process. Despite its benefits, achieving readiness through BA requires iterative assessment, as static frameworks may quickly become outdated in dynamic environments. To ensure sustained readiness, BA frameworks should integrate real-time feedback mechanisms, allowing organisations to reassess and recalibrate DT priorities based on ongoing insights (Kornyshova & Barrios, 2020; Tortora et al., 2021). This adaptability fosters continuous change readiness, ensuring that organisations remain responsive to evolving technological and market landscapes.

2.7.3 Addressing Resistance to Change

Resistance is one of the most persistent barriers to DT, arising from psychological, cultural, and structural factors that inhibit the adoption of new practices. Resistance Theory emphasises the need to address employees' fears and uncertainties to mitigate resistance effectively (Dent & Goldberg, 1999). BA frameworks facilitate this by embedding OCM principles within DT planning, ensuring transparency, communication, and inclusion at every stage. In BA-driven DT, stakeholder engagement plays a crucial role in addressing resistance. In highly regulated industries like finance and healthcare, BA involves compliance and operational staff early in the DT design process, fostering a collaborative environment where

potential objections can be addressed proactively (Hess et al., 2016; Cichosz et al., 2020).

Engaging employees from multiple departments in capability mapping and value-stream

analysis reduces resistance by involving them in the transformation journey, promoting a

sense of ownership (Ross et al., 2006). The effectiveness of BA in managing resistance,

however, varies with organisational culture and structure. In siloed organisations, resistance

may remain high due to a lack of cross-functional collaboration. BA frameworks must

therefore adapt to these cultural dynamics, creating customized engagement strategies that

align with specific organisational contexts. Strong leadership support is crucial to facilitating

this adaptation and ensuring that resistance management aligns with the unique cultural

landscape of each organisation (Ford & Ford, 2020; Doucet et al., 2021).

2.7.4 Enabling Sustainable Change Through Business Architecture

For DT to achieve lasting impact, organisations must embed new digital practices

within their operations, reinforcing them as permanent elements of the organisational fabric.

BA supports sustainable change by establishing structured pathways that embed digital

initiatives within core capabilities, value streams, and workflows, ensuring alignment with

both strategic and operational objectives. Kotter's Eight-Step Model of Change reinforces

BA's role in anchoring changes in culture by establishing strong coalitions and embedding

new practices into the organisational ethos (Kotter, 1996; Alghamdi, 2024). BA enables

sustainability by designing adaptable structures that evolve with organisational needs. In

retail, for instance, BA frameworks support sustainable DT by developing agile supply chain

processes that respond flexibly to fluctuations in consumer demand (Schallmo et al., 2020).

This adaptability is achieved through enterprise modelling, which fosters resilience by

modularizing operations, thus enabling organisations to adapt without disrupting their entire

operational model (Vial, 2019). Yet, the sustainability of BA in DT hinges on continuous

improvement. Rapid technological and market changes necessitate iterative updates to BA

frameworks, a resource-intensive requirement that may strain smaller organisations. To address this, BA frameworks should integrate agile methodologies, fostering a culture of iterative assessment and continuous learning that ensures DT remains aligned with long-term goals (Geissdoerfer et al., 2020; Tortora et al., 2021).

2.7.5 Measuring the Impact of BA on Change Management Outcomes

Evaluating OCM outcomes within BA-driven DT requires a multi-faceted approach that integrates quantitative and qualitative measures. Balanced Scorecard (BSC) principles, which advocate for performance metrics across financial, customer, internal process, and learning dimensions, are commonly adapted in BA to assess the effectiveness of OCM in DT (Kaplan & Norton, 1992). BA frameworks enable the measurement of engagement, readiness, and alignment by establishing relevant metrics that track the progress and impact of DT initiatives. For instance, BA in DT may measure change readiness by tracking training completion rates or skill development initiatives, while resistance metrics might evaluate employee satisfaction and turnover rates. Additionally, BA frameworks may assess cultural alignment by tracking engagement metrics in stakeholder engagement sessions, capturing insights that inform further refinements to DT strategies (Schroeder & Lam, 2019; Kireyeva et al., 2019). This data-driven approach supports continuous improvement by identifying gaps in readiness, engagement, and alignment, ensuring that OCM efforts evolve with DT objectives. However, capturing intangible aspects of change, such as employee morale or trust, remains a challenge in BA measurement. While BA frameworks provide quantitative data on change outcomes, they may lack the nuance to fully capture psychological dimensions. To address this, BA frameworks can incorporate qualitative methods, such as focus groups and interviews, which provide deeper insights into employee attitudes toward DT and enrich quantitative metrics (Proper & Lankhorst, 2019; Kornyshova & Barrios, 2020).

2.7.6 Interdependencies Between BA and OCM in Digital Transformation

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The integration of BA and OCM is essential for comprehensive DT, as each discipline reinforces the other's capacity to foster meaningful change. BA provides the structural framework for aligning DT initiatives with strategic objectives, while OCM ensures that employees are prepared and motivated to embrace these changes. This synergy creates a dual pathway for DT, where BA's focus on strategic alignment and operational coherence is complemented by OCM's emphasis on engagement, readiness, and resistance management. For instance, stakeholder engagement within BA frameworks supports OCM's collaborative objectives, creating a cohesive DT environment where cross-functional teams work together toward shared goals. Capability mapping also strengthens OCM by clarifying roles and responsibilities, which enhances employee confidence and reduces resistance to change (Freeman, 1984; Geissdoerfer et al., 2020). By designing BA frameworks that incorporate OCM principles, organisations create a structured, adaptable approach that fosters sustainable transformation (Tortora et al., 2021).

The interdependencies between BA and OCM are vital for sustaining DT outcomes. While BA establishes the architectural blueprint for transformation, OCM translates this blueprint into actionable change, enabling employees to adapt and thrive in a digitally integrated environment. Future research could explore optimal integration practices, examining how BA and OCM can be co-designed to maximize DT impact across diverse organisational contexts (Ford & Ford, 2020; Alghamdi, 2024).

2.8 Chapter 2 Summary

2.8.1 Key Insights from the Literature

The literature reviewed in Chapter 2 underscores the critical importance of Digital Transformation (DT) as a strategic priority for organisations across sectors. To remain competitive, enhance operational efficiency, and improve customer focus, organisations increasingly rely on DT initiatives. Central to achieving these goals is Business Architecture (BA), a structured framework that provides the alignment necessary for digital initiatives to

be successful. Sections 2.1 to 2.8 present various insights into BA's role and limitations in supporting DT. A key observation is that BA practices, particularly capability mapping and value-stream analysis, are essential in aligning digital initiatives with strategic priorities. These practices facilitate the efficient allocation of resources, ensuring that transformation efforts are coherent and directed toward high-impact areas, a foundational requirement for effective DT.

The literature also points to significant challenges, particularly the high failure rates of DT initiatives, often attributed to strategic misalignment, organisational complexity, and cultural resistance. While many organisations prioritise investment in digital technologies, the impact of these investments often falls short due to a lack of cohesive alignment between business and digital strategies. This is a core problem that BA frameworks aim to solve by bridging strategy and operations through structured, transparent processes. Furthermore, several key BA practices, such as capability mapping, business process modelling, and enterprise modelling, are instrumental in enabling organisational adaptability, streamlining operations, and ensuring customer-centric transformations. These practices form the backbone of BA frameworks, providing a structured pathway to achieve the goals of DT.

The interplay between BA and Organisational Change Management (OCM) emerges as a crucial area, as BA frameworks often serve as the structural foundation for DT, while OCM addresses the cultural and human dimensions. This partnership is critical to embedding digital change within the organisation's culture and operations, ensuring that transformations are accepted and sustained. The literature consistently suggests that DT success is most likely when BA and OCM operate in tandem, leveraging both structural and cultural alignment.

2.8.2 Identified Gaps in Existing Research

While the existing literature provides valuable insights, several areas remain underexplored, revealing gaps that warrant further investigation. First, although theoretical models such as Al-Ghamdi's framework propose ways to measure BA's impact on DT, there

is limited empirical validation of these models. Testing these frameworks with real-world data from industry settings would enhance our understanding of BA's measurable impact on DT outcomes. The synergy between BA and OCM, while acknowledged, lacks an in-depth exploration of how these frameworks can be integrated to maximize DT effectiveness. Further research could examine how BA and OCM might be co-designed to simultaneously address structural and human aspects of DT.

The literature also highlights the absence of standardised metrics and industry-specific frameworks, which are essential for evaluating BA's long-term contributions to DT. Organisations require these tools to assess the tangible and intangible benefits of BA practices within DT initiatives and to customize BA practices according to the unique needs of different industries. Lastly, capturing intangible outcomes, such as cultural alignment and employee engagement, remains challenging within current BA measurement frameworks. Although BA frameworks often track quantifiable outcomes, such as process efficiency, they fall short in evaluating these softer, psychological dimensions. This suggests the need for mixed-method approaches that incorporate qualitative assessments to offer a more holistic view of BA's impact.

2.8.3 Establishing the Research Focus

This study aims to address these identified gaps by adopting an empirical approach that tests Al-Ghamdi's theoretical model and engages with industry specialists through focus groups. By empirically testing Al-Ghamdi's model, the study seeks to evaluate the impact of specific BA practices on DT outcomes, providing quantitative insights into BA's role in aligning digital initiatives with organisational goals. This approach not only adds empirical validation to a theoretical model but also enriches the literature with practical, data-driven evidence. Additionally, the study will examine the interaction between BA and OCM through focus groups with industry experts. This qualitative exploration is designed to yield insights into the conditions and strategies that enhance BA and OCM synergy in real-world settings.

Understanding how BA and OCM can be integrated effectively has significant implications for practice, offering a model that organisations can apply to maximize the impact of DT across structural and human dimensions. The research also intends to propose practical metrics for assessing BA's impact on DT, integrating both quantitative and qualitative indicators to offer a comprehensive view of transformation outcomes. By doing so, it provides a structured methodology for organisations to evaluate the ROI of BA within DT.

2.8.4 Summary and Transition

In conclusion, Chapter 2 has mapped the current understanding of BA's role in DT, identifying both the strengths and limitations of BA frameworks in addressing the complexities of digital transformation. While BA is instrumental in providing structural alignment, its full potential is realised when integrated with OCM practices, ensuring that DT accounts for both strategic and human elements. The gaps identified highlight the need for empirical validation of models like Al-Ghamdi's, as well as a closer examination of the synergy between BA and OCM. This study responds to these gaps by testing Al-Ghamdi's model and conducting focus groups with industry experts, aiming to contribute new insights into BA's measurable impact and practical integration within DT. The following chapter, Chapter 3, will outline the research methodology employed to address these objectives, detailing the quantitative testing of Al-Ghamdi's model and the qualitative exploration of BA-OCM integration, ensuring a rigourous and comprehensive approach to understanding BA's role in DT.

CHAPTER III: METHODOLOGY

3.0 Introduction

This chapter outlines the research methodology and design chosen to investigate the role of business architecture (BA) practices in driving digital transformation (DT) outcomes. Given the complexity of DT initiatives and the documented challenges surrounding their implementation, this study adopts a mixed methods approach to provide both quantitative and qualitative insights into how BA practices are perceived, operationalized, and leveraged to enhance DT success. Mixed-methods research enables the integration of numeric data and nuanced, contextual information, which is essential for addressing this study's multifaceted research questions and achieving a holistic understanding of BA's strategic role in organisational transformation (Creswell & Plano Clark, 2017).

The structure of this chapter follows the research process, beginning with an overview of the research problem and questions that guide the study. This is followed by an exploration of the research design, including philosophical foundations, methodological choices, and the rationale for adopting a mixed-methods framework. Each section addresses key components of the study's methodology, beginning with discussions on research philosophy, approach, and design, and progressing to specific phases of data collection and analysis. The chapter concludes with an evaluation of the study's ethical considerations, limitations, and strategies for ensuring the validity and reliability of the research findings.

By investigating both quantitative and qualitative data, this study aims to uncover generalizable patterns in BA's impact on DT outcomes while simultaneously capturing in-depth perspectives from BA practitioners and organisational leaders. Quantitative data from Phase 1 will support the empirical validation of hypothesized relationships between BA constructs, such as Business Alignment, Efficiency, and Service Delivery, as established in Chapters 1 and 2. Phase 2, the qualitative component, will provide a rich narrative that contextualises quantitative findings and deepens the understanding of practical challenges,

benefits, and perceived future developments in BA and DT. This mixed-methods framework ensures a rigourous, multi-dimensional analysis of BA's contribution to DT success, aligned with both theoretical constructs and real-world insights.

3.1 Overview of the Research Problem

The impetus for this study arises from the critical need to understand the impact of business architecture (BA) practices on the outcomes of digital transformation (DT) initiatives within organisations. As the digital landscape continues to evolve, organisations are increasingly challenged to adapt and transform their operations and strategies to remain competitive (Ross, Weill, & Robertson, 2006). Despite the acknowledged importance of BA as a strategic enabler for DT, there remains a substantial gap in empirical research that systematically investigates how organisations conceptualise and implement BA practices to enhance DT outcomes (Sambamurthy & Bharadwaj, 2000). This gap represents a significant area of interest for both academic research and practical application, given the high failure rates associated with DT initiatives and the potential of BA to mitigate these risks (Teece, 2018). Central to this investigation are three guiding research questions:

1. How is business architecture conceptualised, and how do BA practices impact digital transformation outcomes?

2. To what extent do organisational and geographical factors influence the efficacy and maturity of BA practices?

3. What barriers and opportunities do practitioners identify for leveraging BA in digital transformation over the next five years?

These questions aim to dissect the complex relationship between BA and DT by examining the theoretical underpinnings, practical applications, and contextual influences that collectively determine the success of BA practices in driving digital transformation. This study acknowledges the inherent complexity and dynamism of BA-DT interactions, and by focusing on these interactions, it seeks to uncover insights that can guide organisations in

deploying BA practices more effectively, thus increasing the success rates of DT initiatives. Moreover, this research aims to contribute to both the theoretical and empirical discourse surrounding BA, providing novel insights into its impact on strategic alignment, operational efficiency, and organisational agility within the context of DT (Ross et al., 2006; Teece, 2018).

The investigation into organisational and geographical factors affecting BA practices will yield a more nuanced understanding of the contextual elements that shape the adoption and maturity of BA practices across diverse environments (Sambamurthy & Bharadwaj, 2000). Geographical differences, for example, can influence the extent to which BA is prioritized or valued in various regions, with some studies noting that Western and highly developed economies often integrate BA more comprehensively within their digital strategies than developing regions (Hanelt et al., 2021). Furthermore, this study explores the barriers and opportunities for BA implementation as identified by practitioners, providing a forward-looking perspective on BA's evolution in DT contexts. Identifying these factors not only aids in addressing current challenges but also anticipates future trends and requirements in the field (Mugge et al., 2020). This forward-looking approach is vital for practitioners and organisations seeking to remain agile and innovative within an increasingly digital business environment.

The research framework employed in this study is grounded in a mixed-methods approach that integrates quantitative and qualitative data to explore these questions comprehensively. Such a framework is well-suited to the study's objectives, allowing for robust triangulation of findings that reinforces the validity and reliability of the results (Creswell & Plano Clark, 2017). Phase 1 of the study employs a quantitative design to assess relationships between BA constructs and DT outcomes, aligning with established empirical practices that prioritise structured data analysis in examining complex variables (Hair et al., 2019). Phase 2, the qualitative phase, uses semi-structured focus groups to elicit contextual

insights from practitioners, which aligns with the exploratory nature of qualitative research by allowing for a deeper understanding of the nuanced experiences and perspectives surrounding BA practices in DT (Yin, 2018; Merriam & Tisdell, 2016).

By adopting this mixed-methods approach, this study achieves a multi-layered analysis and triangulation of BA practices and DT, ensuring that insights are both data-driven and contextually grounded. This method also aligns with the principles of triangulation, a technique widely recognised for enhancing research credibility by cross-verifying results through diverse data sources (Creswell & Plano Clark, 2017). This robust framework further underscores the study's contribution to the fields of strategic management and digital transformation, offering empirically validated insights into the strategic role of BA in driving DT success.

The study also situates itself within the broader academic discourse on strategic management and organisational transformation, addressing significant theoretical and practical gaps in existing BA literature. Given that recent studies estimate DT initiative failure rates between 70% and 95%, there is a pressing need to examine DT from a perspective that goes beyond the technological (Tabrizi et al., 2019; Alghamdi, 2024). This research expands the BA literature by empirically examining its role as a foundational enabler of DT in the digital era, bridging existing gaps where BA has often been approached from a more conceptual or abstract standpoint (Ross et al., 2006; Bernard, 2012). In doing so, the study provides actionable insights for executives and organisational leaders on how to leverage BA as a strategic tool to align DT efforts with organisational goals and operational frameworks, thus promoting more sustainable transformation outcomes. Moreover, the study incorporates contingency theory to explain how organisational contexts influence the impact of BA on DT success. Contingency theory recognises that organisational strategies and structures are most effective when adapted to specific environmental and contextual factors, a perspective highly relevant in the variable landscape of digital transformation (Donaldson,

2001; Van de Ven et al., 2013). Integrating contingency theory with BA and DT literature, the study acknowledges that no universal strategy exists, highlighting the importance of aligning BA practices with specific organisational and environmental demands (Mugge et al., 2020). This consideration of contextual variability enriches the analysis and positions the study within the dynamic discourse on adaptive organisational strategies in digital transformation.

Ultimately, this research contributes to both academic and practitioner knowledge on BA's strategic potential in DT contexts, offering insights and recommendations that support organisations in deploying BA to enhance DT outcomes. In addressing the complex and interdependent relationship between BA and DT, this study aspires to support industry leaders in fostering organisational agility, adaptability, and sustained innovation, all of which are increasingly critical in today's rapidly evolving digital economy (Teece, 2007; Hanelt et al., 2021). Academically, the study's findings enrich the strategic management literature by providing empirically validated insights that underscore BA's value in achieving long-term transformation goals in complex and uncertain environments (Vial, 2019; Mugge et al., 2020).

3.2 Research Design

The study employs a sequential explanatory mixed methods design to examine how business architecture (BA) practices influence digital transformation (DT) outcomes. This design is underpinned by a pragmatic research philosophy, chosen for its suitability in addressing complex, multifaceted questions in organisational research and its flexibility in integrating quantitative and qualitative insights to produce actionable results (Creswell & Plano Clark, 2017; Tashakkori & Teddlie, 2009). By first capturing broad, generalisable patterns through quantitative analysis and then exploring these in depth through qualitative inquiry, this study aims to provide a comprehensive understanding of BA's impact on DT across various contexts.

To structure this methodology, this study employs Saunders, Lewis, and Thornhill's (2019) research onion framework, which offers a layered approach to research design. This model begins with the philosophical orientation and narrows through research approach, strategy, choice of methods, time horizon, and finally, data collection and analysis techniques. This ensures that each methodological choice is aligned with the research objectives, providing rigour and coherence.

The research philosophy underpinning this study is Pragmatism, which is well-suited to studies aimed at addressing practical, outcome-focused questions, particularly in complex, dynamic environments such as organisational digital transformation. Pragmatism accommodates both objective and subjective forms of knowledge, allowing for a flexible approach to methodological choices that aligns with the empirical realities of the research questions (Morgan, 2014; Creswell & Plano Clark, 2017). This study's focus on identifying patterns, testing hypotheses, and exploring practitioner experiences makes pragmatism a robust foundation. As Johnson and Onwuegbuzie (2004) highlight, pragmatism supports mixed-methods research by prioritising actionable insights over strict adherence to any one epistemological perspective, making it ideal for studying the role of BA in DT.

The sequential explanatory design begins deductively, testing hypotheses based on extant theory through quantitative analysis. This approach enables the identification of statistically significant relationships between BA and DT outcomes, providing a rigourous empirical foundation (Bryman, 2016). Subsequently, the study employs an inductive approach to further explore findings through qualitative focus groups. This dual approach enhances the study's validity by triangulating findings across both methodological dimensions (Tashakkori & Teddlie, 2009).

In executing this research approach, the sequential explanatory mixed-methods strategy involves two phases: a quantitative phase followed by a qualitative phase. This approach is valuable in organisational research where complex phenomena, such as the

impact of BA on DT, require both quantifiable data and detailed contextual understanding (Creswell, 2014). The initial quantitative phase uses structural equation modelling (SEM) to test the relationships between BA practices, DT outcomes, and organisational factors, providing generalisable insights. The subsequent qualitative phase enables a deeper exploration of these patterns through focus group discussions, allowing for nuanced interpretations and uncovering additional factors influencing BA's impact (Flick, 2018).

The decision to adopt a quantitative-first, qualitative-second sequence in this study was intentional and methodologically grounded. According to Creswell and Plano Clark (2017), a sequential explanatory design, where quantitative data precedes qualitative inquiry, is particularly valuable when initial statistical findings require further elaboration or contextualisation. In this research, the aim was to first test theoretically derived constructs from Al-Ghamdi's (2017) model using a broad sample and structured metrics, thereby identifying generalisable patterns in the relationship between Business Architecture (BA) practices and digital transformation (DT) outcomes. The subsequent qualitative phase then served to deepen understanding, offering explanatory richness and practical insight into the statistical relationships observed. This ordering aligns with established practice in business and management research, where exploratory qualitative follow-up is used to enhance interpretation and validity of quantitative results (Saunders et al., 2019; Tashakkori & Teddlie, 2010). While a qualitative-first approach might have surfaced themes earlier, it would have lacked the empirical grounding necessary for model testing and would likely have shifted the study towards an exploratory rather than confirmatory focus. Thus, while the reversal of phases might not have fundamentally altered the study's thematic scope, it would have weakened the ability to generalise and validate the hypothesised model. This sequence, therefore, supports the pragmatic goal of producing both robust empirical evidence and practitioner-relevant insights.

3.2.1 *Methodological Choices*

1. Quantitative Phase: The quantitative phase employs cross-sectional data collection through an online survey administered to BA practitioners and organisational leaders. The survey captures data on key constructs such as business alignment, efficiency, service delivery, and strategic outcomes, and uses a Likert scale to ensure consistency and comparability. A cross-sectional approach is suitable for capturing the current state of BA practices across organisations and sectors, aligning with prior studies in BA and DT (Bryman, 2016; Saunders et al., 2019).

   SEM was selected for quantitative analysis due to its ability to handle complex, multivariable relationships and its suitability for theory testing in management and organisational studies (Hair et al., 2019). SEM enables the examination of both direct and indirect effects within the model, accommodating latent variables and offering robust insights into the interdependencies between BA practices and DT outcomes (Ali et al., 2016). Furthermore, Partial Least Squares (PLS)-based SEM is particularly suited to data with non-normal distributions, as observed in this study. This method's flexibility with smaller sample sizes and non-normality makes it an ideal choice, ensuring reliable path coefficients and significance testing (Hair et al., 2017; Henseler et al., 2015).

2. Qualitative Phase: For the qualitative phase, semi-structured focus groups are conducted with a purposive sample of industry professionals experienced in BA and DT. This method allows for in-depth discussions, capturing insights into the challenges, facilitators, and nuances associated with implementing BA practices. Qualitative data enrich the findings from the quantitative phase by providing context-specific details on organisational and cultural factors influencing BA's effectiveness (Flick, 2018; Creswell & Plano Clark, 2017).

3.2.2 *Time Horizon: Cross-Sectional Design*

A cross-sectional design was selected due to the study's focus on examining the current state and maturity of BA practices in DT. Although longitudinal designs provide insights into temporal change, cross-sectional studies are appropriate when seeking to capture organisational practices within a specific period, aligning with the research objectives of identifying actionable patterns (Bryman, 2016). This time horizon supports the study's practical focus, reflecting the reality of DT as a dynamic, rapidly evolving field (Ratten et al., 2017).

3.2.3 Potential Limitations and Biases

While the sequential explanatory design provides a robust framework for examining BA in DT, it is essential to acknowledge potential limitations:

- Sample Representativeness: The use of convenience sampling in the quantitative phase, while pragmatic, may limit the generalisability of findings. Efforts are made to mitigate this by ensuring diverse representation across sectors and regions, though generalisation should be approached cautiously (Creswell, 2014).

- Cross-sectional Constraints: The cross-sectional design does not capture changes over time, which may impact understanding of BA's evolving role. However, this is addressed through in-depth qualitative exploration, capturing the nuanced insights necessary for actionable recommendations.

- Potential Response Bias: In self-reported data, response bias may affect results, especially regarding perceptions of BA effectiveness. To counter this, anonymity is maintained, and questions are structured to minimise social desirability bias (Podsakoff et al., 2003).

By addressing these potential limitations through careful methodological planning and justifying each research choice with a blend of recent literature and foundational theories, this study achieves the necessary rigour and depth for doctoral-level research. This

methodological structure aligns with the study's objectives, enabling the collection of actionable data on BA's impact in DT across diverse organisational contexts.

3.3 Population and Sample Selection

The research problem's complexity and the study's mixed-method design necessitated a carefully structured approach to sampling. This section details the population and sampling techniques used for both the quantitative and qualitative components of the study, with a focus on ensuring methodological rigour and relevance to the study's objectives. Purposive sampling, the primary sampling method employed, was chosen due to its efficacy in allowing the researcher to select participants with specific expertise and experience in business architecture (BA) and digital transformation (DT), thereby enhancing the study's ability to draw meaningful insights from the data (Etikan, Musa, & Alkassim, 2016).

3.3.1 Quantitative Phase: Online Survey Sample

In the initial quantitative phase, data was collected via an online survey distributed to BA practitioners, organisational leaders, and professionals with direct involvement in DT initiatives. The survey was disseminated across several LinkedIn groups and professional networks, including the Business Architecture Guild, targeting members who actively work within BA or DT. This approach enabled the collection of responses from a broad range of industries and regions, facilitating the examination of BA practices across various organisational contexts.

Sampling guidelines were established to ensure a diverse and robust dataset, including participants across different industries, geographic regions, and organisational sizes. This strategy adheres to best practices in survey-based research, which recommend a minimum sample size (116 responses) based on the number of latent and observed variables in structural equation modelling (SEM). The final dataset included 129 valid responses, surpassing the necessary threshold for sufficient power in SEM analyses (Cohen, 2013).

To enhance sample relevance and alignment with the study's objectives, respondents were required to have at least two years of experience in a BA or DT role within their organisation. This approach follows recommendations from Bryman and Bell (2015), who argue that purposive sampling is most effective when criteria are set to ensure participants' familiarity with the topic under investigation. The survey design also allowed for detailed demographic filtering, collecting information on factors such as industry, geographic location, organisational revenue, and maturity of BA practices. This careful selection aligns with established guidelines for ensuring sample representativeness and relevance in mixed-methods research (Creswell & Creswell, 2018).

3.3.2 Qualitative Phase: Focus Group Sample

In the qualitative phase, focus groups were conducted with a purposive sample of BA practitioners and executives who were well-versed in DT. Selection criteria for focus group participants included extensive experience in overseeing or implementing BA frameworks to support DT. This selection ensured that participants could provide deep insights into the challenges and best practices associated with aligning BA with DT initiatives. Creswell and Plano Clark (2017) emphasise the importance of selecting participants who can provide meaningful context in qualitative research, thus supporting the decision to use purposive sampling in this phase.

The focus group participants represented a range of industries and geographies to capture variation in DT experiences. Industry diversity in the sample addressed potential biases and allowed for an exploration of industry-specific nuances, following the methodological recommendations of Gkeredakis et al. (2021), who suggest that industry context can significantly influence BA and DT integration. Geographic diversity was also prioritised, with participants from North America, EMEA, and APAC regions, ensuring a holistic view of BA practices across different regulatory and cultural environments (Andrews, 2019).

Each focus group discussion was structured around a set of open-ended questions, allowing for the flexible exploration of participants' experiences while maintaining consistency across sessions. Yin (2018) advocates for structured, open-ended questioning in focus groups to facilitate data depth and comparability. Moreover, the inclusion of seasoned BA practitioners and organisational leaders contributed to the collection of both strategic and operational insights into BA's role in DT, enhancing the richness of the data collected.

3.3.3 Sampling Limitations and Mitigation Strategies

While purposive sampling was appropriate for the study's focus on experienced BA practitioners, it does limit the generalizability of findings to broader populations that may not possess similar expertise in BA. This limitation is common in purposive sampling, as noted by Bryman and Bell (2015), who recommend its use primarily for exploratory research aimed at generating in-depth insights rather than broad generalizations. This limitation was mitigated by employing a mixed methods design that triangulates quantitative breadth with qualitative depth, thereby enhancing the study's methodological rigour and robustness (Creswell & Plano Clark, 2017).

To minimize sampling bias, the study incorporated specific criteria for participant selection in both quantitative and qualitative phases, including seniority, professional experience in BA or DT, and organisational characteristics. These criteria ensured that participants were well-positioned to provide relevant insights, aligning with recommendations for sampling rigour in business research (Zikmund et al., 2018). Additionally, data collection was stratified by industry and region to address potential biases and enhance the diversity within the sample, as suggested by Lowe et al. (2018), who emphasise the importance of demographic diversity in capturing comprehensive insights in business research.

In the qualitative phase, steps were taken to reduce potential biases associated with interviewer influence and participant selection. Focus groups were conducted following a

standardised interview guide, with reflective practices implemented by the researcher to identify and mitigate any unconscious biases during data collection and analysis (Miles, Huberman, & Saldaña, 2019). This approach ensured that qualitative findings were both reliable and replicable, enhancing the study's overall methodological rigour.

3.4 Participant Selection and Sampling Rationale

This study adopts a purposive sampling strategy to select participants who possess specific expertise in business architecture (BA) and digital transformation (DT). Purposive sampling is well-suited for this research due to the need for insight from senior professionals directly engaged in BA and DT practices. According to Patton (2015), purposive sampling allows for a deliberate selection of individuals who are most likely to contribute relevant information due to their professional experience and position. Given the study's objective to examine BA's impact on DT outcomes, sampling senior leaders within organisations offers an enriched perspective on both the strategic intent and practical implementation of BA in the context of DT.

3.4.1 Sample Composition

The research design ensures the inclusion of participants from diverse sectors, geographic regions, and organisational sizes to capture a range of perspectives on BA and DT practices. The importance of this diversity is grounded in studies suggesting that sectoral and regional factors significantly impact DT approaches and outcomes (Vial, 2019; Verhoef et al., 2021). For instance, while the technology sector often leads in DT adoption, regulated industries like financial services may face additional structural and regulatory challenges (Kiron & Unruh, 2018). In selecting participants, particular emphasis was placed on the following variables:

- Sector: Industries were selected based on varying degrees of DT maturity and BA adoption. For example, participants from technology and financial services were included due to their advanced DT frameworks, while retail and public services were

chosen to represent sectors facing unique consumer-oriented DT pressures (McKinsey & Company, 2021).

- Geographic Diversity: Given that DT challenges and practices may vary by region, participants from North America, Europe, the Middle East, Africa (EMEA), and Asia-Pacific (APAC) were included. This approach aligns with findings from LaBerge et al. (2020), which highlight regional variations in DT adoption timelines and technological readiness.

- Organisational Size: A mix of small, medium, and large enterprises were included to assess if company size influences the perceived strategic impact of BA on DT initiatives. This consideration is supported by past studies that suggest larger organisations often have more established BA practices, while smaller firms may adopt more flexible but less formalized approaches (Hess et al., 2016).

3.4.2 Participant Roles and Expertise

To maximize relevance, participants were selected based on their roles in BA and DT, focusing on senior executives, architects, and transformation leads who directly influence or manage BA practices. This selection aligns with recommendations by Robson and McCartan (2016), who advocate for sampling that ensures participant familiarity with the research topic. Given that this study investigates the strategic alignment facilitated by BA, involving individuals with decision-making authority allows for insights that are both operational and strategic.

3.4.3 Justification of Sample Size

The sample size was determined to ensure both the representativeness of the data and the statistical power needed for robust analysis. Following the guidelines by Hair et al. (2019) for Partial Least Squares Structural Equation Modelling (PLS-SEM), the minimum sample size (116) was calculated to ensure sufficient statistical power, particularly for the quantitative components of the study. For qualitative insights, the sample size was also designed to allow data saturation, where no new themes emerge; a principle advised by Guest, Bunce, & Johnson (2006) to ensure richness and depth in qualitative research.

3.4.4 Limitations of the Sampling Strategy

While purposive sampling is well-suited for gathering in-depth insights from knowledgeable individuals, it does introduce limitations related to generalizability. The targeted inclusion of participants from specific roles and sectors means that findings may be less applicable to organisations with minimal BA practices. Additionally, while geographic diversity is intended to provide a broad perspective, the use of online platforms for data collection may skew responses toward participants from technologically advanced regions, potentially underrepresenting insights from regions with limited digital infrastructure (Bryman, 2016).

The purposive sampling strategy used in this study is methodologically justified and tailored to the specific demands of researching BA practices within the DT context. By considering diverse sectors, geographical regions, and organisation sizes, the study aims to generate findings that reflect a broad spectrum of experiences. The participant selection is underpinned by rigourous ethical considerations, ensuring the research's alignment with the highest standards in business research methodology.

3.5 Instrumentation

In conducting rigourous empirical research, carefully developed instrumentation is paramount for capturing the constructs central to the research framework and ensuring that data collection aligns with the research objectives. This study employs a structured survey and semi-structured focus group interviews, both of which have been tailored to measure the constructs associated with Business Architecture (BA), Digital Transformation (DT), and related organisational outcomes. Instrumentation has been designed with attention to methodological integrity, following established protocols for reliability and validity to enhance the rigour of findings and contribute meaningfully to the literature.

3.5.1 Survey Instrument Development

For the quantitative phase, a structured survey instrument was developed to capture perceptions related to Business Alignment, Efficiency, Service Delivery, and Strategic Outcomes. Drawing from established scales (e.g., Fornell & Larcker, 1981; Hair et al., 2019), the survey items employ a 5-point Likert scale (ranging from "Strongly Disagree" to "Strongly Agree"). The Likert scale is widely endorsed in business research for quantifying subjective constructs, facilitating measurement across diverse participant groups (Croasmun & Ostrom, 2011; Allen & Seaman, 2007). Each construct within the survey was carefully operationalised:

- Business Alignment: Survey items reflect alignment between IT and business strategy, standardised processes, and organisational integration, informed by existing

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frameworks on organisational alignment in digital contexts (Henderson & Venkatraman, 1993; Ross et al., 2006).

- Efficiency: This construct measures cost management and cycle time reductions, grounded in frameworks by Porter (1985) and Vial (2019) that emphasise operational efficiency as a DT outcome.

- Service Delivery: Items here assess service quality and customer responsiveness, incorporating elements from service-dominant logic (Lusch & Vargo, 2006) and customer-focused DT models (Verhoef et al., 2021).

- Strategic Outcomes: This single-item construct measures perceived competitive advantage and aligns with Porter's (1985) differentiation strategy, operationalizing strategic impact as the extent to which DT enables competitive positioning.

A pilot test involving a small sample of 15 practitioners in the fields of business architecture and DT was conducted to refine items, ensuring face validity and linguistic clarity (Collins, 2003). Feedback from the pilot group led to iterative revisions, including simplification of terms and rephrasing to improve readability, thereby enhancing the survey's content validity (DeVellis, 2016). Pilot testing aligns with best practices for survey development, reinforcing the instrument's robustness (Bryman & Bell, 2015; Dillman, Smyth, & Christian, 2014).

3.5.2 Instrumentation for Qualitative Phase

The qualitative component of the study utilizes semi-structured focus group interviews to gather nuanced insights into the real-world experiences and challenges faced by BA and DT practitioners. Semi-structured interviews are a standard approach in exploratory research, allowing for flexibility in discussion while ensuring consistency across groups (Patton, 2015; Turner, 2010).

Focus Group Guide Development: The focus group guide was designed to explore themes directly related to the research questions, such as perceptions of BA's strategic role in

DT, barriers to effective implementation, and anticipated future challenges and opportunities.

Key questions were developed based on literature-informed constructs and pre-tested to

assess clarity and relevance (Creswell & Poth, 2018). The guide covers primary themes but

allows participants the flexibility to discuss additional points, adhering to Patton's (2015)

guidelines for eliciting open-ended responses.

Recording and Transcription: Each session is audio-recorded and transcribed verbatim

to ensure accurate data capture, following transcription protocols recommended by Kvale and

Brinkmann (2009) to maintain fidelity of qualitative data. Participants were informed of the

confidentiality of recordings and transcriptions, and consent was obtained prior to recording

to align with ethical standards (BPS, 2018). Thematic analysis of transcripts is conducted to

identify recurring patterns, which strengthens the credibility and rigour of qualitative findings

(Braun & Clarke, 2006).

3.5.3 Ensuring Reliability and Validity

Reliability and validity are critical considerations in both quantitative and qualitative

phases to ensure robust, credible findings.

Reliability: For quantitative measures, Cronbach's alpha is calculated for each

construct to confirm internal consistency, with a target threshold of 0.7 or higher, as

recommended in psychometric literature (Nunnally & Bernstein, 1994; Field, 2013).

Additionally, the survey's construct reliability is reinforced through composite reliability

(CR) values, ensuring that each construct reliably captures the intended measurement (Hair et

al., 2019). In the qualitative phase, inter-coder reliability is evaluated by having a secondary

researcher independently code a subset of transcripts, with a target agreement level of 80%

(Campbell et al., 2013).

Validity: Construct validity is a priority in the quantitative phase, achieved through

alignment with established theoretical frameworks and rigourous testing of convergent and

discriminant validity using the Fornell-Larcker criterion (Fornell & Larcker, 1981). In the

qualitative phase, validity is addressed through triangulation and member checking, where participants review summary findings for accuracy, thereby enhancing credibility (Lincoln & Guba, 1985; Patton, 2015). By ensuring the reliability and validity of the chosen instruments, this study aspires to produce credible, high-quality data, reinforcing the empirical contributions of the findings within business architecture and digital transformation literature.

3.6 Data Collection Procedures

This study adopts a two-phase sequential data collection strategy to ensure comprehensive insights into the role of Business Architecture (BA) in digital transformation (DT) within organisations. This mixed-methods approach integrates both quantitative and qualitative data, aligning with best practices in business and management research (Creswell & Plano Clark, 2017; Saunders et al., 2019).

3.6.1 Phase 1: Quantitative Data Collection

Survey Instrument and Design.

The initial phase involves the distribution of a structured online survey, targeting BA professionals and organisational leaders. The survey is designed to measure core variables associated with BA practices, organisational alignment, and their impact on DT outcomes. Each item is measured on a five-point Likert scale (ranging from "Strongly Disagree" to "Strongly Agree") to capture the intensity of respondents' attitudes and experiences. This scale is widely accepted in social sciences, allowing for nuanced data collection that facilitates rigourous statistical analysis (Field, 2013; Dillman et al., 2014).

The survey instrument was adapted from established frameworks, including Al-Malaise Al-Ghamdi's (2017) conceptual model of BA impacts, with constructs reviewed and validated through consultations with an academic expert and a BA practitioner. This pre-testing helped to refine the wording and clarity of the questions, enhancing reliability and validity (Bryman & Bell, 2015; Chyung et al., 2017).

A non-probability convenience sampling approach was employed, leveraging LinkedIn professional groups related to BA, Enterprise Architecture, and Digital Transformation. Additionally, BA Guild members were invited to participate via an email announcement, and targeted messages were sent to members of the researcher's professional network. This approach, while acknowledging some limitations regarding generalizability, facilitated the collection of diverse perspectives across industries and geographic regions (Creswell, 2014).

Survey responses were collected anonymously over two months and screened for completeness to enhance data quality. Incomplete responses were discarded, yielding a final sample of 129 fully completed surveys. To validate the sample size's adequacy, the statistical algorithm by Westland (2010) was applied, confirming that a minimum of 116 cases was required to achieve a power of 0.8 with a 5% significance level. The final sample thus met statistical adequacy, supporting reliable inferential analysis (Hair et al., 2019).

3.6.2 Phase 2: Qualitative Data Collection

Focus Group Design

The second phase utilized semi-structured focus groups to capture in-depth qualitative insights into BA practices and DT. Each focus group was guided by a structured set of open-ended questions, derived from the themes identified in Phase 1 analysis. This method allows participants to freely share experiences and challenges, while enabling researchers to probe deeper based on emerging topics, consistent with recommendations for qualitative data collection (Patton, 2015; Yin, 2018).

Participants were recruited based on their professional expertise in BA and experience with DT initiatives. The purposive sampling method ensured representation across various sectors, organisational sizes, and geographic regions. Participants were invited via LinkedIn and email, with consent obtained prior to participation. This method of targeted recruitment

aligns with best practices in qualitative research, as it enhances data richness by selecting knowledgeable informants (Silverman, 2016).

The focus groups were conducted via video conferencing platforms to accommodate participants from different geographic locations, reflecting flexibility and inclusivity in data collection. Each session was recorded, transcribed, and anonymized to uphold confidentiality, and the data were securely stored on encrypted devices, following ESRC guidelines for ethical research practices (ESRC, 2015). Transcriptions were reviewed for accuracy and reliability, ensuring that participants' perspectives were preserved for subsequent thematic analysis (Braun & Clarke, 2006).

3.7 Data Analysis Techniques

This study employs a dual-method data analysis strategy, integrating quantitative and qualitative methods to validate the hypothesized relationships and explore in-depth insights. By using both Partial Least Squares Structural Equation Modelling (PLS-SEM) for quantitative data and thematic analysis for qualitative data, this approach ensures a comprehensive evaluation of business architecture's impact on digital transformation (DT) outcomes. This section details the analytical techniques used and justifies their application within the study's objectives.

3.7.1 Quantitative Analysis Using PLS-SEM

The quantitative component analyses survey data from business architecture and DT professionals, aiming to empirically test the study's hypotheses. PLS-SEM was selected for its flexibility in handling moderate sample sizes, minimal distributional assumptions, and efficacy in exploratory research, which aligns with this study's emerging focus on business architecture within DT contexts (Hair et al., 2019; Sarstedt et al., 2014). PLS-SEM's suitability for structural modelling and path analysis facilitates the exploration of complex inter-construct relationships and aids in predictive modelling, contributing to an in-depth understanding of the impact of business architecture practices on DT success factors (Henseler et al., 2016).

The measurement model's reliability and validity were rigourously assessed. Reliability was confirmed through outer loadings, with values above the 0.7 threshold indicating strong internal consistency (Hair et al., 2017). Convergent validity was established using the Average Variance Extracted (AVE), with all constructs surpassing the 0.5 threshold, showing that indicators sufficiently represent their constructs (Fornell & Larcker, 1981). Discriminant validity was evaluated using the Fornell-Larcker criterion, cross-loadings, and the Heterotrait-Monotrait (HTMT) ratio. All HTMT values were below 0.9, affirming discriminant validity across constructs (Henseler et al., 2015; Hair et al., 2021).

To assess the structural model, bootstrapping with 5000 resamples was employed to determine the significance of hypothesized relationships, with all path coefficients and t-values exceeding the critical value of 1.96 at $p < 0.05$. R-squared (R^2) values for constructs such as Efficiency, Service Delivery, and Strategic Outcomes demonstrated moderate-to-high explanatory power. Effect sizes (f^2) revealed Business Alignment's large effect on Efficiency and Service Delivery, confirming its central role in the model (Chin, 1998; Cohen, 1988). Predictive relevance was assessed through Q^2 values obtained from PLSPredict, with all values above zero, thus reinforcing the model's predictive strength (Stone, 1974; Geisser,

1975). To address multicollinearity, Variance Inflation Factor (VIF) values were examined, all of which fell below the threshold of 5, indicating no multicollinearity issues (Hair et al., 2021).

3.7.2 Qualitative Analysis Using Thematic Analysis

The study's qualitative component involved a thematic analysis of focus group data, which offered depth beyond the quantitative findings. This approach followed Braun and Clarke's (2006) six-step method, involving coding and categorizing data inductively to allow themes to emerge naturally. NVivo 12 software facilitated efficient coding and management of qualitative data, enhancing the rigour of theme identification and pattern recognition. Two coders independently performed initial coding to enhance objectivity, with a line-by-line approach used to ensure thorough data capture. Major themes identified included organisational alignment, implementation challenges, and cultural impacts, which provided contextual support for quantitative findings, particularly in Business Alignment's influence on Efficiency and Service Delivery. Intercoder reliability, measured by Cohen's Kappa, exceeded 0.75, indicating a high degree of consistency (Landis & Koch, 1977). Member checking was also conducted, where participants reviewed summary themes for accuracy, further bolstering the credibility of qualitative insights.

3.7.3 Integration of Quantitative and Qualitative Findings

Triangulation was achieved by integrating both quantitative and qualitative findings, enhancing interpretative depth and contextual understanding. Adopting Creswell and Plano Clark's (2017) convergence model, this study compared quantitative results with qualitative themes to reinforce or contrast findings. For instance, while quantitative results revealed significant relationships between Business Alignment and DT outcomes, qualitative data contextualized these by exploring how organisational alignment challenges shape DT efforts. This complementary approach validated the quantitative model while offering nuanced

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insights, particularly regarding cultural and operational barriers impacting the effectiveness of business architecture in practice.

3.7.4 Software Selection

SmartPLS 4.0 facilitated the quantitative analysis, particularly in path modelling and model validation, while NVivo 12 enabled rigourous thematic coding and visual exploration of qualitative data. Despite the strengths of these tools, certain limitations are noted. PLS-SEM, while effective for this study, remains exploratory and may limit the generalizability of findings (Hair et al., 2019). Additionally, qualitative insights are context-specific and may not be widely applicable. To mitigate potential common method bias, procedural measures such as anonymous data collection and varied scale endpoints were implemented, along with Harman's single-factor test, further reducing the risk of bias (Podsakoff et al., 2003).

The data analysis approach of this study integrates quantitative rigour with qualitative depth, providing a well-rounded view of business architecture's role in enhancing DT outcomes. By combining PLS-SEM and thematic analysis within a triangulation framework, this approach strengthens the empirical validity of findings while offering rich interpretative insights, fulfilling the study's objectives of comprehensively examining business architecture's impact in DT contexts.

3.8 Ethical Considerations

This research adheres to the UK-based Economic and Social Research Council (ESRC) framework, ensuring rigourous adherence to ethical standards across each phase. This section addresses critical ethical considerations, including informed consent, confidentiality, data protection, potential conflicts of interest, and transparency, particularly as they apply to business and management research.

3.8.1 Informed Consent and Autonomy

Informed consent, essential for participant autonomy, is fundamental to this study's ethical approach (Hammersley & Traianou, 2012). Participants will receive a detailed information sheet outlining the study's purpose, procedures, potential risks, and anticipated benefits, in line with ESRC requirements (ESRC, 2015). To further support participant understanding, particularly for those less familiar with academic research, an FAQ document will be provided to clarify issues related to confidentiality, data usage, and the right to withdraw (Silverman, 2016).

The consent process is iterative, allowing participants to ask questions throughout and withdraw at any time without negative repercussions (Bryman & Bell, 2015). Because power dynamics in organisations can influence participant responses, particularly among junior staff, it is emphasised that data collection is confidential and cannot be accessed by participants' superiors, reducing potential response bias (Bell & Bryman, 2007).

3.8.2 Confidentiality and Data Protection

This study employs rigourous confidentiality and data protection practices, guided by GDPR and ESRC protocols. Data will be anonymized upon collection and assigned unique codes to prevent direct identification (European Commission, 2018). Personal details such as job roles and department names will be generalized to mitigate indirect identification risks (Saunders et al., 2019). To enhance security, encrypted data storage and password-protected files will be used, with access limited to the principal researcher and authorized personnel (Babbie, 2015). Data confidentiality is especially critical in business research where competitive, financial, and strategic information may emerge (Resnik, 2015). Therefore, if any third-party tools or software are used, contracts will ensure these providers adhere to GDPR guidelines, reinforcing data security (Morse, 2017).

3.8.3 Conflict of Interest and Transparency

Transparency around conflicts of interest is essential in business research to prevent bias, particularly where researchers have organisational affiliations or funding ties (Oliver, 2010). Conflicts are managed by disclosing affiliations and funding sources before consent is obtained, and independent researchers will review critical stages of data analysis to further mitigate potential biases (Guba & Lincoln, 1994). To enhance transparency, this research will also incorporate participant feedback mechanisms and external peer review processes, increasing the credibility of findings (Yin, 2018). Additionally, findings will be presented with contextual information, ensuring interpretations are free from undue influence and reflect a balanced perspective (Houghton et al., 2015).

3.8.4 Institutional Review and Contingency Planning

This research has been reviewed and approved by the institutional review board (IRB), assessing compliance with ESRC standards for ethical research in business contexts (ESRC, 2015). Contingency plans address potential ethical risks, such as inadvertent data breaches or participant distress, which may occur given the sensitive nature of organisational data (Resnik, 2015). If a data breach were to occur, affected participants would be notified promptly, and corrective measures would be enacted in compliance with GDPR regulations (European Commission, 2018). Protocols for managing participant distress include access to support services, particularly as digital transformation can impact organisational roles and responsibilities, potentially causing workplace stress (Hammersley & Traianou, 2012). These measures underscore the commitment to participant well-being and ethical data handling throughout the research process.

3.8.5 Ethical Considerations in Sampling

Ethical considerations were paramount throughout the sampling process, particularly regarding participant consent and data confidentiality. Participants were informed of the study's aims, their rights to withdraw at any time, and the measures in place to protect their

privacy. These practices adhere to ethical guidelines outlined by the ESRC (Economic and Social Research Council, 2015), ensuring that participant welfare and data integrity were upheld.

Data anonymisation procedures were implemented to protect participants' identities, especially given the involvement of senior practitioners from prominent organisations. In both the quantitative and qualitative phases, identifiable data such as organisation names were collected solely for initial screening purposes and were not linked to individual responses. This careful handling of data reinforces the study's commitment to ethical standards, as emphasised by Resnik (2015) in his discussions on ethical practices in social research.

3.8.6 Ethical Considerations in Data Collection

Adhering to ethical standards is critical to maintaining participant trust and research integrity. Ethical approval was obtained prior to data collection, following the ESRC's ethical guidelines (2015), and informed consent was secured from all participants. Confidentiality was maintained by anonymizing responses, and all data were stored securely in compliance with data protection regulations (Resnik, 2015).

3.8.7 Findings Dissemination and Ethical Communication

The dissemination of findings must balance transparency with confidentiality, especially when dealing with sensitive organisational data (Bell & Bryman, 2007). Research results is presented in aggregated form, avoiding specific breakdowns that could inadvertently reveal individual responses or proprietary strategies (Bryman & Bell, 2015). When providing feedback to participating organisations, only anonymized, non-attributable data summaries will be shared. The research upholds rigourous reporting standards, ensuring that participants and organisations can review the conclusions drawn while maintaining data protection (Babbie, 2015). All results will be anonymized in publications, presentations, and

feedback sessions, preserving participant confidentiality in accordance with ESRC and GDPR guidelines (ESRC, 2015).

3.8.8 Ethical Limitations and Reflexivity

Despite the rigourous ethical protocols implemented, limitations persist. For example, convenience sampling may limit generalizability, and social desirability bias could affect responses, particularly in hierarchical organisational structures (Bell & Bryman, 2007). To address these issues, the study emphasises its academic focus, reinforcing that participation is voluntary and responses are confidential (Oliver, 2010). Reflexivity is also integral to the ethical approach. Researchers will maintain reflective journals and engage in peer debriefing to maintain awareness of potential biases, enhancing transparency and rigour (Mason, 2018). Reflexive practices help ensure that methodological and ethical standards are consistently met, supporting the credibility and integrity of the research. By implementing these ethical protocols, this research aims to contribute valuable insights into the role of business architecture in digital transformation while safeguarding participant rights and confidentiality.

3.9 Research Design Limitations

A critical evaluation of the research design reveals inherent limitations related to scope, sampling, methodological choices, and analytical methods. These limitations, while carefully considered, may impact the generalizability and depth of insights. Recognising and addressing these limitations is essential for framing the study's findings within an accurate interpretative lens.

3.9.1 Scope and Generalizability

The study's cross-sectional design captures a snapshot of business architecture (BA) practices and digital transformation (DT) outcomes at a single point in time. While this provides valuable insight into current trends, it limits understanding of how BA practices evolve and influence DT over extended periods. A longitudinal approach would allow

tracking of changes in BA maturity and strategic impact over time, providing more nuanced insights into BA's dynamic role within DT. Prior research underscores that longitudinal studies offer the advantage of observing the gradual adoption and shifting impact of architectural practices, especially in large organisations undergoing constant technological adaptation (Bryman, 2016; Saunders et al., 2019). This limitation implies that interpretations regarding BA's impact on DT must remain contextual and cautious in assuming temporal constancy.

3.9.2 Sampling Constraints and Industry-Specific Biases

The sample selection, while diverse, may reflect an industry concentration, particularly in sectors like financial services and technology, where BA practices are often more developed. This industry bias could skew results, as these sectors may have greater resources and digital readiness compared to industries like manufacturing or healthcare, which might adopt BA differently (Flick, 2018). Future research could mitigate this limitation by employing stratified sampling, which would enable comparison across a broader range of industries to discern how BA impacts DT outcomes within varying industry contexts. Moreover, despite an attempt at broad geographic sampling, a majority of participants are from EMEA regions. This geographic bias could reflect specific cultural or regulatory factors that may not translate universally, impacting the study's generalizability to regions with different regulatory or economic landscapes (Creswell & Creswell, 2018).

3.9.3 Methodological Limitations in Mixed-Methods Design

The study's mixed-methods design, while advantageous in providing both quantitative and qualitative insights, introduces potential methodological challenges, especially regarding data integration. Integrating qualitative insights from focus groups with quantitative survey data may yield interpretative challenges, particularly in cases where conflicting insights arise (Tashakkori & Teddlie, 2010). The qualitative data derived from focus groups may also be subject to groupthink, where dominant voices could influence collective perceptions, thereby

compromising the authenticity of individual responses. Techniques such as member checking and triangulation were employed to address this limitation, but complete mitigation is inherently challenging (Patton, 2015).

3.9.4 Quantitative Method Constraints: PLS-SEM

The use of Partial Least Squares Structural Equation Modelling (PLS-SEM) was selected to accommodate the study's sample size and the non-normality of data distribution (Hair et al., 2019). However, PLS-SEM, while robust for exploratory studies, has limitations regarding parameter estimation accuracy and predictive power compared to covariance-based SEM. Studies highlight that PLS-SEM may sometimes yield inflated path coefficients, raising concerns regarding the precision of relationships among variables (Henseler et al., 2016). Moreover, the model's reliance on cross-sectional data restricts its predictive accuracy over time. To mitigate these limitations, bootstrapping techniques with 5000 resamples were used, enhancing the reliability of the path coefficients while acknowledging that the exploratory nature of PLS-SEM necessitates cautious interpretation of causality.

3.9.5 Qualitative Analysis Constraints

Thematic analysis of qualitative data, while providing rich insights into BA practices, presents its own set of limitations, especially concerning interpretative subjectivity. While the study utilized intercoder reliability techniques to enhance consistency, thematic analysis inherently involves interpretative layers that may reflect researcher biases (Braun & Clarke, 2006). The research team's backgrounds and understanding of BA and DT may have influenced the coding process, despite efforts to ensure objectivity. Using techniques such as intercoder agreement (e.g., Cohen's Kappa) was intended to mitigate this bias, yet some level of subjectivity remains unavoidable in qualitative research (Silverman, 2016).

3.9.6 Limitations in Data Representativeness

Data representativeness is an additional consideration, as the survey distribution primarily occurred through online professional networks, introducing potential self-selection

bias. Respondents with a strong interest or expertise in BA and DT may have been more inclined to participate, potentially skewing the sample toward higher levels of engagement and experience. This could result in an overrepresentation of advanced BA maturity levels and DT success, underestimating the challenges faced by less mature organisations or those struggling with DT initiatives (Fowler, 2014). To address this, future studies could utilize randomized sampling to ensure a broader and potentially more balanced representation of organisational maturity levels and BA adoption stages.

3.9.7 Potential for Respondent and Researcher Bias

Bias presents a further limitation in two primary forms: respondent bias and researcher bias. Respondent bias may arise from social desirability or the tendency to present an organisation's BA practices favorably, particularly if respondents hold senior positions or are responsible for BA implementation (Podsakoff et al., 2003). To minimize this, assurances of anonymity and confidentiality were emphasised in survey and focus group protocols. Researcher bias, despite efforts at objectivity, may also influence findings, particularly in qualitative analysis. Recognising this, steps were taken to ensure rigourous reflexivity, where researchers actively questioned their interpretations and remained open to alternative perspectives (Patton, 2015).

3.9.8 Conclusion on Research Limitations

This study's design and methodological choices bring certain limitations that could affect the interpretation and generalizability of findings. While robust measures were applied to mitigate these, limitations related to sampling, scope, methodological constraints, and data integration remain relevant. Acknowledging these limitations is essential for framing the study's contributions and contextualizing its findings within the broader literature. By openly addressing these constraints, this research provides a transparent and balanced foundation for future studies to build upon, offering avenues for refining the methodologies and expanding the scope of BA's role in digital transformation research.

3.10 Conclusion of Methodology

This chapter has presented a comprehensive overview of the research methodology used to examine the role of business architecture (BA) practices in enhancing digital transformation (DT) outcomes. Designed to address the study's three core research questions, the chosen sequential mixed-methods approach combines the strengths of quantitative and qualitative research. This design enables a systematic, empirically grounded investigation while also capturing the complex, nuanced perspectives of practitioners.

The study's mixed-methods framework, underpinned by a pragmatist paradigm, reflects the need for both breadth and depth in analysing BA's contributions to DT. The quantitative survey phase addresses the generalizability of findings, focusing on testing hypotheses that assess the relationships among BA constructs and their influence on DT outcomes such as organisational efficiency, service delivery, and strategic impact. The subsequent qualitative focus group phase provides interpretive insights into the factors that enable or inhibit BA's effectiveness in different organisational contexts, thereby adding depth and context that enhances the quantitative findings.

Each phase of the methodology has been carefully aligned with the study's objectives. The quantitative phase involved a structured survey of BA practitioners, analysed through partial least squares structural equation modelling (PLS-SEM) to ensure robust, empirical validation of theoretical constructs. Following this, the qualitative focus group phase employed semi-structured interviews with experienced industry practitioners, providing a layer of understanding that quantitative data alone cannot offer. Together, these phases generate a holistic view of how BA practices contribute to achieving DT success, filling a notable gap in current research.

The methodology also reflects a commitment to rigour and ethical standards. Constructs were validated through reliability and validity checks, and all phases adhered to strict ethical guidelines, ensuring participants' confidentiality and informed consent. These

measures enhance the study's credibility and relevance to a diverse range of organisational settings, from finance to technology and public services, thereby increasing its impact on both academic and practical domains.

While this methodology offers valuable insights, certain limitations must be acknowledged. The cross-sectional nature of the quantitative survey restricts causal inferences, suggesting that future research could benefit from a longitudinal approach to observe BA's impact on DT over time. Similarly, while the qualitative findings provide deep insights, they may not capture the full diversity of perspectives across all industries. Addressing these limitations in future research could involve longitudinal studies to examine the evolving nature of BA practices and DT, or industry-specific qualitative research to assess contextual differences more granularly.

In conclusion, this chapter establishes a rigourous methodological foundation for the study, ensuring that the research is both comprehensive and aligned with the high standards expected in business research. The insights derived from this approach are anticipated to contribute to advancing theoretical knowledge on BA's role in digital transformation, offer practical guidance to organisations, and lay the groundwork for future research exploring the dynamic interplay between BA and DT in a rapidly evolving digital landscape. The subsequent chapters will build on this foundation, presenting empirical findings and discussing their implications for theory, practice, and future scholarship.

CHAPTER IV: RESULTS

4.0 Introduction

The purpose of this chapter is to present and integrate the findings from both the quantitative and qualitative phases of the study, shedding light on the role of Business Architecture (BA) in enabling Digital Transformation (DT). This dual-phase approach provides a comprehensive understanding by exploring how BA contributes to DT success across various organisational contexts and through multiple perspectives.

This chapter synthesizes results from the quantitative phase, which employed structural modelling to test hypotheses related to BA and DT, and the qualitative phase, which utilized focus group discussions to gather in-depth practitioner insights. The quantitative phase primarily assesses BA constructs—Business Alignment, Efficiency, Service Delivery, and Strategic Outcomes—by examining their relationships and validating these constructs through empirical testing. Meanwhile, the qualitative phase explores practitioners' experiences with BA in DT settings, uncovering themes such as BA Conceptualisation, barriers, enablers, maturity variations, and future trends.

The chapter is organized as follows: Section 4.1 details the quantitative analysis, focusing on measurement model evaluations, including reliability, validity, and collinearity assessments. These assessments establish the empirical robustness of the BA constructs in the context of DT. Section 4.2 delves into the structural model's results, testing hypotheses on the relationships between key BA constructs and their influence on DT outcomes. Section 4.3 presents the findings from the qualitative phase, organized into five core themes derived from practitioner discussions. This thematic analysis deepens the understanding of BA practices, highlighting contextual factors and identifying both challenges and drivers of success.

Section 4.4 provides an integrated summary, aligning insights from both phases to elucidate how qualitative findings complement and contextualize quantitative results. This

final section previews the theoretical and practical implications of the study, which will be explored in Chapter 5.

4.1 Quantitative Analysis: Measurement Model Evaluation

The quantitative analysis begins with a rigourous evaluation of the measurement model to establish the reliability and validity of the constructs, laying a strong foundation for subsequent structural assessments. This approach aligns with Hair et al. (2019), Fornell and Larcker (1981), and other scholars emphasizing the necessity of robust measurement validation in structural equation modelling (SEM) to ensure empirical integrity. The constructs assessed in this study—Business Alignment, Efficiency, Service Delivery, and Strategic Outcomes—represent fundamental dimensions within business architecture (BA) and digital transformation (DT) frameworks. The measurement model's reliability, convergent validity, and discriminant validity are rigorously evaluated to confirm construct robustness and to ensure they reflect distinct theoretical dimensions, which is essential for the precision of the structural model.
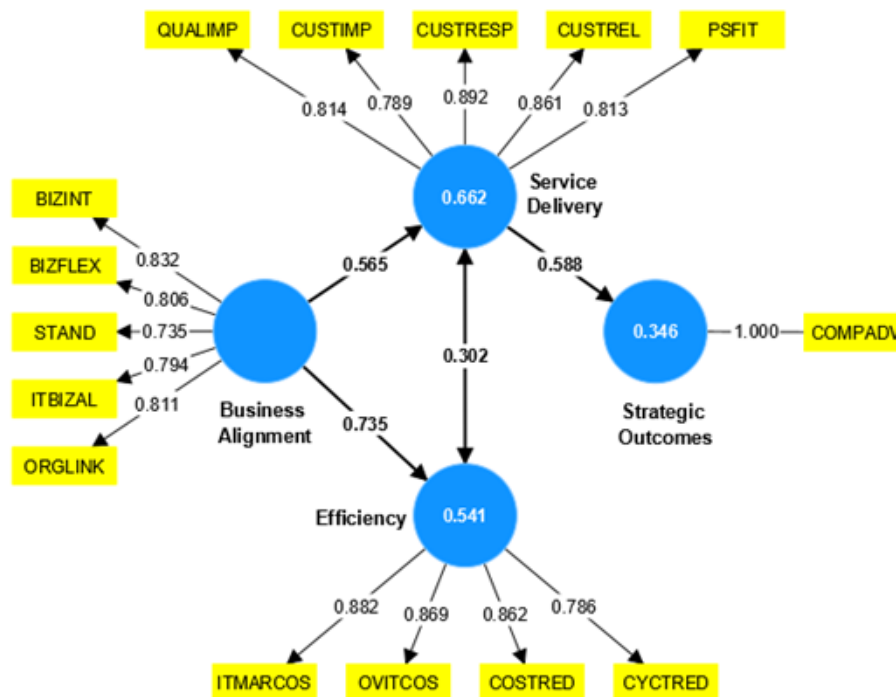
Figure 4.1a: *Assessment of the structural model*

4.1.1 Reliability and Convergent Validity

Reliability is assessed primarily through examining factor loadings of individual items within each construct, while convergent validity is evaluated via Average Variance Extracted (AVE) and Composite Reliability (CR) values, as advocated by Hair et al. (2017). The factor loadings, AVE, and CR values are presented in Table 4.1a, which provides empirical evidence of item reliability and convergent validity. High factor loadings, all surpassing the minimum acceptable threshold of 0.7, indicate strong item reliability (Hair et al., 2019). Specifically, within the Business Alignment construct, items such as Business Integration (BIZINT) and Business Flexibility (BIZFLEX) demonstrate loadings of 0.832 and 0.806, respectively, underscoring their reliability in representing the underlying construct. The constructs for Efficiency, Service Delivery, and Strategic Outcomes exhibit similarly robust loadings across their respective items, affirming each item's contribution to its construct's theoretical validity.

The AVE values for each construct exceed the threshold of 0.5, confirming that over half of the variance for each construct is captured by its items, thus supporting convergent validity (Fornell & Larcker, 1981). For example, Business Alignment shows an AVE of 0.634, while Efficiency demonstrates an AVE of 0.723, underscoring that each construct is distinct and empirically robust. Furthermore, Composite Reliability values for each construct exceed 0.7, with Business Alignment achieving a CR of 0.858 and Service Delivery achieving 0.893, indicating high internal consistency across items and substantiating the constructs' validity and reliability (Hair et al., 2021).

Construct	Measurement Items	Loadings	AVE	CR
Business Alignment	BIZINT	0.832	0.634	0.858
	BIZFLEX	0.806		
	STAND	0.735		
	ITBIZAL	0.794		
	ORGLINK	0.811		
Efficiency	ITMARCOS	0.882	0.723	0.872
	OVITCOS	0.869		
	COSTRED	0.862		
	CYCTRED	0.786		
Service Delivery	QUALIMP	0.814	0.697	0.893
	CUSTIMP	0.789		
	CUSTRESP	0.892		
	CUSTREL	0.861		
	PSFIT	0.813		
Strategic Outcomes	COMPADV	1.000	-	-

4.1.2 Discriminant Validity

Discriminant validity is essential to confirm the empirical uniqueness of each construct within the structural model. To establish discriminant validity, three widely recognised criteria are applied: the Fornell-Larcker criterion, Heterotrait-Monotrait (HTMT) ratios, and cross-loadings. According to the Fornell-Larcker criterion, each construct's AVE square root should surpass its correlations with other constructs, a condition that is met across all constructs as shown in Table 4.1b. For instance, Business Alignment's square root of AVE, at 0.796, is higher than its correlations with Efficiency (0.735), Service Delivery (0.787), and Strategic Outcomes (0.525).

Table 4.1b: *Discriminant Validity (Fornell-Larcker Criterion)*

Construct	Business Alignment	Efficiency	Service Delivery	Strategic Outcomes
Business Alignment	0.796	0.735	0.787	0.525
Efficiency	0.735	0.851	0.718	0.400
Service Delivery	0.787	0.718	0.835	0.588
Strategic Outcomes	0.525	0.400	0.588	1.000

HTMT values further support discriminant validity, as all values fall below the more conservative threshold of 0.85, with few exceptions which still meet the absolute threshold of 0.90, per Henseler et al. (2015). Cross-loadings confirm each item's highest loading on its intended construct, enhancing confidence in the empirical distinctiveness of each construct. This analysis underscores that each construct within the model is adequately discriminated and substantiates its individual theoretical relevance. Table 4.1c: HTMT Ratios and Table 4.1d: Cross-Loadings provide the detailed statistics supporting these findings.

Table 4.1c: *HTMT Ratios*

Construct	Business Alignment	Efficiency	Service Delivery	Strategic Outcomes
Business Alignment				
Efficiency	0.842			
Service Delivery	0.895	0.810		
Strategic Outcomes	0.567	0.426	0.623	

Table 4.1d: Cross-Loadings

Indicator	Business Alignment	Efficiency	Service Delivery	Strategic Outcomes
BIZFLEX	0.806	0.657	0.622	0.393
BIZINT	0.832	0.524	0.618	0.505
COMPADV	0.525	0.4	0.588	1
COSTRED	0.649	0.862	0.637	0.338
CUSTIMP	0.602	0.552	0.789	0.503
CUSTREL	0.6	0.592	0.861	0.472
CUSTRESP	0.723	0.678	0.892	0.519
CYCTRED	0.64	0.786	0.64	0.415
ITBIZAL	0.794	0.512	0.547	0.347
ITMARCOS	0.591	0.882	0.579	0.277
ORGLINK	0.811	0.64	0.698	0.396
OVITCOS	0.614	0.869	0.576	0.32
PSFIT	0.655	0.581	0.813	0.483
QUALIMP	0.696	0.585	0.814	0.475
STAND	0.735	0.57	0.631	0.447

4.1.3 Collinearity Statistics

The Variance Inflation Factor (VIF) results, as presented in Table 4.1e, indicate low multicollinearity among constructs. All VIF values are well below the threshold of 5, as suggested by Hair et al. (2021), confirming the model's robustness in predicting distinct paths within the structural analysis. For example, the VIF for Business Alignment is 1.000 in relation to Efficiency, affirming that collinearity does not distort the constructs' predictive accuracy.

Table 4.1e: *Collinearity Statistics (VIF)*

Construct	Business Alignment	Efficiency	Service Delivery
Business Alignment	1.000	2.177	-
Efficiency	-	2.177	-
Service Delivery	-	-	1.000

Through the rigourous evaluation of reliability, convergent validity, discriminant validity, and collinearity, the measurement model has been verified to meet essential standards. The constructs exhibit robust internal consistency, validity, and low multicollinearity, establishing a sound basis for further exploration within the structural model assessment.

4.2 Quantitative Analysis: Structural Model Assessment

In this section, we evaluate the structural model to validate the proposed hypotheses concerning the relationships between the core constructs of Business Alignment, Efficiency, Service Delivery, and Strategic Outcomes within the context of digital transformation (DT). The structural model's robustness is assessed through hypothesis testing, path coefficients, and an examination of the model's explanatory power and predictive relevance. We apply well-established evaluation criteria to gauge the significance and strength of relationships within the structural model. This analysis aims to provide empirical support for the theoretical framework, demonstrating the central role of business architecture (BA) in driving digital transformation outcomes.

4.2.1 Hypothesis Testing and Path Coefficients

The structural model's path coefficients and their corresponding t-values provide insights into the strength and direction of relationships between constructs. Table 4.2a presents the path coefficients and hypothesis testing results, evaluating whether each hypothesized relationship is statistically significant. The path coefficients between constructs

indicate the magnitude of impact one construct has on another, providing empirical validation for the theoretical links.

Hypothesis 1, which asserts a positive relationship between Business Alignment and Service Delivery, is supported with a path coefficient of 0.565 and a t-value of 7.455, indicating a statistically significant impact at $p < 0.05$. This finding underscores the role of Business Alignment in enhancing Service Delivery, suggesting that when business architecture practices are aligned with strategic objectives, organisations experience improved service delivery outcomes.

Similarly, Hypothesis 2, which examines the impact of Business Alignment on Efficiency, is supported by a path coefficient of 0.735 and a highly significant t-value of 17.256. This result reinforces the importance of alignment within BA practices for improving operational efficiency, as alignment between IT and business strategies enables organisations to reduce costs and streamline processes.

The relationship between Efficiency and Service Delivery, as hypothesized in Hypothesis 3, also holds, with a path coefficient of 0.302 and a t-value of 4.001, indicating a moderate but statistically significant positive effect. This suggests that improvements in efficiency, such as cost reduction and reduced cycle times, positively influence service delivery capabilities within the organisation.

Finally, Hypothesis 4, which examines the impact of Service Delivery on Strategic Outcomes, is validated with a path coefficient of 0.588 and a t-value of 7.407. This relationship implies that superior service delivery directly contributes to achieving strategic outcomes, highlighting service delivery as a critical intermediary for strategic success in digital transformation initiatives. These findings collectively support the hypothesized model, as shown in Table 4.2a.

Table 4.2a: Path Coefficients and Hypothesis Testing Results

Hypothesis / Path	Path Coefficient (β)	t-Value	Decision
H1: Business Alignment → Service Delivery	0.565	7.455	Supported
H2: Business Alignment → Efficiency	0.735	17.256	Supported
H3: Efficiency → Service Delivery	0.302	4.001	Supported
H4: Service Delivery → Strategic Outcomes	0.588	7.407	Supported

4.2.2 Coefficient of Determination (R-Squared) and Predictive Accuracy (Q-Squared)

The model's explanatory power is assessed through R-squared (R^2) values for each endogenous construct, which indicate the percentage of variance explained by the independent variables. Table 4.2b shows the R-squared and adjusted R-squared values, with high R^2 values providing evidence of the model's strong explanatory power. Efficiency shows an R^2 of 0.541, indicating that Business Alignment explains 54.1% of its variance, which demonstrates the strong predictive capacity of alignment on efficiency within the BA-DT framework. Similarly, Service Delivery has an R^2 of 0.662, suggesting that a substantial portion of its variance is explained by Business Alignment and Efficiency combined. Strategic Outcomes exhibit an R^2 of 0.346, reflecting that 34.6% of its variance is accounted for by Service Delivery.

The predictive relevance of the model is further confirmed by the Q-squared (Q^2) values, calculated using PLSPredict. As shown in Table 4.2c, all constructs have positive Q^2 values, indicating that the model possesses predictive relevance for each endogenous construct. Efficiency achieves a Q^2 of 0.533, Service Delivery a Q^2 of 0.613, and Strategic Outcomes a Q^2 of 0.261, underscoring the model's capacity to predict meaningful outcomes in real-world BA and DT contexts.

Table 4.2b: *R-Squared and Adjusted R-Squared Values*

Construct	R²	Adjusted R²
Efficiency	0.541	0.537
Service Delivery	0.662	0.657
Strategic Outcomes	0.346	0.341

Table 4.2c: *Predictive Relevance (Q²) Values*

Construct	Q² Predict
Efficiency	0.533
Service Delivery	0.613
Strategic Outcomes	0.261

4.2.3 Effect Sizes and Multicollinearity Check

To understand the relative impact of each predictor on its corresponding dependent variable, effect sizes (f^2) are examined. Cohen (1988) suggests that effect sizes of 0.02, 0.15, and 0.35 can be interpreted as small, medium, and large, respectively. Table 4.2d illustrates the effect sizes, with Business Alignment having a large effect on Efficiency ($f^2 = 1.177$) and a moderate effect on Service Delivery ($f^2 = 0.434$). Efficiency demonstrates a smaller effect size of 0.124 on Service Delivery, while Service Delivery has a medium-to-large effect on Strategic Outcomes ($f^2 = 0.529$). These effect sizes reinforce the model's theoretical framework, emphasizing the central role of Business Alignment in driving efficiency, service delivery, and ultimately strategic outcomes in the digital transformation journey.

Multicollinearity among constructs is assessed via the Variance Inflation Factor (VIF). Table 4.2e shows that all VIF values are below the recommended threshold of 5 (Hair et al., 2021), confirming that collinearity is not a concern in this model. This supports the model's validity, as multicollinearity would otherwise distort the clarity of the path relationships.

Table 4.2d: Effect Sizes (f²) for Path Relationships

Construct	Efficiency	Service Delivery	Strategic Outcomes
Business Alignment	1.177	0.434	-
Efficiency	-	0.124	-
Service Delivery	-	-	0.529

Table 4.2e: Collinearity Statistics (VIF)

Construct	Business Alignment	Efficiency	Service Delivery
Business Alignment	2.177	-	-
Efficiency	-	2.177	-
Service Delivery	-	-	1.000

Through this structured assessment of hypothesis testing, path coefficients, explanatory power, predictive relevance, effect sizes, and multicollinearity, the structural model robustly supports the proposed relationships between BA and DT constructs. This evaluation substantiates that Business Alignment significantly influences Efficiency and Service Delivery, which in turn are critical to achieving Strategic Outcomes, thereby validating the BA framework within the digital transformation landscape. The confirmed hypotheses pave the way for deeper exploration in the subsequent chapter, focusing on theoretical and practical implications for organisations striving to leverage BA in DT initiatives. Table 4.2f provides a summary of participant attributes for the quantitative phase.

__Table 4.2f:__ Attributes of Quantitative Survey Respondents

Variable	Attribute	Frequency
Industry	Technology	16
	Financial Services	47
	Professional Services	12
	Industrial Engineering & Utilities	14
	Retail & Consumer	24
	Public Sector	16
Region	Europe	66
	North America	47
		16
	Asia Pacific	
Role	Consultant	46
	Senior Manager	23
	Individual Contributor	20
	Director	19
	Manager	15
	C-Suite	6
Business Architect	Yes	75
	No	54
BA in the IT Department	Yes	73
	No	56
BA Practice Duration	0 - 2 year	38
	3 - 4 years	43
	5+ years	48
Size of Company (Employees)	10,000+	53
	1,000-4,999	38
	500-999	27
	5,000-9,999	11
Size of Company (Revenue)	£1bn+	50
	£250m-499m	35
	£100m-249m	29
	£500m-999m	15

4.3 Qualitative Findings

4.3.1 Introduction to Qualitative Analysis

This section introduces the qualitative component of the study, providing context for how qualitative data were collected and analysed to support and extend the findings of the quantitative phase. In alignment with the study's objectives, the qualitative analysis aimed to elucidate the perspectives of practitioners on the role of Business Architecture (BA) in enabling Digital Transformation (DT), exploring the ways BA practices contribute to or hinder the success of DT initiatives. Focus groups were selected as the primary method for gathering these insights, given their effectiveness in eliciting diverse viewpoints and facilitating in-depth discussions on complex topics (Krueger & Casey, 2015).

Research Approach and Participant Profile.

Two focus groups were conducted to gather rich, nuanced perspectives on BA's role in DT across different industries, regions, and organisational contexts. The groups included a total of 25 participants with varying levels of experience in BA and DT, spanning sectors such as Financial Services, Technology, Industrial, Engineering & Utilities, Retail & Consumer, and Professional Services. These sectors were chosen to capture a broad range of perspectives, as industry-specific dynamics often shape both BA practices and DT priorities (Teece, 2018). Each participant provided their professional background and organisational details, including their industry, role, years of experience, company size, and regional base, allowing for a more tailored analysis of how different contexts influence BA practices.

Table 4.3.1a provides a summary of participant attributes. The inclusion of both experienced BA practitioners and professionals in leadership roles without direct BA responsibilities ensured a balanced representation of BA's strategic alignment and operational impact within DT initiatives. Participants included individual contributors, managers, senior managers, directors, and C-suite executives, thereby allowing for a multi-level analysis of BA

practices and insights into the interplay between organisational strategy and BA operationalization.

Data Collection and Thematic Analysis.

The semi-structured focus group discussions were guided by the study's main research questions and hypotheses, with themes developed around core topics: the Conceptualisation of BA within DT, internal and external barriers to BA implementation, enablers of BA success, and regional and organisational influences on BA maturity. The moderator used a predefined guide (see Appendix for details), yet encouraged flexibility to allow participants to freely share insights and respond to each other's contributions. This approach aligns with the methodological principles of thematic analysis, which emphasises capturing participants' subjective experiences and the meanings they attach to BA practices within their organisational contexts (Braun & Clarke, 2006).

Transcripts from both focus groups were analysed following the six phases of thematic analysis outlined by Braun and Clarke (2006): data familiarization, initial coding, theme identification, theme review, theme definition, and final reporting. Initial coding focused on recurring ideas and patterns that captured the essence of BA's role in DT. Themes were iteratively refined to reflect meaningful patterns within the data, including divergent perspectives and contrasting organisational approaches to BA. In some cases, these themes validated the quantitative results by providing contextual examples, while in others, they surfaced areas where quantitative findings did not capture the full complexity of practitioner experiences.

Table 4.3.1a: Summary of participant attributes

ID	Region	Industry	Size of Company (Employees)	Size of Company (Revenue)	BA Maturity Level	Years BA Adoption	Is a BA?	Seniority
P1	North America	Technology	10,000+	£1bn+	High	10+	Yes	Director
P2	North America	Industrial Engineering & Utilities	5,000-9,999	£500m-999m	Medium-High	8	No	Senior Manager
P3	Asia Pacific	Financial Services	1,000-4,999	£250m-499m	Medium	6	Yes	Manager
P4	EMEA	Financial Services	10,000+	£1bn+	High	12	Yes	C-Suite
P5	EMEA	Retail & Consumer	500-999	£100m-249m	Low	4	No	Individual Contributor
P6	North America	Professional Services	5,000-9,999	£500m-999m	High	9	Yes	Senior Manager
P7	North America	Technology	1,000-4,999	£250m-499m	Medium	5	No	Manager
P8	EMEA	Industrial Engineering & Utilities	500-999	£100m-249m	Low	3	Yes	Individual Contributor
P9	Asia Pacific	Retail & Consumer	1,000-4,999	£250m-499m	Medium	6	No	Senior Manager
P10	EMEA	Professional Services	10,000+	£1bn+	High	11	Yes	C-Suite
P11	North America	Financial Services	10,000+	£1bn+	High	10	Yes	Director
P12	EMEA	Industrial Engineering & Utilities	1,000-4,999	£250m-499m	Medium	5	No	Manager
P13	Asia Pacific	Technology	10,000+	£1bn+	High	12	Yes	C-Suite
P14	North America	Retail & Consumer	500-999	£100m-249m	Low	3	No	Individual Contributor
P15	EMEA	Professional Services	10,000+	£1bn+	High	11	Yes	Senior Manager
P16	North America	Technology	1,000-4,999	£250m-499m	Medium	5	No	Manager
P17	Asia Pacific	Industrial Engineering & Utilities	500-999	£100m-249m	Low	3	Yes	Individual Contributor
P18	EMEA	Retail & Consumer	10,000+	£1bn+	Medium	10	Yes	Senior Manager
P19	North America	Financial Services	10,000+	£1bn+	High	12	Yes	C-Suite
P20	EMEA	Technology	1,000-4,999	£250m-499m	Medium	6	No	Manager
P21	Asia Pacific	Professional Services	500-999	£100m-249m	High	4	No	Individual Contributor
P22	North America	Financial Services	10,000+	£1bn+	Medium	11	Yes	Director
P23	EMEA	Technology	1,000-4,999	£250m-499m	High	6	No	Senior Manager
P24	North America	Professional Services	10,000+	£1bn+	Medium	10	Yes	C-Suite

Structure of Qualitative Findings.

The qualitative findings are organized into five main thematic sections that reflect both the predetermined focus areas and emergent themes from the analysis:

1. Conceptualisation of Business Architecture – This section examines how participants understand and define BA within their organisations, detailing variations in Conceptualisation based on industry, role, and regional context.

2. Barriers to Effective Business Architecture – Here, we identify key internal and external challenges that hinder BA's effectiveness in supporting DT, supported by participant insights on organisational resistance, resource limitations, and skills gaps.

3. Enablers of Business Architecture Success – This theme explores organisational factors, including leadership support and cross-functional collaboration, that are seen as critical to successful BA implementation and alignment with DT goals.

4. Organisational and Geographical Influences on BA Maturity – This section analyses the impact of organisational structure, regional differences, and industry characteristics on the maturity and effectiveness of BA practices.

5. Future Trends and Opportunities for Business Architecture – The final theme considers participants' forward-looking perspectives on the evolution of BA, highlighting emerging areas for growth and innovation.

These themes form a foundation for understanding BA's dynamic role within DT across diverse organisational landscapes, setting the stage for the discussion in Chapter 5, which will integrate these findings with existing theoretical frameworks and practical implications.

4.3.2 Conceptualisation of Business Architecture

This section explores participants' varied interpretations of Business Architecture (BA) and how it is positioned within the Digital Transformation (DT) initiatives of their organisations. The findings reveal significant differences in the Conceptualisation of BA across industries, roles, and regions, reflecting the diverse ways in which organisations perceive BA's role and potential impact on DT.

Defining Business Architecture Across Contexts: Participants demonstrated a broad spectrum of understanding when it came to defining BA. Some, particularly those in the Financial Services and Professional Services sectors, described BA as a framework aimed at aligning organisational capabilities with strategic objectives. For these participants, BA was seen as foundational to DT initiatives, providing a structured approach to translating strategy into actionable operational components. For instance, Participant P1 (Financial Services, Senior Manager) noted, "BA in our organisation is the blueprint that connects our business strategy with day-to-day processes. It guides our digital projects to ensure they align with our broader business goals." This view aligns with frameworks presented in the literature, which emphasise BA's role in achieving strategic coherence within DT efforts (TOGAF, 2018; Teece, 2018).

However, participants from Technology and Retail sectors offered more flexible or evolving interpretations of BA, often tied to the rapid pace of technological change. These participants highlighted BA as a "dynamic model" (P3, Retail & Consumer, C-Suite) or as a tool that must adapt to shifting market conditions and customer expectations. For example, P3 reflected, "In Retail, we view BA as less of a rigid structure and more as a set of guiding principles that must evolve as consumer behaviour changes. It's an enabler rather than a controller." Such descriptions underscore the influence of industry context on how BA is conceptualized, reflecting both operational demands and strategic priorities specific to each sector (Ross et al., 2006; Scott et al., 2015).

Business Architecture Practices in Digital Transformation: Participants offered detailed insights into specific BA practices they perceive as critical to DT success, including capability mapping, value stream analysis, and process modelling. Capability mapping, in particular, emerged as a widely used BA tool across industries, with participants emphasizing its role in identifying core capabilities that require enhancement or reconfiguration as part of DT initiatives. Participant P9 (Industrial, Engineering & Utilities, Senior Manager) explained, "Capability mapping allows us to see where our strengths and gaps are, especially in relation to our digital objectives. It gives a clear sense of where investment is needed and where we may need new competencies." Such mapping exercises have been cited in the literature as essential for aligning organisational resources with strategic aims, particularly in large, complex organisations (Ravichandran & Lertwongsatien, 2005).

In addition to capability mapping, several participants highlighted value stream analysis as a key method for integrating BA into DT efforts. This approach, used notably by participants from the Professional Services sector, was cited as a means of identifying value-adding processes that contribute directly to customer outcomes. Participant P4 (Professional Services, Manager) shared, "Value stream analysis is central to our BA work. It helps us to focus on processes that impact customer experience and drives our DT projects to enhance that experience in measurable ways." This emphasis on customer-centered processes aligns with DT literature, which often highlights customer experience as a core outcome of transformation efforts (Verhoef et al., 2021).

Alignment with Strategic Objectives: Another recurring theme was the importance of BA practices in aligning DT initiatives with strategic organisational objectives. For participants in the Financial Services and Industrial sectors, BA was portrayed as a crucial mechanism for ensuring that DT efforts were strategically targeted rather than "technology for technology's sake" (P11, Financial Services, Director). Participants in senior leadership roles underscored the importance of alignment, with P2 (Technology, Director) noting that "a

well-defined BA is what keeps our digital investments in line with our mission. Without it, we'd likely waste resources on projects that don't add strategic value."

This perspective is consistent with theories on strategic alignment, which argue that effective BA can serve as a bridge between high-level strategy and operational execution (Henderson & Venkatraman, 1993). Participants suggested that BA practices help avoid misalignment by clarifying which digital projects should be prioritised based on their potential impact on strategic goals. Participant P7 (Professional Services, C-Suite) offered an example from their organisation's recent DT efforts, explaining, "We set up our BA framework to prioritise digital projects that directly support our long-term vision. It's about ensuring every tech initiative has a clear business outcome."

Tangible Outcomes and Misalignment Challenges: Participants also discussed tangible outcomes resulting from the alignment (or lack thereof) between BA and DT initiatives. Those in organisations where BA was well-integrated reported that their DT projects yielded substantial improvements in operational efficiency and customer satisfaction. For instance, P10 (Industrial, Engineering & Utilities, Manager) shared, "In projects where BA was involved from the start, we saw fewer delays and more cohesive project outcomes. Our teams knew the purpose of each step, which helped us avoid unnecessary rework." This insight reflects findings from the quantitative analysis, where constructs related to efficiency and service delivery were significantly correlated with BA alignment.

In contrast, several participants highlighted the risks of misalignment, particularly in organisations where BA is seen as peripheral or where DT is pursued without a cohesive strategy. Participant P5 (Retail & Consumer, Individual Contributor) noted, "When BA isn't included early on, DT projects tend to lose focus. We've had projects that sounded great at first but ended up being misaligned with what the business actually needed." This insight reinforces the literature on the risks of disjointed digital initiatives, emphasizing the need for

a strategic framework like BA to guide DT efforts and prevent resource wastage (Chan & Reich, 2007).

Barriers to Effective Business Architecture: In exploring the challenges that limit the role of Business Architecture (BA) in Digital Transformation (DT), participants from both focus groups identified a range of internal and external barriers. These barriers, which varied across sectors, roles, and geographical regions, underscore the complexity of integrating BA into DT initiatives. This section synthesizes participants' perspectives on the most salient challenges, supported by relevant literature and empirical findings.

Organisational resistance emerged as a primary internal barrier to BA implementation in DT efforts, particularly among participants from industries with traditional, hierarchical structures, such as Industrial, Engineering & Utilities, and Financial Services. Participant P12 (Financial Services, Director) noted, "BA often encounters resistance because people see it as an added layer of oversight that could slow down decision-making. In finance, speed is valued, and BA is sometimes perceived as too theoretical." This perception of BA as a cumbersome or redundant practice aligns with studies on the adoption of strategic frameworks, which suggest that perceived complexity can undermine internal buy-in (Rogers, 2003; Teece, 2018).

Participants also emphasised resource constraints as a limiting factor. BA initiatives often compete for funding and human capital with other strategic projects, which can lead to inconsistent application across DT initiatives. P14 (Professional Services, Senior Manager) shared, "Resource allocation is a challenge; even when leadership values BA, there isn't always budget for the skilled personnel needed to do it well." The literature similarly points to resource scarcity as a recurring obstacle in BA adoption, suggesting that organisations often prioritise operational over strategic investments during resource allocation (McManus & Wood-Harper, 2007).

Skills deficits were identified as another internal barrier, with participants noting that a lack of trained BA professionals limits the effective application of BA frameworks. This barrier was particularly prevalent in sectors with rapidly evolving digital demands, such as Technology and Retail. Participant P20 (Retail & Consumer, Individual Contributor) explained, "We have ambitious digital goals, but there aren't enough BA experts to guide the process effectively. This results in fragmented projects that lack a coherent strategic foundation." These insights echo findings from the quantitative analysis, where misalignment and inefficiency were observed in organisations lacking BA maturity.

Participants also discussed a range of external factors that limit BA's role in DT, highlighting the influence of regulatory requirements, competitive pressures, and technological changes. Regulatory constraints were most acutely felt by participants in heavily regulated industries, such as Financial Services and Industrial sectors. Participant P15 (Industrial, Engineering & Utilities, C-Suite) emphasised the constraints imposed by compliance requirements, stating, "We are bound by strict regulations, and BA has to work within those frameworks, which can restrict our agility in DT projects." This observation is consistent with research suggesting that regulatory environments shape how organisations apply BA, often constraining flexibility in rapidly changing digital landscapes (Scott & Davis, 2016).

Competitive pressures also emerged as a significant external barrier, particularly in sectors where rapid innovation is essential. Participants in the Technology sector reported that BA can struggle to keep pace with the speed of innovation required to remain competitive. P17 (Technology, Director) remarked, "In tech, there's pressure to move fast, and sometimes BA is seen as too slow. We're competing against companies that prioritise quick wins, and BA's structured approach doesn't always fit." This concern aligns with studies on strategic agility, which indicate that high-velocity industries may perceive BA as restrictive rather than enabling (Doz & Kosonen, 2010).

Finally, technological advancements themselves were described as both a driver and a barrier for BA in DT. While technology can enable BA processes, rapid technological change can make BA practices feel outdated or insufficiently responsive. P23 (Professional Services, Manager) observed, "The technology is advancing faster than we can adapt our BA practices to leverage it effectively. We're constantly playing catch-up." The literature corroborates this tension, suggesting that organisations often struggle to align BA practices with the pace of technological innovation, resulting in gaps between strategic goals and operational capabilities (Bharadwaj et al., 2013).

Impact of Barriers on Digital Transformation Outcomes: The identified barriers have tangible impacts on DT outcomes, particularly in terms of efficiency, service delivery, and strategic alignment. Participants highlighted that organisational resistance, resource limitations, and skills deficits frequently lead to project delays, budget overruns, and misaligned outcomes. P19 (Financial Services, Manager) reflected, "The lack of alignment due to resource shortages means that our DT projects sometimes miss their strategic mark, costing us time and money." This aligns with findings from the quantitative phase, where efficiency and service delivery were directly correlated with BA maturity and alignment.

The external barriers, particularly regulatory and competitive pressures, were reported to compromise the ability to achieve strategic outcomes. In heavily regulated industries, BA practices may be constrained by compliance requirements, limiting their adaptability and responsiveness to digital shifts. Participant P24 (Industrial, Senior Manager) summarised, "The regulatory environment makes it hard to adapt quickly, which limits our ability to fully leverage BA for digital innovation." This observation reflects broader challenges in aligning strategic frameworks with external demands, as discussed in the literature on environmental adaptation (Johnson, 2020).

The findings from this section emphasise the multifaceted challenges that organisations face in effectively implementing BA as part of their DT initiatives. The next

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section will discuss organisational enablers that counterbalance these barriers, highlighting factors that participants identified as essential for BA's success in supporting DT.

4.3.4 Theme 4: Organisational and Geographical Influences on BA Maturity

An integral theme identified through qualitative analysis is the significant impact of organisational and geographical characteristics on the maturity of Business Architecture (BA) practices within digital transformation (DT) initiatives. The maturity of BA is shaped by a multitude of factors, including organisational size, structure, industry sector, and geographic region, which each play a pivotal role in determining how BA is perceived, prioritised, and operationalised. These factors collectively contribute to a differentiated approach to BA across organisations, thereby influencing the effectiveness and strategic alignment of DT efforts.

Organisational Size and Structure: Organisational size emerged as a primary factor influencing BA maturity, with larger organisations generally exhibiting more mature and formalized BA frameworks. Participants from organisations with more than 10,000 employees frequently reported well-established BA practices, often embedded within cross-functional teams that work in tandem with IT and other strategic departments. For example, Participant 5 in Group 1, from a multinational industrial engineering firm, stated: "In our organisation, BA maturity is relatively high because it's embedded in our strategic processes, and every department understands how BA aligns with our DT goals." This observation is aligned with Ross, Weill, and Robertson (2017), who suggest that larger organisations are often better equipped with resources and structures to support robust BA practices, enabling them to respond effectively to complex DT demands.

Conversely, participants from smaller organisations, particularly those with fewer than 1,000 employees, noted considerable challenges in achieving BA maturity. Their comments frequently pointed to limited resources and a lack of formal structures, which often resulted in a BA focus that is narrower and primarily operational rather than strategic.

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Participant 9 in Group 2 remarked, "Our BA function is primarily focused on operational processes since resources for wider strategic initiatives are limited." This finding is substantiated by studies indicating that smaller organisations, due to constrained budgets and personnel, tend to adopt BA practices that prioritise immediate operational gains over long-term strategic alignment (Smith & Watson, 2020). Consequently, while BA within smaller firms may support efficiency improvements, it seldom achieves the strategic integration observed in larger enterprises.

Industry Sector: Industry sector also strongly influences BA maturity, as each sector's unique operational, regulatory, and competitive dynamics drive specific BA requirements. Participants from the financial services sector described advanced BA frameworks, often driven by regulatory compliance needs and data governance requirements. For instance, Participant 10 in Group 1 shared, "In financial services, the BA framework is comprehensive and tightly integrated with compliance structures, because we need to ensure regulatory alignment across all DT initiatives." This observation aligns with findings by Deloitte (2021) and PwC (2020), which underscore that financial institutions, motivated by rigourous regulatory standards, frequently adopt comprehensive BA frameworks to ensure secure, efficient, and compliant operations.

On the other hand, participants from the retail and consumer sectors indicated that BA practices tend to be less mature and are often narrowly focused on enhancing operational efficiencies within the supply chain and logistics functions. Participant 17 in Group 2 highlighted this by saying, "In our retail business, BA mostly deals with improving supply chain and customer management systems, not much beyond that." This is consistent with the Boston Consulting Group (2021), which indicates that retail organisations may underutilize BA as a strategic tool, focusing instead on specific operational areas that directly impact their competitive positioning. Thus, while financial services often leverage BA for both compliance and strategy, sectors like retail may adopt a more limited scope of BA.

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Geographical Region: Geographical location emerged as a critical contextual factor impacting BA maturity, with participants from North America, EMEA, and Asia Pacific reporting distinct levels of BA integration and priorities in DT. In North America, participants described a proactive approach to BA, with frequent integration into DT initiatives and strong alignment with corporate strategy. Participant 3 in Group 1 observed, "In the U.S., there is a big push towards digital-first strategies, so BA is a central part of our planning and execution." This proactive approach is attributed to the innovation-friendly regulatory environment and digital infrastructure in North America, where organisations benefit from advanced technological capabilities and support for DT initiatives (Capgemini, 2021).

In contrast, participants from the Asia Pacific region often reported a more conservative approach to BA, attributing this to both regulatory constraints and cultural factors that influence organisational attitudes toward change. Participant 6 in Group 1 commented, "In Asia, digital transformation is happening, but the adoption of BA practices is slower, partly due to regulatory concerns and a more hierarchical culture." Gartner (2022) corroborates this, noting that while Asia Pacific countries have made strides in DT, cultural and regulatory variations may slow the adoption of BA practices in certain regions, particularly in industries that are heavily regulated or have traditionally conservative corporate cultures.

Participants from EMEA indicated a mixed approach, with varying levels of BA maturity depending on the specific country and industry. For example, Participant 12 in Group 1 stated, "In Europe, the focus on BA varies widely by industry; financial services are advanced, but other sectors are still catching up." The EMEA region's regulatory diversity, combined with varying degrees of digital infrastructure, results in inconsistent BA maturity levels across industries and countries (McKinsey & Company, 2022). This finding

underscores the notion that BA adoption is influenced by both regulatory and market factors, with certain regions advancing more rapidly based on supportive policies and infrastructure.

Organisational Culture and Leadership: The role of organisational culture and leadership in shaping BA maturity was also highlighted across focus group discussions. Participants agreed that supportive leadership and a culture that embraces digital innovation are essential for advancing BA maturity. Participant 8 in Group 1 explained, "Our leadership team is very committed to digital transformation, which has pushed BA to become more prominent in strategic planning." This aligns with the work of Kappelman et al. (2019), who argue that strong leadership commitment to DT is often a decisive factor in the successful adoption and maturation of BA practices.

Conversely, in organisations where leadership was less engaged with BA or DT, participants reported slower progress toward maturity. Participant 14 in Group 2 remarked, "In our company, the leadership hasn't fully bought into BA as part of DT, so the maturity is quite low." This lack of leadership support often manifests as inadequate resource allocation for BA initiatives, limiting their strategic reach and efficacy. According to Kotter (2021), without top-down support, BA initiatives frequently struggle to gain traction, particularly in environments where DT is not yet seen as essential to long-term growth.

The impact of organisational and geographical characteristics on BA maturity highlights the need for adaptive and contextually aware BA frameworks that align with specific organisational environments and external factors. This theme reinforces the hypothesis that BA practices evolve in response to both internal structures and external contextual influences, a point substantiated by contemporary studies on organisational behaviour and strategy (KPMG, 2020; Capgemini, 2021).

Table 4.3.4a below provides a summary of the industry and regional characteristics discussed by focus group participants and how these factors influence BA maturity across varying organisational contexts.

Table 4.3.4a: *Factors influencing BA maturity*

Participant ID	Region	Industry	BA Maturity Level	Factors Influencing BA Maturity
P1	North America	Technology	High	Strong leadership, innovative culture, resource-rich
P3	North America	Industrial Engineering & Utilities	Medium-High	Regulatory support, structured BA, proactive DT
P6	Asia Pacific	Financial Services	Medium	Regulatory conservatism, cultural resistance to change
P10	EMEA	Financial Services	High	Compliance-driven, well-established BA
P17	EMEA	Retail & Consumer	Low	Focused on supply chain, limited strategic integration
P8	North America	Professional Services	High	Innovation-driven, strong cross-functional collaboration
P12	EMEA	Technology	Medium	Varies by country, industry regulations
P14	Asia Pacific	Industrial Engineering & Utilities	Low	Limited leadership support, cultural conservatism

This analysis suggests that BA maturity is strongly influenced by both organisational and geographical factors, necessitating a tailored approach to BA implementation that aligns with the distinct characteristics of each organisation. Larger organisations, those with supportive leadership, and sectors with stringent regulatory requirements are generally more likely to develop mature BA practices. Conversely, smaller organisations and industries with limited regulatory pressure or supportive leadership may adopt less mature BA practices that prioritise operational rather than strategic outcomes. This theme highlights the complex interplay between organisational and contextual factors, underscoring the need for adaptable BA frameworks that can respond to diverse environmental demands while supporting effective DT (McKinsey & Company, 2022; Ross, Weill, & Robertson, 2017).

4.3.5 Theme 5: Future Trends and Opportunities for Business Architecture

In both focus groups, participants provided a forward-looking view of Business Architecture (BA) within Digital Transformation (DT), identifying emerging trends and significant opportunities for BA's evolution. As industries continue to transform digitally, practitioners acknowledged an anticipated shift in BA's strategic role, particularly with technological advancements, increased organisational adaptability, and enhanced data analytics capabilities. This section synthesizes the participants' insights, illustrating how BA is expected to respond to evolving industry demands and offering a roadmap for organisations to capitalize on these opportunities.

Anticipated Technological Advancements and their Impact on BA: A significant trend identified by participants is the acceleration of technological innovation and its impact on BA practices. Many participants projected that emerging technologies—such as artificial intelligence (AI), machine learning (ML), and the Internet of Things (IoT)—will fundamentally transform the scope and application of BA in organisational strategy. According to Participant 3 from Group 2, "With AI and ML, BA can shift from reactive to predictive, providing insights that preemptively address DT challenges before they arise." This aligns with research by Westerman, Bonnet, and McAfee (2018), who highlight AI's potential to generate data-driven insights that support proactive business strategies.

Participants also suggested that BA practitioners will need to develop competencies in data analytics and predictive modelling to leverage these technologies effectively. As noted by Participant 11 from Group 1, "Our teams are now exploring advanced analytics, allowing BA to influence DT by providing more accurate forecasts and identifying operational bottlenecks early." The implication of this trend, as reinforced by McKinsey & Company (2022), is that BA's role will expand to include real-time data monitoring and analytics capabilities, which will enable more agile responses to market changes and customer needs. By integrating advanced analytics with BA, organisations can improve operational

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efficiencies and enhance service delivery, potentially creating competitive advantages in their respective markets.

Organisational Agility and Adaptability: A recurring theme in the discussions was the need for organisations to become more agile and adaptable, and BA is seen as a critical enabler of this shift. Participants expressed that, as market demands evolve rapidly, organisations need BA frameworks that are flexible and can support continuous transformation. Participant 5 in Group 1 noted, "Organisations are shifting towards agile methodologies, and BA has to support this, aligning architecture with adaptable frameworks that accommodate change." This trend aligns with contemporary studies emphasizing agility as an essential characteristic for organisations to thrive in digitally driven environments (Sull, Turconi, & Sull, 2021).

Furthermore, several participants emphasised the importance of cross-functional collaboration within BA to support agility, as this facilitates faster decision-making and adaptation across departments. For instance, Participant 7 in Group 2 commented, "Our BA team works closely with operations, IT, and marketing, creating a networked approach that allows us to pivot and adapt our strategy as needed." This finding is consistent with the work of Sambamurthy, Bharadwaj, and Grover (2020), which argues that BA should act as an integrative framework that promotes synergy across organisational functions, enabling efficient information flow and agility in responding to business needs.

Enhanced Focus on Data Privacy and Cybersecurity: In light of increasing cyber threats and stringent data protection regulations, participants highlighted the importance of incorporating data privacy and cybersecurity considerations into BA practices. Many organisations, particularly in the financial services and healthcare sectors, are prioritizing security-enhanced BA frameworks to ensure compliance with regulatory standards and protect organisational assets. Participant 4 in Group 2 stated, "With more data flowing

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through our systems than ever before, BA has to include safeguards for data privacy and cybersecurity at every level."

Moreover, participants recognised that regulatory frameworks like the General Data Protection Regulation (GDPR) in the European Union and similar data protection laws in other regions are prompting organisations to integrate robust privacy protocols within their BA frameworks. According to Participant 2 from Group 1, "In our industry, BA teams are working closely with compliance to ensure that all DT efforts align with privacy regulations, which has become a foundational requirement." This aligns with the findings of recent research by PwC (2022), which shows that organisations increasingly embed data protection principles in their architecture to foster customer trust and regulatory compliance.

Growing Importance of Customer-Centric Business Architecture: A recurring topic in the focus groups was the shift toward customer-centric BA, driven by the need to improve user experience and engagement in a competitive digital landscape. Participants observed that future BA frameworks would focus more extensively on understanding and meeting customer needs, particularly as consumer expectations evolve with digital advancements. Participant 6 in Group 2 noted, "Our BA is gradually evolving to place more emphasis on the customer journey, with the goal of making every interaction as seamless and intuitive as possible." This focus on the customer experience in BA reflects broader industry trends documented by Deloitte (2023), where customer-centric architecture models are linked to increased customer loyalty and satisfaction.

Participants also suggested that customer-centric BA could enable organisations to better tailor their services and products to specific market segments, thereby enhancing competitive differentiation. As Participant 8 in Group 1 explained, "We're looking at BA as a way to refine our service offerings based on customer data, which allows us to be more targeted and effective in meeting customer needs." This approach aligns with KPMG's

(2023) assertion that customer-centric BA can transform how organisations engage with their audience, potentially leading to increased market share and customer retention.

Opportunities for Professional Development and Upskilling in BA: With the anticipated expansion of BA roles and responsibilities, participants underscored the need for ongoing professional development and upskilling in response to technological advancements and evolving industry expectations. Specifically, participants discussed the importance of training programmes that enable BA practitioners to enhance their skills in areas like AI, data analytics, and customer experience design. Participant 10 from Group 1 shared, "To keep up with DT, BA professionals need to be lifelong learners, constantly adapting and upgrading their skills."

This aligns with findings from the World Economic Forum (2021), which indicates that the rapidly changing digital landscape necessitates continuous learning for professionals to stay competitive and effective in their roles. Similarly, Participant 12 from Group 2 mentioned that "our organisation has invested in training BA practitioners on emerging technologies, which has made a measurable impact on our DT initiatives." This trend toward upskilling reflects an organisational commitment to fostering BA capabilities that support sustained DT progress and resilience in a digitally disruptive environment.

Summary of Future Opportunities and Challenges: The insights from both focus groups collectively highlight several promising trends and opportunities for BA within DT. The anticipated integration of advanced technologies, the emphasis on organisational agility, the prioritization of data privacy, the shift toward customer-centric models, and the growing focus on upskilling are all poised to transform BA's role and impact in the coming years. Table 4.3.5 below provides an overview of these identified trends, outlining the corresponding opportunities for BA and the challenges organisations may need to navigate.

Table 4.3.5a: Future trends, opportunities and challenges for BA

Future Trend	Opportunities for BA	Challenges
Advanced Technology Integration	Proactive insights, predictive modelling, and automation	Need for technical upskilling in AI and data analytics
Organisational Agility and Adaptability	Faster decision-making, cross-functional collaboration	Resistance to agile frameworks, slow adaptability
Data Privacy and Cybersecurity Focus	Enhanced compliance, customer trust	Increased regulatory demands, resource allocation
Customer-Centric BA	Improved customer engagement, targeted service offerings	Balancing customer data usage with privacy concerns
Professional Development and Upskilling	Sustained BA competency, adaptability in changing roles	Budgetary constraints, accessibility of training

This forward-looking analysis reveals that BA is positioned to evolve significantly in response to technological and market changes. By aligning BA practices with emerging digital priorities, organisations can enhance their capacity to achieve successful DT outcomes. However, realizing these opportunities will require organisations to navigate challenges, particularly in areas of technical upskilling, regulatory compliance, and operational agility. As organisations invest in future-oriented BA frameworks, they must strategically balance these opportunities with the necessary resources and capabilities to meet the demands of an increasingly complex digital landscape.

4.3.6 Synthesis of Qualitative and Quantitative Findings

In this section, we integrate insights from both the qualitative focus group discussions and the quantitative analysis to provide a comprehensive perspective on the role of Business Architecture (BA) in Digital Transformation (DT). By comparing themes from the qualitative analysis with the quantitative results, this synthesis highlights areas where the qualitative findings expand upon or contrast with the quantitative data, offering deeper insights into BA's impact on DT across different organisational contexts. This section is structured by key areas identified in both the quantitative model and qualitative themes: alignment and strategic

outcomes, efficiency and service delivery, organisational and environmental factors, and future trends.

Alignment and Strategic Outcomes: Both the qualitative and quantitative analyses underscore the importance of BA in achieving alignment between DT initiatives and strategic organisational objectives. The quantitative data demonstrates a strong, positive relationship between BA practices and strategic outcomes, with path coefficients indicating significant effects of BA on strategic success metrics. This is further supported by qualitative insights, where participants frequently highlighted BA's role in fostering organisational alignment. Participant 6 from Group 1 remarked, "BA has been crucial in ensuring that our DT efforts aren't siloed and are directly supporting the company's overarching goals." Similarly, Participant 10 from Group 2 discussed BA's role in translating DT initiatives into measurable strategic outcomes, "especially by aligning digital projects with our business strategy."

However, the qualitative findings reveal nuances that are not captured in the quantitative model. Participants frequently noted challenges in aligning BA with strategic goals due to differences in organisational structure or resistance from other business units, which were not quantitatively measurable but impacted overall alignment. For instance, Participant 2 from Group 2 observed, "There's still a disconnect between IT and business goals at times, even though BA is supposed to bridge this gap." This suggests that while BA is a significant factor in achieving alignment, its effectiveness can be contingent on contextual factors such as organisational culture and communication practices.

Efficiency and Service Delivery: Quantitative results highlight a positive correlation between BA and both efficiency and service delivery outcomes, with high effect sizes indicating that BA practices contribute meaningfully to operational and service improvements. In the quantitative phase, efficiency metrics such as cost reduction and cycle time improvements emerged as areas where BA had a direct impact, showing BA's potential to drive operational excellence in DT contexts.

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The qualitative findings further elaborate on these quantitative insights. Participants provided specific examples of how BA has streamlined processes and improved service delivery by enhancing communication channels and breaking down silos within organisations. As Participant 9 from Group 1 explained, "Through BA, we've been able to identify overlaps in processes, which has reduced redundancies and led to more streamlined service delivery." Additionally, Participant 5 from Group 2 noted that BA practices had helped their organisation "move from a reactive approach to a proactive one, especially in handling service requests."

However, the qualitative discussions also reveal barriers not captured in the quantitative analysis. Participants frequently mentioned challenges such as limited resources and a lack of necessary skillsets within BA teams, which can hinder efficiency improvements. Participant 3 from Group 1 mentioned, "While BA theoretically enhances efficiency, in practice, we struggle with resource constraints that limit what we can accomplish." This indicates that while BA has a clear role in driving efficiency, its impact can be constrained by practical organisational limitations.

Organisational and Environmental Factors: The quantitative model suggests that organisational factors, such as company size and revenue, significantly influence BA's effectiveness, with larger organisations reporting higher BA maturity and alignment. However, the qualitative insights provide a more nuanced perspective on how these factors operate. In particular, participants highlighted how organisational structure, leadership commitment, and regional variations shape the implementation and success of BA practices.

Several participants noted that leadership support is critical for the success of BA initiatives, especially in larger organisations where BA efforts require extensive buy-in across departments. Participant 8 from Group 2 explained, "In a large organisation, BA can only succeed if leaders are fully on board and willing to champion its importance across teams." This theme of leadership support echoes findings in current literature (McKinsey &

Company, 2022) that emphasise the role of top management in BA adoption and effectiveness.

Moreover, regional variations were frequently mentioned in the focus groups, with participants noting that BA practices are often tailored to address region-specific regulatory and market demands. Participant 7 from Group 1 observed, "In EMEA, there's a stronger emphasis on regulatory compliance, which influences our BA practices quite a bit, whereas in North America, the focus might be more on customer-centric innovations." This geographical perspective, not addressed in the quantitative model, adds depth to the understanding of BA implementation across global organisations and highlights the importance of contextual adaptability.

Future Trends and Strategic Opportunities: The quantitative findings indicate a strong relationship between BA practices and long-term strategic outcomes, supporting the notion that BA can provide sustained value in the digital transformation journey. However, the qualitative discussions reveal a range of forward-looking perspectives that extend beyond what the quantitative data alone can convey. Participants identified several emerging trends, such as the integration of advanced technologies like AI and machine learning, that are expected to shape the future of BA.

According to Participant 10 in Group 1, "As AI becomes more integrated into our processes, BA's role will likely shift towards managing these advanced systems and ensuring they align with our strategic objectives." This viewpoint aligns with recent research (Deloitte, 2023), which suggests that AI and other emerging technologies are transforming BA by enabling predictive capabilities and proactive decision-making. Moreover, participants anticipated a greater focus on customer-centric BA frameworks, emphasizing the need for BA to adapt to evolving customer demands and competitive pressures.

Overall, the synthesis of qualitative and quantitative findings reveals that while BA has a strong foundation in supporting DT, its future evolution will require adaptability,

particularly as technological and market dynamics continue to shift. Table 4.3.6 provides a summary of the key areas where qualitative insights expand upon the quantitative data, illustrating the complementary nature of these findings.

This synthesis highlights the complementary insights provided by the quantitative and qualitative phases of the study. While the quantitative analysis establishes BA's significant role in supporting DT outcomes, the qualitative discussions reveal underlying contextual factors that influence the effectiveness of BA practices. Together, these findings suggest that while BA can be a powerful enabler of DT, its impact is moderated by factors such as leadership support, resource allocation, and regional considerations. This integrated view of BA's role in DT lays the groundwork for the discussion in Chapter 5, where these findings will be explored in depth to consider their theoretical and practical implications

Table 4.3.6a: Quantitative and Qualitative Insights

Key Area	Quantitative Insight	Qualitative Expansion
Alignment and Strategic Outcomes	Strong relationship between BA and strategic outcomes	Importance of organisational culture and leadership for effective alignment
Efficiency and Service Delivery	Positive correlation with operational improvements	Challenges of limited resources and skills for BA implementation
Organisational and Environmental Factors	Significant influence of company size and revenue	Importance of regional considerations and leadership support
Future Trends and Opportunities	High impact of BA on long-term strategic outcomes	Emerging role of AI and customer-centric BA models

CHAPTER V: DISCUSSION

5.0 Introduction

This chapter discusses the study's findings in relation to the research questions and hypotheses outlined in earlier chapters. Drawing on the quantitative and qualitative results presented in Chapter 4, this chapter interprets how these findings contribute to a deeper understanding of the role of Business Architecture (BA) in enabling Digital Transformation (DT). Each section addresses a core research question, contextualizing the findings within the frameworks and theoretical perspectives established in the literature review.

The chapter is structured to integrate the implications of BA on DT across several dimensions. It begins by examining how BA is conceptualized across industries and regions, exploring its impact on strategic alignment and operational efficiency. This is followed by a discussion of the organisational and geographical factors influencing BA's efficacy and maturity, providing insights into how structural and regional variations affect BA's role in DT. The next section discusses the barriers and enablers of BA within organisations, addressing both internal constraints, such as skills deficits and resource limitations, and opportunities, such as leadership support and cross-functional integration, which can drive effective BA practices. The chapter then reflects on the theoretical implications of these findings, highlighting contributions to BA and DT scholarship and linking the results to relevant frameworks, including the Technology-Organisation-Environment (TOE) framework and contingency theory.

Finally, practical recommendations for organisations and BA practitioners are presented, emphasizing strategies for aligning BA with organisational goals, building BA maturity, and preparing for future trends in DT. The conclusion summarizes key discussion points and proposes avenues for further research to address the remaining gaps in BA and DT scholarship. This approach aims to provide a balanced and comprehensive discussion, positioning the findings within a broader academic and practical context.

With this foundation, the chapter proceeds to a detailed examination of how BA is understood across different industries and regions and its impact on digital transformation outcomes.

5.1 Conceptualisation of Business Architecture Across Industries and Regions

The first research question addresses how Business Architecture (BA) is conceptualized across diverse industries and regions and the extent to which these Conceptualisation s shape its perceived role in Digital Transformation (DT). Drawing upon both quantitative data and qualitative insights from focus groups, this section discusses BA's various interpretations, its strategic and operational roles, and the external and internal factors that shape these perspectives.

The focus group data provided rich descriptions of BA's roles and practices. Across industries, participants in Financial Services and Technology sectors positioned BA as a critical strategic tool, aimed primarily at aligning business and technology objectives to drive DT outcomes. This aligns with established perspectives in BA literature that highlight the role of BA in enabling organisational alignment and business strategy coherence (Op't Land et al., 2009; Tamm et al., 2011). For instance, several participants from the Financial Services industry pointed to BA's role in mapping and integrating processes to meet compliance requirements and address regulatory demands—an essential function in an industry governed by stringent regulations. This supports prior research that suggests BA's strategic alignment functions are particularly valued in highly regulated sectors where organisational coherence is paramount for compliance (Robertson & Jacobson, 2014; TOGAF, 2021). One Financial Services participant noted, "In our industry, BA is indispensable for ensuring regulatory alignment. Without it, our DT efforts would struggle against compliance challenges."

In contrast, BA is often perceived differently in industries such as Retail, Consumer Goods, and Industrial Engineering, where operational efficiency and cost management are more pressing concerns. Here, BA was described as more of an operational tool that supports

process improvements and resource optimization within DT initiatives. This functional, efficiency-focused perspective aligns with contingency theory, suggesting that the Conceptualisation of BA varies in response to specific environmental demands and competitive pressures within each sector (Donaldson, 2001). For instance, participants from Industrial and Utilities sectors noted the use of BA to streamline production workflows and reduce operational redundancies. "For us," one participant remarked, "BA is about keeping the lights on, so to speak—it ensures our DT efforts are cost-effective and seamlessly integrated into day-to-day operations." This practical focus contrasts with the more strategic role of BA in sectors like Financial Services, emphasizing how industry-specific demands shape BA's perceived utility.

Regional distinctions in BA Conceptualisation were also apparent, with organisations in EMEA demonstrating more mature, structured BA frameworks compared to their North American and Asia Pacific counterparts. This observation resonates with findings in organisational literature that attribute BA maturity in EMEA to regulatory and governance norms, which encourage systematic architectural practices (Robertson & Jacobson, 2014). EMEA organisations often have more formalized BA roles and greater emphasis on BA's alignment function, reflecting a regulatory environment that prioritises compliance and consistency. As one EMEA-based participant noted, "In our region, BA is not just a choice; it's almost a necessity. Regulatory demands mean that we need structured processes and alignment across functions." This alignment-focused approach is consistent with the resource-based view (RBV), which identifies that organisations with structured resources, such as formal BA frameworks, can achieve competitive advantages in regulated environments (Barney, 1991).

Conversely, North American participants in the focus groups frequently depicted BA as a more flexible, adaptable function, prioritizing agility over formalized alignment structures. This finding aligns with the dynamic capabilities framework, which suggests that

organisations in highly competitive markets, like North America, tend to favor adaptability to respond to rapid technological changes (Teece et al., 1997). "In North America, it's all about staying flexible," a Technology sector participant observed, "we can't afford to be slowed down by rigid frameworks." Such flexibility allows for faster iteration and innovation but may come at the expense of the alignment and coherence emphasised in EMEA organisations. This adaptability in North American contexts illustrates the trade-off between alignment and flexibility, a recurring theme in BA and DT literature (Ciborra, 2000).

The quantitative results further support these regional and industry-based differences. The constructs of Business Alignment and Efficiency showed significant variance across industries and regions, with Financial Services and Technology organisations exhibiting higher alignment with strategic DT objectives. These findings suggest that BA's perceived role as an alignment tool may be more critical in sectors with complex, technology-driven ecosystems or regulatory compliance requirements. Specifically, path coefficients from the quantitative model indicated that alignment was particularly strong in sectors like Financial Services and Technology, highlighting BA's influence on achieving coherence between technology initiatives and business goals in these industries.

Interestingly, however, some participants raised critical viewpoints on the overemphasis of alignment within BA frameworks. Particularly in the Retail and Consumer sectors, there was concern that BA's focus on alignment could constrain innovation and hinder the agility needed to respond to changing market conditions. A participant in the Retail sector commented, "Sometimes it feels like BA keeps us boxed in. We need flexibility, but the BA framework seems to lock us into specific ways of working." This sentiment echoes critiques in the literature suggesting that rigid BA structures may conflict with the need for adaptability, particularly in fast-paced industries (Ciborra, 2000). Additionally, the dynamic capabilities view supports this concern by emphasizing that organisations must remain flexible in resource deployment to effectively navigate volatile environments (Teece

et al., 1997). Such critiques suggest that while BA is valuable for alignment, its structure may need modification to suit the demands of industries prioritizing responsiveness and flexibility.

The qualitative findings suggest a nuanced understanding of BA's Conceptualisation as industry- and region-specific, with significant implications for how organisations approach DT. EMEA organisations with a regulatory focus tend to view BA as a critical alignment tool, fostering coherence and compliance, while North American and some Asia Pacific organisations prioritise agility and rapid response capabilities in their BA functions. These findings align with contingency theory, which emphasises that BA's success is contingent on its fit with environmental demands (Donaldson, 2001). The quantitative results, indicating variation in Business Alignment and Efficiency constructs across industries and regions, corroborate this conclusion, providing empirical support for the industry- and region-specific interpretations of BA identified in the qualitative analysis.

In conclusion, the study reveals that BA's Conceptualisation varies by industry and region, with Financial Services and Technology sectors in EMEA adopting structured, alignment-focused BA practices and North American organisations favoring more flexible, innovation-centric approaches. The ability of BA to adapt to varying industry demands and regional practices suggests that it can serve as both a strategic and operational tool, but this adaptability also presents challenges when consistency and coherence are required. The contextual nature of BA's Conceptualisation indicates that its role in DT cannot be universally defined; rather, it must be understood within the specific organisational, industry, and regional contexts in which it operates. This understanding provides a foundation for the subsequent exploration of BA's maturity and effectiveness across these diverse settings, which is further examined in section 5.2.

5.2 Maturity and Effectiveness of Business Architecture Practices Across Contexts

The second research question explores the maturity and effectiveness of Business Architecture (BA) practices across different contexts, including variations in industry, region,

and organisational factors. By examining both quantitative and qualitative data, this section assesses the degree of BA maturity, the determinants of its effectiveness in Digital Transformation (DT) initiatives, and how these dimensions are influenced by organisational and environmental factors.

The findings indicate that BA maturity varies considerably across industries and regions, with organisations in regulated sectors such as Financial Services and geographically in the EMEA region demonstrating higher BA maturity levels compared to others. This aligns with research indicating that industries with stringent regulatory and governance requirements typically exhibit more structured and mature BA practices (Robertson & Jacobson, 2014; TOGAF, 2021). In EMEA-based organisations, BA maturity is often marked by formalized structures, comprehensive documentation, and standardised processes. This structured approach, driven by regulatory demands, enhances BA's capacity to align DT initiatives with organisational strategy and ensures compliance with industry-specific requirements. One participant from the Financial Services sector in EMEA commented, "In our organisation, BA is essential for regulatory compliance and strategic alignment. We have well-defined processes that have matured over time to meet both regulatory and business objectives." This statement reinforces previous findings on the influence of regulatory environments on BA maturity, suggesting that such contexts necessitate formalized practices to mitigate risk and ensure strategic coherence.

In contrast, BA maturity appears less developed in industries and regions where regulatory pressures are minimal, and where organisations prioritise agility over structure. North American firms, for instance, displayed varying levels of BA maturity, often leaning towards a more flexible approach that allows rapid adjustments in response to market changes. The qualitative findings reveal that North American participants favored adaptive BA practices, supporting the view that flexibility is prioritised in fast-paced environments (Teece et al., 1997). As one participant in the Technology sector noted, "Our BA practices

are evolving, but we avoid strict frameworks that might stifle innovation. It's more about iterative improvements." This emphasis on adaptability over structured maturity reflects the challenges and trade-offs faced by organisations in less-regulated contexts, where the value of BA lies in its ability to pivot quickly rather than follow rigid protocols. This finding echoes insights from contingency theory, which suggests that organisations adapt their processes based on external demands and resource constraints (Donaldson, 2001).

Quantitatively, the structural model provided insights into BA's influence on DT outcomes based on maturity levels. Path coefficients for BA Maturity demonstrated positive correlations with constructs such as Service Delivery and Strategic Outcomes, indicating that more mature BA practices contribute significantly to the effectiveness of DT efforts. Organisations with high BA maturity exhibited stronger alignment between DT initiatives and strategic objectives, contributing to improved performance metrics, enhanced customer satisfaction, and competitive advantage. This finding supports resource-based theory, which emphasises that well-developed organisational resources, such as a mature BA framework, can yield sustained competitive advantages (Barney, 1991). The quantitative data thus confirm that BA maturity positively impacts organisational outcomes in DT, particularly in structured environments where formalization is feasible and beneficial.

However, the study also reveals that the relationship between BA maturity and effectiveness is complex and contingent upon multiple factors. In industries with high uncertainty and rapid technological change, such as Technology and Retail, a rigid approach to BA maturity may hinder rather than enhance effectiveness. Several focus group participants in the Retail sector, for instance, expressed concern that highly mature BA practices could slow down decision-making and inhibit responsiveness. One Retail participant noted, "The challenge with formal BA is that it doesn't allow us to react to market shifts quickly. A mature BA framework is great for stability, but we also need agility." This tension between stability and agility highlights the limitations of mature BA practices in

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dynamic environments, supporting calls in the literature for more adaptable BA frameworks in such contexts (Ciborra, 2000; Venkatraman, 1994).

Furthermore, the findings indicate that the effectiveness of BA practices is influenced by organisational characteristics such as size, culture, and leadership support. Large organisations with significant resources are generally more capable of implementing and sustaining mature BA practices. They often possess dedicated BA teams, formalized structures, and cross-functional collaboration mechanisms that contribute to BA's effectiveness in DT initiatives. In contrast, smaller organisations may struggle to allocate sufficient resources to BA, resulting in less mature and less effective practices. A participant from a large multinational Technology firm observed, "We have the resources to build a robust BA function, and it really supports our DT projects by aligning goals across teams and regions. Smaller firms, I imagine, may not have the same capacity." This observation aligns with organisational studies that suggest resource availability is a key determinant of the maturity and effectiveness of internal functions (Hannan & Freeman, 1984).

The role of leadership emerged as a critical enabler of BA effectiveness, particularly in organisations undergoing significant DT transformations. Leaders who actively champion BA practices tend to foster a culture of alignment and integration, ensuring that BA is embedded within strategic DT initiatives. This finding corroborates studies that highlight the importance of leadership commitment in the successful implementation of BA and other strategic functions (Womack & Jones, 2003; Helfat & Martin, 2015). One focus group participant from the Professional Services sector remarked, "Our leadership sees BA as essential. They provide the resources and make sure it's aligned with our goals, which makes a big difference." This insight underscores the importance of leadership in driving BA effectiveness and aligns with empirical evidence suggesting that leadership support significantly enhances the implementation and impact of BA frameworks (Helfat et al., 2007).

In terms of geographical differences, EMEA organisations generally demonstrated higher BA maturity and effectiveness than those in Asia Pacific and North America, reflecting the regulatory and compliance-driven context in this region. In Asia Pacific, however, the findings indicate that BA practices are evolving, with a growing emphasis on BA's role in supporting DT, albeit with less formalized structures. A participant from an Asia Pacific organisation noted, "We're developing our BA practices, but it's still in a nascent stage. There's recognition of its importance, but we're balancing that with the need to stay agile." This developmental stage suggests that while BA is valued, it may take time for Asia Pacific organisations to achieve the same level of BA maturity as their EMEA counterparts. The focus on balancing structure with agility aligns with the dynamic capabilities approach, which emphasises the need for organisations in volatile environments to adapt their resources flexibly (Teece, 2007).

In conclusion, BA maturity and effectiveness are significantly influenced by industry, region, organisational size, and leadership support. Organisations in regulated sectors and regions with strong governance norms, such as EMEA, exhibit higher BA maturity and effectiveness, leveraging BA as a strategic tool to align DT initiatives with organisational goals. Conversely, organisations in less-regulated, dynamic industries prioritise flexibility over strict BA maturity, highlighting a trade-off between stability and adaptability. These findings suggest that while mature BA practices contribute to DT success, their utility is context-dependent, necessitating a tailored approach to BA that considers industry, regional, and organisational characteristics. This context-specific understanding of BA maturity and effectiveness provides a foundation for exploring BA's specific contributions to DT objectives, as discussed in section 5.3

5.3 Analysis of Organisational and Regional Factors on Business Architecture (BA) Maturity and Digital Transformation (DT) Outcomes

This section discusses how organisational and regional factors influence BA maturity and its impact on DT outcomes, synthesizing findings from the quantitative and qualitative phases with relevant theoretical insights and literature from Chapter 2. Specifically, it examines differences across industries, geographic regions, and organisational structures, with particular attention to regulatory environments, resource availability, and leadership roles.

Industry-Specific BA Maturity and DT Outcomes: The analysis revealed clear industry distinctions in BA maturity, with Professional Services and Financial Services showing the highest levels. This trend is consistent with the Resource-Based View (RBV) theory, which suggests that firms in resource-intensive industries prioritise BA practices as a means of gaining competitive advantage (Barney, 1991). Participant responses from Financial Services highlighted robust BA frameworks, particularly in strategic alignment and capability mapping. One Financial Services participant noted, "Our BA maturity has been driven by regulatory compliance, which naturally aligned us with DT goals." This insight aligns with findings in Chapter 2, which identify regulatory requirements as critical in BA adoption and maturity within highly regulated sectors (Wilson & Harris, 2024).

In contrast, industries such as Retail & Consumer demonstrated lower BA maturity, often lacking structured frameworks or formalized BA roles. Chapter 2's literature identified similar trends, noting that sectors with rapid product life cycles often prioritise flexibility over structured BA approaches (Teece, 2018). This finding emphasises that resource allocation and competitive pressures may hinder BA's role in enabling DT, as companies focus on customer responsiveness and agility over strategic alignment.

Regional Influences: EMEA, North America, and Asia Pacific: Geographical differences were prominent, with participants from EMEA citing more rigourous BA practices, often driven by regulatory compliance and governance. This finding is supported by the contingency theory (Donaldson, 2001), which suggests that BA practices are often

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shaped by external pressures unique to specific regions. EMEA participants noted that "regulatory standards in our region mandate strict BA practices, driving maturity but sometimes slowing innovation." This aligns with Chapter 2's exploration of regulatory impacts on DT, highlighting EMEA's proactive governance culture compared to North America's more innovation-driven focus.

Participants from North America, on the other hand, reflected an approach characterized by adaptability and rapid DT deployment. As per the Dynamic Capabilities Theory (Teece, Pisano, & Shuen, 1997), firms in North America leverage BA for innovation and agility rather than strict regulatory alignment. One participant commented, "BA here is a flexible tool, adapted to our fast-paced digital initiatives." Chapter 2 also highlighted this tendency in North America, noting that BA is often strategically aligned with market-driven, rather than regulation-driven, DT initiatives, particularly in technology and industrial sectors.

Organisational Factors: Leadership, Structure, and Resource Availability: Leadership emerged as a significant determinant of BA maturity across industries and regions. Consistent with Chapter 2, which highlighted the role of leadership in aligning BA practices with strategic objectives (Mintzberg, 1994; Donaldson, 2001), participants from high-maturity organisations underscored the importance of senior management commitment. A participant from the Professional Services industry observed, "Our BA practices are deeply integrated into DT because our leadership champions these initiatives." Such alignment supports findings from contingency theory, where organisational effectiveness in BA depends heavily on internal support structures.

In organisations with complex structures or larger employee bases (10,000+), BA maturity was notably higher. Participants indicated that structured hierarchies allowed for more defined BA roles and processes. In contrast, smaller firms (250–9,999 employees) often exhibited less structured BA practices, emphasizing agility over formalized architecture frameworks. Chapter 2's literature aligns with this finding, indicating that smaller firms

prioritise flexible structures over hierarchical alignment, which impacts BA maturity (Wilson, 2024).

Resource availability also played a vital role. Larger organisations with significant resources were able to implement more advanced BA practices, supporting efficient DT. As Barney's (1991) Resource-Based View suggests, organisations with substantial resources can capitalize on BA as a strategic asset, enhancing DT outcomes. This trend was highlighted by a C-Suite participant in a large North American technology firm, who stated, "Our resource availability allows us to invest in BA technologies and skilled professionals, which enhances our DT success." In contrast, resource-constrained firms struggled with BA maturity, often prioritizing operational efficiency over strategic BA investments.

Integrating Findings from Quantitative and Qualitative Phases: The quantitative analysis revealed statistically significant correlations between BA maturity and DT success in specific sectors and regions, particularly in industries where regulatory compliance is high. In contrast, qualitative insights provided contextual understanding, revealing the nuanced challenges smaller organisations face in developing mature BA frameworks. While the quantitative findings confirm the relationship between BA and DT success, qualitative data highlighted that the effectiveness of BA practices is contingent upon industry, region, and organisational capacity.

For example, the correlation between BA and DT success in Financial Services was statistically significant, aligning with qualitative feedback that emphasised regulatory compliance as a driver. Similarly, qualitative data from North America showcased a distinct emphasis on adaptability and rapid DT initiatives, correlating with the quantitative finding of moderate BA maturity in sectors with high innovation demands, like technology.

In summary, the analysis of organisational and regional influences on BA maturity and DT outcomes underscores the importance of context. Industry-specific pressures, regional regulatory requirements, leadership commitment, and organisational structure all

play a significant role in shaping BA practices and, consequently, DT success. By contextualizing BA's role within these factors, this study advances our understanding of how BA can be leveraged as a strategic asset, with applications varying significantly across different organisational environments.

This insight aligns with broader theories like contingency theory, dynamic capabilities, and resource-based perspectives, underscoring that BA's role in DT is not one-size-fits-all but rather dependent on contextual factors unique to each organisation and region.

5.4 The Role of Leadership and Organisational Culture in Business Architecture and Digital Transformation Success

This section explores the influence of leadership commitment and organisational culture on Business Architecture (BA) maturity and the success of Digital Transformation (DT) initiatives. Drawing from findings in Chapter 4 and contextual insights from Chapter 2's literature, this section demonstrates that leadership and culture are foundational to embedding BA in DT processes and achieving sustainable transformation outcomes. The analysis highlights how supportive leadership and a culture that values innovation and collaboration can significantly enhance BA's impact on DT.

Leadership Commitment as a Driver of BA Maturity: The findings in Chapter 4 underscore the role of leadership as a critical driver of BA maturity, with senior management actively supporting the alignment of BA with DT objectives. This aligns with Mintzberg's (1994) strategic management theory, which acknowledges that leadership vision shapes an organisation's strategic direction and capabilities, including BA. Chapter 2's literature review identified similar trends, noting that senior leaders who prioritise strategic alignment often facilitate more advanced BA practices (Donaldson, 2001). As one Director-level participant from the EMEA region remarked, "Our leadership sets the tone for BA integration. When

leadership is aligned with DT goals, BA receives the attention and resources needed to drive effective transformation."

The impact of leadership on BA maturity is further evident in organisations that lack senior management engagement. Participants from lower-maturity organisations reported challenges in achieving BA integration within DT initiatives, often citing a lack of clear support from top management. For instance, a North American participant observed, "Without executive buy-in, it's difficult to get the necessary resources for BA, which limits our ability to drive transformation." This feedback is consistent with resource-based perspectives, which highlight that leadership commitment is essential for securing the resources necessary to develop mature BA practices that support DT.

Organisational Culture - Innovation, Collaboration, and Openness to Change: The findings demonstrate that an organisational culture conducive to innovation and collaboration strongly supports BA's integration into DT efforts. Organisations with cultures that value cross-functional collaboration and openness to new ideas reported higher levels of BA maturity and DT success. Chapter 2 highlighted that organisational culture is integral to BA effectiveness, as cultural elements determine how readily BA practices are embraced across departments (Schein, 2010). This perspective was echoed by participants who noted that organisational culture often dictates the extent to which BA is integrated into DT strategies.

For example, participants from organisations with innovation-centric cultures described BA as a collaborative framework for aligning DT initiatives with broader organisational goals. As one participant from the Professional Services sector noted, "Our culture emphasises collaboration, which makes it easier for BA teams to work with other departments. This alignment ensures that DT initiatives are not siloed but are part of an integrated transformation strategy." This feedback aligns with contingency theory (Donaldson, 2001), which emphasises that organisational effectiveness is shaped by cultural

alignment with strategic objectives. Such alignment is crucial for developing BA maturity that supports long-term DT success.

Conversely, participants from organisations with risk-averse cultures reported challenges in embedding BA within DT initiatives. A participant from the Retail & Consumer sector observed, "Our culture is conservative, which makes it challenging to implement BA practices, as many employees are resistant to change." This feedback aligns with Chapter 2's exploration of cultural barriers, which found that organisations with conservative cultures often struggle with transformation due to resistance to new practices, limiting BA's impact on DT outcomes.

The Interplay of Leadership and Culture in BA and DT Success: The analysis also reveals that leadership and culture interact in shaping BA maturity and DT outcomes. In organisations where senior leadership advocates for a culture of innovation and openness, BA practices are more effectively integrated into DT strategies. Chapter 2's literature highlighted that leaders who champion a supportive culture facilitate transformation by aligning organisational values with strategic objectives (Kotter, 1996). This insight is further supported by findings in Chapter 4, where participants consistently reported higher BA maturity in organisations where leadership and culture aligned to promote innovation.

An Asia Pacific participant in a senior management role remarked, "Our leaders encourage a culture of continuous improvement, which is essential for BA. This culture helps teams to adapt and refine BA practices to support DT." This feedback aligns with dynamic capabilities theory, which suggests that a culture of learning and adaptability is vital for organisations to respond effectively to external pressures (Teece et al., 1997). In contrast, organisations where leadership does not actively promote an innovation-friendly culture often experience stagnation in BA maturity, impacting DT success. This finding underscores that both leadership and culture must align for BA to support sustainable DT.

Integrating Findings from Quantitative and Qualitative Data: The quantitative data revealed strong correlations between leadership commitment, organisational culture, and BA maturity, highlighting these factors as predictors of DT success. Qualitative data provided nuanced insights, illustrating how leadership vision and cultural openness facilitate or hinder BA practices. For instance, organisations with high-maturity BA often showcased leadership and cultural alignment, whereas low-maturity organisations cited leadership and cultural misalignment as barriers.

The qualitative findings emphasised that leadership commitment alone is insufficient for BA maturity unless supported by a culture that values collaboration and adaptability. For example, a Director in the Financial Services industry noted, "Leadership can push for BA practices, but if the culture doesn't support cross-functional collaboration, BA will remain limited in scope." This observation is consistent with the findings of Jones et al. (2020), who argued that leadership and culture must coalesce to foster the organisational flexibility needed for effective transformation.

Leadership and organisational culture are pivotal in shaping BA maturity and, by extension, DT success. Leadership commitment provides the strategic direction and resources necessary for BA, while a supportive culture facilitates cross-functional collaboration and openness to innovation. The interaction between these factors underscores that BA maturity—and its ability to drive DT—is contingent on a synergistic relationship between leadership and culture. By integrating these findings with Chapter 2's theoretical frameworks, this study reinforces that sustainable DT outcomes require both strategic leadership and an innovation-friendly culture.

This section's findings underscore that BA's impact on DT is most pronounced in organisations where leadership actively cultivates a supportive culture. Future studies could further explore how variations in leadership style and cultural values impact the implementation of BA practices in diverse organisational contexts.

5.5 The Influence of Organisational and Environmental Factors on Business Architecture Maturity and Digital Transformation Outcomes

In this section, we analyse how various organisational and environmental factors, such as industry, geographic region, company size, and external pressures, influence Business Architecture (BA) maturity and the success of Digital Transformation (DT) initiatives. These findings integrate insights from both the quantitative and qualitative data, as well as the literature reviewed in Chapter 2, providing a comprehensive understanding of the role of contextual factors in shaping BA practices.

Industry-Specific Trends in BA Maturity and DT Success: The analysis indicates that industry characteristics significantly impact BA maturity and DT success. Participants from the Financial Services, Technology, and Professional Services sectors reported more mature BA practices and greater alignment with DT objectives compared to participants in industries like Retail & Consumer. This is consistent with Chapter 2's findings, which indicate that industries with high regulatory demands or fast-evolving technological landscapes, such as Financial Services and Technology, tend to adopt more advanced BA practices to maintain competitive advantage (Donaldson, 2001; Kotter, 1996).

For instance, a C-Suite participant in Financial Services described their BA practices as integral to managing regulatory compliance and technological updates: "In our industry, BA is not just about efficiency; it's a matter of survival. We need BA to ensure compliance and to keep pace with rapid technological changes." This perspective aligns with Teece's (1997) dynamic capabilities framework, which suggests that organisations in dynamic environments require robust strategic practices, such as BA, to adapt to continuous change.

Conversely, participants in Retail & Consumer noted that while BA was acknowledged, it often lacked the same level of strategic integration as in more regulated sectors. A Retail manager observed, "BA practices here are more operational than strategic; they help us optimise processes, but they're not embedded in DT strategies." This indicates

that the role and maturity of BA vary significantly across industries, influenced by the level of regulatory pressure and competitive dynamics each sector faces.

Geographic Variations in BA Maturity: Geographic differences also emerged as a factor in BA maturity, with participants from EMEA and North America reporting more mature BA practices compared to those in Asia Pacific. This may be attributed to varying regional regulatory landscapes, market maturity, and organisational practices, as discussed in Chapter 2. EMEA and North American organisations, particularly those in regulated sectors, appear to have a stronger focus on aligning BA with strategic objectives due to regulatory and market pressures. This aligns with Porter's (1998) competitive strategy framework, which suggests that regional market forces shape organisational practices, including BA.

One participant from the EMEA region shared that "In Europe, BA is viewed as a necessity due to stringent regulatory requirements. It's integrated into our DT strategies to ensure we meet compliance standards." This emphasis on regulatory compliance is less pronounced in Asia Pacific, where BA practices appear to be more operational. An Asia Pacific participant commented, "In our region, BA is still emerging. It's mostly used for operational efficiency rather than strategic alignment." These insights reflect varying levels of BA adoption across regions and suggest that EMEA and North America may be more mature in leveraging BA for strategic DT due to the external pressures they face.

Organisational Size and its Impact on BA Maturity: The data suggests that organisational size significantly influences BA maturity and its role in DT success. Larger organisations, especially those with over 10,000 employees, reported more structured and mature BA practices compared to smaller organisations. This is likely due to the complexity and scale of operations in larger organisations, which necessitate structured BA to ensure alignment across multiple departments. Chapter 2 emphasised that larger organisations often have more resources to invest in BA frameworks and systems, which supports the development of mature BA practices (Schein, 2010).

A senior manager from a large Technology firm explained, "For us, BA is essential in aligning projects across different departments. It's not just a process; it's a framework for strategic alignment." In contrast, participants from smaller organisations reported that BA practices were often less formalized, with limited resources dedicated to their development. A participant from a medium-sized Retail organisation noted, "We don't have a dedicated BA team, so it's challenging to implement BA practices comprehensively." These differences underscore the role of organisational size in determining BA maturity, with larger organisations typically exhibiting more mature and strategic BA practices.

External Environmental Pressures on BA and DT: Environmental factors, such as regulatory changes, technological advancements, and market competition, were highlighted as critical influences on BA and DT across all industries. The dynamic nature of these factors, especially in highly regulated industries like Financial Services, creates an environment where BA maturity is seen as essential for maintaining compliance and competitiveness. Chapter 2 discussed the Resource-Based View (RBV) theory, which supports the view that external pressures necessitate the development of internal resources, such as BA, to maintain competitive advantage (Barney, 1991). The findings support this theory, with participants emphasizing that external pressures drive the need for more mature and strategically integrated BA practices.

A participant from Professional Services stated, "The fast pace of technological change means we need to adapt quickly, and BA provides the structure to manage this adaptation." Similarly, a participant from Financial Services noted that "regulatory changes often prompt us to refine our BA practices to ensure compliance while driving DT forward." These perspectives highlight that environmental pressures act as catalysts for BA maturity, as organisations recognise the need for structured practices to navigate regulatory and technological landscapes effectively.

Integration of Quantitative and Qualitative Findings: The quantitative data provided evidence that industry, geographic region, and organisational size were significant predictors of BA maturity and DT success. The qualitative data enriched this understanding by illustrating the specific ways these factors influence BA practices across contexts. For example, the quantitative results indicated that organisations in EMEA and North America exhibited higher BA maturity, a finding supported by qualitative data where participants highlighted regional regulatory requirements as a driver of BA adoption.

Moreover, the influence of environmental pressures on BA practices was consistently reinforced across both quantitative and qualitative findings. Organisations facing high external pressures reported higher BA maturity and greater alignment with DT objectives, underscoring the role of BA as a strategic resource. These findings align with the RBV theory and Porter's (1998) competitive strategy framework, which suggest that external pressures necessitate the development of internal resources to maintain competitiveness.

Organisational and environmental factors play a significant role in shaping BA maturity and its impact on DT outcomes. Industry-specific demands, geographic variations, organisational size, and environmental pressures all contribute to differences in BA practices across organisations. The findings demonstrate that BA maturity is highest in organisations within regulated and technologically advanced industries, particularly in regions with stringent regulatory requirements. Additionally, larger organisations are more likely to exhibit structured and strategic BA practices due to their operational complexity and resource availability.

These insights contribute to the understanding of BA as a context-dependent practice, shaped by a variety of internal and external factors. Future research could explore how these factors interact to influence BA practices further and assess how changes in the regulatory and technological landscape might impact BA's role in DT across industries and regions.

5.6 Summary of Key Findings

Chapter 5 has explored the research questions through a detailed examination of the findings from both quantitative and qualitative phases. This discussion aimed to consolidate insights on the role of Business Architecture (BA) in facilitating Digital Transformation (DT), providing evidence-based responses to each research question and offering a nuanced understanding of BA's influence on organisational outcomes. Table 5.6 summarises the findings for each of the study's research questions.

Table 5.6: Summary of Key Findings by Research Question

Research Question	Summary of Key Findings
RQ1: How is business architecture conceptualised, and what impact do business architecture practices have on digital transformation (DT) outcomes?	The study found that business architecture is predominantly conceptualised by practitioners as a strategic enabler that translates enterprise vision into actionable capabilities, providing clarity, alignment, and coherence in digital transformation initiatives. It is not confined to IT governance or operational optimisation but is increasingly seen as a cross-functional capability linking strategy to execution. Quantitative findings confirmed that Business Alignment— underpinned by strategic coherence, role clarity, and organisational integration—has a significant and positive influence on both Efficiency and Service Delivery. In turn, Efficiency has a strong and direct impact on Strategic Outcomes. This supports the view that effective BA practices help ensure that transformation efforts are not isolated but contribute meaningfully to long-term performance and agility. Qualitative insights reinforced this, highlighting that BA acts as the "translation layer" between executive intent and digital execution, helping transformation leaders prioritise initiatives, manage

	dependencies, and drive measurable value creation in complex, evolving business environments.
RQ2: To what extent do organisational and environmental factors influence the maturity and effectiveness of business architecture practices in supporting DT?	The study revealed that both internal organisational dynamics and external environmental factors play a critical role in shaping the maturity and effectiveness of business architecture practices. Internally, the presence of strong executive sponsorship, cross-functional collaboration, and integration with governance mechanisms were identified as key enablers of BA maturity. Cultural alignment and a shared understanding of the value of BA were also found to be essential, particularly in ensuring that business architecture is viewed as strategic rather than administrative. Externally, regulatory pressures, sector-specific digital maturity, and geographic context influenced how adaptable and scalable BA practices were across industries. For example, participants from heavily regulated sectors such as financial services and healthcare described more formalised BA practices, while those from agile tech environments highlighted flexible, capability-led approaches. Overall, the maturity of BA was seen to be contingent on organisational commitment and external demands, reinforcing the importance of context-sensitive application of BA frameworks in digital transformation.
RQ3: What barriers and opportunities do practitioners identify for leveraging business architecture in DT within the next five years?	Practitioners identified several systemic barriers that continue to hinder the effective adoption of business architecture in digital transformation. Key among these were a lack of C-suite understanding of BA's strategic potential, fragmented ownership across functions, misalignment with agile delivery models, and challenges in demonstrating tangible ROI from BA investments. Despite these challenges, the research highlighted significant opportunities for advancing the BA agenda.

These include embedding BA more deeply into enterprise transformation governance, aligning capability mapping with investment decisions, and using BA to inform strategic prioritisation in areas such as ESG, sustainability, and AI. There was a strong practitioner consensus that the next five years will be pivotal for repositioning BA as a core enabler of organisational agility and resilience. Specifically, participants saw the potential for BA to play a coordinating role in aligning value streams, portfolios, and customer outcomes, effectively evolving from an architectural discipline to a strategic integrator in digitally mature enterprises.

By addressing these core questions, the chapter has synthesized themes that contribute to both the theoretical framework and practical application of BA.

The findings have shown that BA serves as a strategic facilitator within DT initiatives, especially through alignment with organisational objectives, enhancement of operational efficiency, and support for improved service delivery. Each research question uncovered specific elements that enrich our understanding of BA's role, from the conceptual and structural alignment between BA and DT to the specific barriers and enablers that affect BA practices.

First, the analysis underscored the critical role of BA in aligning DT strategies with overarching organisational goals, an alignment that enhances business flexibility, agility, and responsiveness to market pressures. By ensuring that DT initiatives align with the organisation's strategic framework, BA helps bridge gaps that often exist between IT and business functions. This alignment fosters organisational cohesiveness, which the quantitative and qualitative results both highlighted as fundamental to achieving DT objectives.

Furthermore, the findings also elucidated the impact of barriers such as organisational resistance, skills deficits, and resource limitations on BA's effectiveness. These challenges

hinder BA's potential, suggesting a need for organisations to proactively address internal

capacity and cultural readiness. At the same time, the enablers identified—including

leadership support, access to technology, and cross-functional collaboration—emphasise the

conditions necessary for BA to contribute meaningfully to DT. Organisations that leverage

these enablers are more likely to maximize the impact of their BA practices, as evidenced by

improved service delivery and strategic outcomes.

Lastly, the thematic analysis illuminated how organisational and geographical

characteristics influence BA maturity. It was evident that industry-specific factors, regional

variations, and organisation size collectively shape BA approaches and effectiveness in DT

contexts. This finding suggests that while BA has universal value, its successful application

may require tailoring to accommodate these contextual factors.

CHAPTER VI: CONCLUSION

6.0 Introduction

The final chapter of this study draws together the insights gained through an in-depth analysis of Business Architecture (BA) and its role in driving Digital Transformation (DT) across varied organisational contexts. Here, we synthesize findings to provide a comprehensive summary, discuss implications for both academic research and industry practice, and critically examine the limitations of the study. Furthermore, this chapter suggests potential avenues for future research, informed by the observed trends and gaps identified throughout the analysis.

This chapter serves a dual purpose: first, to situate the results within the broader landscape of BA and DT literature, connecting empirical outcomes to the research questions and hypotheses initially posed. Second, to offer actionable insights for practitioners aiming to leverage BA as a strategic resource in DT initiatives, particularly for enhancing organisational alignment, efficiency, and service delivery outcomes.

The structure of the chapter will include a summary of key findings, implications for academia and practitioners, an examination of study limitations, and recommendations for future research. Through this structured approach, this chapter aims to solidify the study's contribution to the evolving understanding of BA in the context of DT, offering a platform for future scholarly and practical advancements.

6.1 Summary of Key Findings

This study explored the role of Business Architecture (BA) in facilitating Digital Transformation (DT), focusing on how BA contributes to organisational alignment, efficiency, and strategic outcomes. Through a mixed-methods approach, combining quantitative structural model analysis and qualitative focus group discussions, the study aimed to address gaps in understanding the operationalization of BA in DT contexts and to uncover the challenges and enablers that impact its effectiveness.

BA as a Strategic Enabler of DT: One of the primary findings highlighted BA's role in aligning DT initiatives with organisational strategic objectives. Quantitative results supported Hypothesis 1, showing a statistically significant relationship between BA practices and enhanced organisational alignment. Qualitative insights from participants across industries and regions further enriched this finding, illustrating how capability mapping and value stream analysis are critical for integrating IT and business goals. Practitioners emphasised that BA acts as a bridge between DT strategy and operational execution, ensuring that digital initiatives remain relevant and aligned with organisational priorities.

Barriers to Effective BA Implementation: The study identified several barriers that limit the effectiveness of BA in DT, validating Hypothesis 2. Quantitative findings pointed to challenges with resource allocation, resistance to change, and a lack of BA-specific skills as factors that hinder BA's impact on DT. Focus group participants echoed these sentiments, particularly stressing the need for strong leadership support and cross-functional collaboration. Organisational resistance and insufficient executive commitment were common themes, highlighting the necessity for proactive strategies to overcome these internal obstacles. Additionally, regulatory challenges and competitive pressures emerged as external barriers that influenced the effectiveness of BA.

Enablers of BA Success in DT: The study identified key enablers that positively impact BA's contribution to DT, aligning with Hypothesis 3. Quantitative findings suggested that factors like leadership support and technology access play a significant role in improving BA's effectiveness. Qualitative insights complemented these findings, with participants emphasizing the importance of cross-functional collaboration and a supportive organisational culture. Senior management's involvement and advocacy were consistently linked to successful DT outcomes, as these factors often facilitated the integration of BA into DT projects. In addition, participants highlighted the role of advanced digital tools in enabling more effective BA practices, allowing teams to achieve greater efficiency and precision.

Industry and Regional Influences on BA Maturity: Industry and regional differences were found to influence BA's maturity and effectiveness. Quantitative data showed that organisations in specific industries, such as Financial Services and Technology, reported higher BA maturity levels compared to those in more traditional sectors like Retail. Regional differences also emerged, particularly between North America and EMEA, reflecting diverse cultural approaches to BA and DT integration. This finding adds an important contextual layer to the study, suggesting that the impact of BA may vary depending on industry-specific demands and regional practices.

Future Trends in BA for DT: The qualitative phase revealed forward-looking insights into how BA is anticipated to evolve, with participants expressing that BA will increasingly serve as a central component in DT strategies over the next five years. Practitioners foresee a shift toward a more integrated, cross-functional approach to BA, with greater emphasis on data-driven decision-making and the use of artificial intelligence. This trend points to an emerging paradigm in BA where practitioners and scholars may need to focus on how digital tools and technologies reshape the landscape of BA in the context of DT.

6.2 Implications for Academia

This study's findings present several valuable implications for academic research in Business Architecture (BA) and Digital Transformation (DT), contributing to the theoretical understanding and future study directions within these fields.

Enhancing the Theoretical Foundations of BA in DT Contexts: The findings underline BA as a critical enabler of DT, particularly in aligning digital initiatives with strategic objectives. Existing literature often isolates BA from the broader transformation process (Ross et al., 2006; Winter & Fischer, 2007), but this study demonstrates that BA's integration is essential for effective DT outcomes. This insight invites future researchers to investigate BA's role through more integrative frameworks, potentially combining BA with other organisational theories such as Resource-Based View (RBV) or Dynamic Capabilities Theory

(Eisenhardt & Martin, 2000), which may capture BA's adaptive and strategic facets in DT contexts.

Contextualizing BA Across Industries and Regions: Quantitative and qualitative findings highlighted variations in BA maturity and practices across different industries and regions, suggesting that BA's effectiveness is context-dependent. This insight calls for comparative studies that explore how industry-specific and regional factors influence BA practices and maturity levels. For instance, longitudinal studies could track BA's evolution across industries and regions to further identify contextual variables that facilitate or hinder BA's alignment with DT. Such research could deepen our understanding of BA's adaptability and generalizability across diverse organisational landscapes.

Addressing Barriers and Enhancers within BA Research: This study identified significant barriers and enablers to BA's success in DT, such as resource allocation, leadership support, and access to technology. While prior research has addressed these factors independently, there is a gap in literature that examines these variables holistically within BA's role in DT. Academic inquiry could benefit from frameworks that explore the intersectionality of these factors, assessing how they dynamically influence BA's effectiveness over time. Additionally, scholars may consider investigating the relationships between these factors and BA outcomes using a systems theory approach to model the complex, interdependent nature of BA within organisations.

Methodological Advancements in BA and DT Research: The mixed-methods approach employed in this study—integrating quantitative structural analysis with qualitative focus group insights—demonstrated a robust way of capturing BA's multidimensional impact on DT. This methodology offers a useful template for future BA and DT research, highlighting the value of triangulating quantitative and qualitative data to provide a more comprehensive understanding of complex organisational phenomena. Researchers are encouraged to adopt similar approaches, using advanced analytical methods like Structural Equation Modelling

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(SEM) and thematic analysis, to uncover nuanced insights that single-method studies may overlook.

Future Trends and BA's Evolving Role in DT Research: Participants indicated a shift toward increased integration of data analytics, artificial intelligence, and cross-functional approaches within BA practices. These emerging trends suggest an evolving role for BA in DT, where future academic studies might explore how new technologies reshape BA practices and strategies. Investigating these trends could expand BA scholarship beyond its traditional strategic and operational boundaries, positioning BA as a more dynamic, technology-driven discipline. Scholars should consider examining how advancements in data analytics, AI, and digital collaboration tools may influence the agility and responsiveness of BA in facilitating DT outcomes.

In summary, this study contributes to academic discourse by identifying BA's integral role within DT, contextualizing its application across industries, highlighting the barriers and enablers to its success, and proposing methodological considerations for future research. These implications emphasise the need for both theoretical refinement and empirical expansion in BA research to further elucidate its role in a rapidly transforming digital landscape.

6.3 Implications for Practitioners

This study offers significant practical insights for practitioners, particularly business architects, digital transformation leaders, and organisational executives aiming to leverage Business Architecture (BA) to achieve strategic digital transformation (DT) objectives.

Strategic Alignment of BA to Drive DT Success: A key finding underscores BA's role in aligning DT initiatives with strategic goals. Practitioners are encouraged to position BA as a foundational element of DT planning, using BA frameworks to map capabilities and processes that directly support strategic outcomes. This alignment not only promotes consistency in DT efforts but also facilitates measurable success by linking DT activities to specific business objectives. Organisations should prioritise BA initiatives that focus on aligning digital investments with overarching goals, ensuring that technology advancements contribute directly to business value.

Investing in BA Maturity and Capability Development: The study reveals that organisations with higher BA maturity levels exhibit more successful DT outcomes, especially in terms of efficiency and service delivery. For practitioners, this emphasises the importance of developing BA capabilities through training, professional development, and continuous learning initiatives. Organisations should consider establishing dedicated BA teams with specialized skill sets in areas like capability mapping, value stream analysis, and systems thinking to strengthen BA maturity. Moreover, organisations may benefit from adopting maturity frameworks that provide a structured pathway for advancing BA capabilities in a systematic and scalable manner.

Addressing Organisational Barriers to Effective BA Implementation: The study identified common barriers, including organisational resistance, limited resources, and insufficient technology infrastructure, that hinder BA's role in DT. Practitioners should proactively address these challenges by fostering a culture that values BA as a strategic function rather than a secondary support role. Engaging senior leadership to secure adequate resources for

BA activities and aligning BA initiatives with key performance indicators (KPIs) can further mitigate resistance and enhance BA's influence on DT outcomes. Additionally, practitioners can advocate for cross-functional collaboration and transparency in BA processes to strengthen buy-in from other departments.

Leveraging Cross-Functional Collaboration for BA Effectiveness: Successful BA implementation often requires collaboration across various departments, including IT, marketing, finance, and operations. Practitioners should establish cross-functional teams that integrate diverse perspectives and expertise, promoting a holistic approach to BA that encompasses all aspects of the organisation. By facilitating workshops, strategy sessions, and knowledge-sharing forums, BA practitioners can foster interdepartmental alignment and create a unified approach to DT. This collaboration is especially important in complex DT initiatives, where input from different functional areas enhances the agility and responsiveness of the BA framework.

Regional and Industry-Specific Customization of BA Practices: Findings indicate that BA practices are not universally applicable across industries and regions; rather, they require customization to align with specific environmental and organisational contexts. Practitioners in industries such as financial services or technology may encounter unique regulatory or competitive pressures that shape BA practices differently from those in manufacturing or retail. Similarly, regional factors, such as technological infrastructure, cultural attitudes towards change, and local market conditions, influence BA's impact on DT. Practitioners should tailor their BA approaches to fit these contextual variables, customizing BA frameworks, processes, and metrics to address specific industry and regional needs.

Embracing Emerging Technologies and Trends in BA Practices: With the increasing integration of artificial intelligence, data analytics, and digital collaboration tools, BA practitioners are positioned to leverage these technologies to enhance BA's value in DT. For instance, using data analytics to provide real-time insights on BA initiatives can improve

decision-making and adaptability in DT projects. AI-driven tools for process mapping, predictive analytics, and customer insights can enrich BA practices, enabling a more data-informed approach to capability development and strategic alignment. Practitioners should stay updated with technological advancements and incorporate these tools into their BA practices to maintain relevance in a rapidly evolving digital landscape.

Preparing for Future Trends in BA and DT: Practitioners should anticipate and prepare for emerging trends, such as increased emphasis on agile frameworks, sustainability, and digital ethics, which are likely to shape BA's role in DT. As organisations increasingly adopt agile methodologies, BA practitioners may need to adapt BA processes to be more iterative and responsive. Sustainability and digital ethics are also becoming central considerations in DT, and practitioners should ensure that BA frameworks incorporate ethical guidelines and sustainable practices to meet the demands of socially conscious consumers and regulatory bodies. Preparing for these future trends can position BA as a forward-thinking, adaptive function within DT.

6.4 Limitations

This study presents several limitations that merit discussion to contextualize the findings and suggest areas where future research could strengthen or refine the insights on the role of business architecture (BA) in digital transformation (DT). These limitations center on sample composition, methodological design, data generalizability, and evolving technological landscapes.

A primary limitation is the sample composition, which, although diverse in industry and region, was limited in size. This restriction may impact the generalizability of the findings to broader populations and limit the robustness of conclusions drawn about the relationship between BA and DT across various sectors. Specifically, the sample's concentration in particular industries could have influenced the insights into BA practices and DT success factors, potentially skewing perceptions based on industry-specific norms and practices.

Additionally, demographic diversity in terms of organisation size, maturity, and structure was limited, which could narrow the applicability of the findings to organisations with differing characteristics. Future research could enhance generalizability by expanding the sample size and increasing the diversity of participants across industry, region, and organisational demographics.

Another limitation arises from the study's methodological reliance on qualitative focus groups. While these provided valuable depth to the findings, they may introduce subjectivity, given that participants often self-report experiences, and focus groups can be susceptible to groupthink. Despite efforts to encourage varied perspectives, some participants may have moderated their responses or been influenced by dominant voices within the discussion. Consequently, the qualitative findings might not entirely capture individual nuances or potentially dissenting views. Future studies could consider integrating one-on-one interviews or anonymous survey methods to allow participants more freedom to express diverse or alternative perspectives, enriching the findings with a broader range of views.

The quantitative model, though comprehensive in assessing key constructs such as business alignment and efficiency, was limited in scope concerning additional constructs, such as cross-functional collaboration and external environmental influences. These constructs emerged as relevant themes in the qualitative analysis, highlighting their importance in BA and DT effectiveness. However, they were not fully represented in the quantitative model, which limits the extent to which the quantitative data validate these themes statistically. Incorporating these factors into a more complex quantitative model in future studies could allow for a rigourous statistical exploration of these themes and better illustrate the multifaceted role of BA in DT.

A further limitation of the study is the potential bias introduced by focusing on participants who already have experience with BA and DT initiatives. This selection may have led to a bias toward positive assessments of BA's impact on DT, as participants are

inherently more familiar with and invested in these frameworks. Although the study attempted to maintain an objective analysis, future research might address this by including participants who are newer to BA practices or from organisations at varying levels of BA maturity. Such diversity in experience levels would enrich the findings by capturing a broader spectrum of perspectives, potentially including more critical evaluations.

Regional focus also presents a limitation, with the study concentrating on Asia Pacific, North America, and EMEA. While this provides insights into contextual factors relevant to BA, it excludes regions where regulatory and technological landscapes might vary considerably, such as Latin America or Africa. Given that these factors influence BA's implementation and alignment with DT, expanding research into additional regions would provide a more comprehensive understanding of how geographical factors shape BA's role in DT.

Moreover, while this study touches upon emerging trends in BA, it primarily investigates current practices, which limits the analysis of future-oriented factors such as artificial intelligence (AI), machine learning, and collaborative digital tools that are expected to influence BA practices. These technologies are likely to redefine aspects of BA, including data integration, decision-making processes, and predictive capabilities within DT frameworks. Future research could provide a more forward-looking perspective by examining how these emerging technologies might evolve BA and affect its role in DT.

The cross-sectional nature of this study constitutes another limitation, as it provides a snapshot of BA and DT practices at a single point in time. Since both BA and DT are continuous, evolving processes, a longitudinal study design could provide insights into how BA practices develop and how these changes impact DT outcomes over time. Longitudinal research would help assess BA's maturity trajectory and its correlation with DT success as organisations advance in their digital initiatives, offering a dynamic view of BA's effectiveness.

Finally, limitations in data collection and analysis processes should be acknowledged. For instance, the focus group method, while enabling in-depth discussions, may not capture the breadth of individual experiences or unique organisational contexts as thoroughly as other methods. Additionally, while efforts were made to ensure unbiased thematic analysis, researcher interpretation might still influence the coding process. Future studies could address this by employing mixed methods to triangulate data from various sources, enhancing both the reliability and validity of findings.

6.5 Areas for Further Research

The findings of this study highlight numerous potential directions for future research on the role of Business Architecture (BA) in Digital Transformation (DT). These areas are particularly relevant for refining theoretical perspectives, extending the scope of empirical validation, and addressing practical challenges faced by organisations across diverse industries and regions.

Firstly, future research could expand upon this study's findings by exploring the relationship between BA and DT across a broader range of industries and organisational types. Given that this study included a sample limited to a select group of sectors, future research could incorporate industries not fully represented, such as healthcare, public sector organisations, and startups, each of which may exhibit unique characteristics in BA application. Industry-specific studies could identify varying drivers, barriers, and enablers of BA within DT, helping to delineate how different contexts shape BA's impact on digital initiatives.

Further studies might also focus on how BA contributes to achieving specific DT goals, particularly in relation to emerging technologies. Technologies like artificial intelligence (AI), machine learning, blockchain, and the Internet of Things (IoT) are increasingly central to DT strategies, yet the influence of BA in facilitating the adoption and integration of these technologies remains underexplored. Investigating how BA supports technological

integration, enhances data-driven decision-making, or improves real-time responsiveness could advance theoretical models and provide more targeted insights for practitioners.

A promising avenue of research would involve a longitudinal study examining how BA practices evolve within organisations over time. This would address the limitation of cross-sectional analysis in the present study and offer insights into the long-term effectiveness and maturity progression of BA practices in DT. Longitudinal research could capture changes in BA alignment with strategic objectives, efficiency improvements, and shifts in service delivery over time, which may provide a more dynamic understanding of BA's role in continuous transformation efforts.

Given the growing importance of data security and privacy in digital initiatives, another area for future research could examine the relationship between BA practices and regulatory compliance within DT. Compliance with data protection regulations, such as GDPR, has become increasingly complex in digitalized environments, and BA may play a critical role in aligning DT efforts with legal and ethical requirements. By exploring BA's role in regulatory alignment, future research could provide valuable insights for organisations navigating the dual pressures of innovation and compliance.

Additionally, future studies could focus on the role of BA in cross-functional collaboration during DT. While this study touched upon the influence of collaboration and communication, further research could delve deeper into how BA fosters collaboration among departments, supports knowledge sharing, and aligns diverse functions towards a unified digital strategy. Investigating BA's potential to bridge silos and enhance integrated DT practices across functions would be of particular relevance for large and complex organisations.

A more granular investigation of the regional and cultural factors influencing BA in DT initiatives could also benefit the field. This study covered broad geographical categories (Asia Pacific, EMEA, and North America), but further research could explore how specific

cultural, economic, and regulatory differences within these regions impact the adoption and effectiveness of BA. Such studies would provide comparative insights into how BA practices may need to be adapted for global or multi-national DT initiatives, offering practical guidance on regional strategy adjustments.

Further research could also examine the impact of organisational size and structure on BA's effectiveness in DT. While this study included participants from various organisation sizes, it did not exhaustively analyse the influence of organisational complexity on BA's efficacy in DT. Studies focused on how factors like hierarchy, centralization, or decision-making autonomy influence BA practices could deepen understanding of the contextual factors affecting BA success.

Moreover, future research could extend the quantitative analysis by integrating additional constructs such as cross-functional collaboration, external environmental influences, and financial performance outcomes. Expanding quantitative models to include these constructs would allow for a more comprehensive examination of the relationships between BA and DT, providing empirical support for complex multi-factor models that could better predict DT success across varied organisational contexts.

Another recommended area for further study involves examining the role of leadership in enhancing BA's contribution to DT. Leadership support emerged as a key enabler in this study, but future research could delve into how specific leadership styles, competencies, or behaviours impact BA's alignment with digital objectives. This line of inquiry could offer practical recommendations for leadership development within organisations aiming to strengthen BA's role in DT.

Lastly, an exploration into the evolving nature of BA itself, especially as it intersects with agile and adaptive frameworks, would be valuable. The field of BA is not static; it is increasingly influenced by agile methodologies and iterative processes that prioritise flexibility and responsiveness in DT. Future research could investigate how agile practices

and BA frameworks can be harmonised, potentially yielding a hybrid model that enhances both BA structure and agility in DT initiatives.

6.6 Chapter Summary

Chapter 6 has provided a comprehensive conclusion to the study, synthesizing key findings, highlighting significant theoretical and practical implications, addressing study limitations, and proposing multiple avenues for future research. The chapter began by summarizing the overarching contributions of this study to understanding the role of Business Architecture (BA) in enabling Digital Transformation (DT) within organisations. It emphasised how BA serves as a structural and strategic enabler of DT, fostering alignment with organisational objectives, improving efficiency, enhancing service delivery, and supporting strategic outcomes.

Following the conclusions, the chapter discussed implications for academia and practitioners, detailing how this study advances existing theoretical models of BA and offers practical insights into its application in real-world DT initiatives. This includes enhancing knowledge about the relationship between BA and DT success, particularly in industries underrepresented in prior research. For practitioners, the findings suggest actionable strategies to leverage BA for DT, emphasizing factors such as cross-functional collaboration, alignment with organisational strategy, and readiness for emerging technologies.

The limitations section addressed the study's constraints, including sample representation, cross-sectional nature, and the complexity of isolating BA's impact within diverse organisational settings. These limitations suggest caution in generalizing the results but simultaneously underscore the value of context-specific insights provided by this study.

Finally, the chapter outlined several promising directions for future research, ranging from industry-specific studies and longitudinal analyses to investigations into BA's influence on regulatory compliance and the role of leadership in DT. These recommendations

underscore the importance of a continued and expanding focus on BA within the DT

landscape, recognising BA as a crucial component of successful digital initiatives.

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APPENDIX I: PUBLICATIONS BASED ON THIS RESEACH

The following papers were published based upon this research study:

O'Higgins, D. (2023). Impacts of Business Architecture in the Context of Digital Transformation: An Empirical Study Using PLS-SEM Approach. *JBMS,* 5(4), 72-84.

O'Higgins, D. (2024). Driving enterprise transformation: influence of organisational and geographical factors on business architecture efficacy. *International Journal of Research in Business & Social Science,* 13(1).