

Navigating Organisational Challenges in the Journey of BI-Driven Digital Transformations

Yoo Jin Hwang

A thesis submitted to
Auckland University of Technology
in partial fulfilment of the requirements for the degree of
Master of Business (MBus)

2025

Information Systems
AUT Business School

Abstract

Business Intelligence-driven Digital Transformation (BI-driven DT) has proven to enhance performance and drive operational excellence across industries. However, despite its clear benefits, organisations encounter numerous challenges in implementing and sustaining these initiatives effectively. Earlier research highlighted that organisational factors often outweigh technological aspects in determining successful outcomes. Recent research continues to reinforce this perspective, emphasising that the challenges faced in BI-driven DT are deeply influenced by organisational dynamics. This study aims to provide a comprehensive understanding of how organisational factors contribute to these challenges and proposes a framework integrating theoretical and empirical findings to guide successful BI-driven DT.

Drawing on a systematic literature review (SLR) and a case study of a real-world BI-driven DT project, the research identifies the *organisational factors* and *challenges* related to BI-driven DT. *Top Management Support, Clear Vision & Strategy, Data-Driven Innovation & Agility, and Roles & Skills* are identified as the key organisational factors that impact BI-driven DT. These factors demonstrate interrelationships with recurring challenges like *Resistance to Change, Strategic Misalignment, and Skill Gaps & Training Deficiencies*. Also, the research highlights *Interdepartmental Collaboration* as a significant applied construct that is often underexplored in academic writing and appears less prominent in the literature. These insights reveal variations between theoretical constructs and real-world contexts, underscoring the importance of tailoring strategies to specific organisational environments.

The study proposes a framework that identifies key organisational factors and maps their relationships to recurring challenges, which serves as a diagnostic tool for identifying organisational weaknesses and a strategic guide for addressing challenges. This framework enhances theoretical understanding and offers actionable guidance for practitioners. It is particularly useful for organisational leaders, project managers, and decision-makers seeking applicable strategies for BI-driven DT. Furthermore, insights derived from single-industry, such as finance and SME-specific perspectives, enable the development of targeted strategies, addressing the unique challenges within different organisational contexts. By integrating theoretical and empirical data, the study contributes to academic literature while equipping organisations with practical tools to navigate the complexities of BI-driven DT effectively.

Table of Contents

Abstract.....	i
List of Figures.....	iv
List of Tables	v
List of Appendices	vi
Attestation of Authorship.....	vii
Acknowledgements	viii
Chapter 1: Introduction	1
1.1 Real-World Cases: Challenges in Practice	2
1.2 Unpacking Organisational Complexity.....	4
1.3 Organisational Factors: A key to success	5
1.4 Research Question	6
Chapter 2: Research Methodology	7
2.1 Systematic Literature Review.....	7
2.1.1 Planning	7
2.1.2 Selection.....	8
2.1.3 Extraction	9
2.1.4 Execution.....	11
2.1.5 Thematic Analysis of SLR.....	11
2.2 Case Study	15
2.2.1 Case Study Design.....	15
2.2.2 Case Selection & Description	16
2.2.3 Data Collection & Analysis.....	17
Chapter 3: Research Findings	22
3.1 Theoretical Insights from the SLR	22
3.1.1 Organisational Factors.....	22
3.1.1.1 Organisational Culture	22
3.1.1.2 Organisational Leadership & Strategy	23
3.1.1.3 Organisational Resources & Capabilities	24
3.1.1.4 Organisational Structure.....	26
3.1.2 Challenges	27
3.1.2.1 Data & Technological Capabilities	28
3.1.2.2 Employee Engagement.....	28
3.1.2.3 Ineffective Communication & Collaboration	29
3.1.2.4 Project Management & Adaptability.....	30

3.1.2.5 Resource Constraints.....	30
3.1.2.6 Resistance to Change.....	31
3.1.2.7 Skill Gaps & Training Deficiencies.....	32
3.1.2.8 Strategic Misalignment.....	33
3.1.3 Conceptualising Organisational Factors & Challenges.....	34
3.1.3.1 Major Organisational Factors	34
3.1.3.2 Major Challenges	35
3.1.3.3 Interrelationships: Organisational Factors and Challenges.....	36
3.1.3.4 Single, SMEs, and Multiple Industry Focus	38
3.1.3.5 Industry-wide Organisational Factors Contributing to the Challenges.....	41
3.2 Case Study Analysis	47
3.2.1 Organisational Factors.....	48
3.2.2 Challenges	52
3.2.3 Major Organisational Factors & Challenges.....	53
Chapter 4: Discussion	56
4.1 Integration of SLR & Case Study Findings	56
4.2 Industry-Specific Considerations	59
4.3 Integrated Framework.....	61
Chapter 5: Conclusion	64
5.1 Practical & Theoretical Implications.....	65
5.2 Limitations.....	66
References.....	68
Appendices	76

List of Figures

Figure 1: SLR Articles Selection & Retention Process.....	9
Figure 2: Publications by Years from 2013 to 2024	10
Figure 3: Distribution of Studies by Industry	11
Figure 4: Example of Thematic Map: Organisational Leadership & Strategy	14
Figure 5: Revised SLR Thematic Map Extract: Organisational Leadership and Strategy Factor.....	20
Figure 6: Heat Map of Organisational Factors and Their Relationships with Key Challenges in BI-Driven DT	36
Figure 7: Heat Map of Interrelationships Between Organisational Factors and BI-driven DT Challenges – Multiple Industry	39
Figure 8: Heat Map of Interrelationships Between Organisational Factors and BI-driven DT Challenges – Single Industry	40
Figure 9: Heat Map of Interrelationships Between Organisational Factors and BI-driven DT Challenges – SMEs	41
Figure 10: Timeline and Milestones in the ScheduleSync Project.....	47
Figure 11: Integrated Framework – Organisational Factors Contributing to Challenges of BI-driven DT.....	62

List of Tables

Table 1: Search Procedure of SLR.....	8
Table 2: Publications by ABDC Rating.....	10
Table 3: Example of Coding Applied to SLR Dataset.....	13
Table 4: Consolidated Themes from SLR: Organisational Factors and Challenges	15
Table 5: Project Documentation: Sources and Uses in Case Study Analysis.....	17
Table 6: Example of Coding Applied to Case Study Dataset.....	19
Table 7: Organisational Factors: SLR Analysis of Themes & Sub-Themes.....	27
Table 8: Challenges: SLR Analysis of Key Themes	33
Table 9: Article Count Organisational Factors in BI-driven DT	34
Table 10: Occurrences of Challenges Identified in SLR Studies	36
Table 11: Conceptual Framework – Organisational Factors and Their Most Relevant Challenges	45
Table 12: Stakeholders of ScheduleSync Project	48
Table 13: Frequency of Organisational Factors and Top Challenges Identified in Case Study.....	53
Table 14: Key Findings of Case Study.....	55

List of Appendices

Appendix A: Thematic Analysis of SLR Dataset.	76
Appendix B: Thematic Analysis of Case Study Dataset.....	98
Appendix C: Identifying Key Organisational Factors & Challenges in the SLR Dataset.	104
Appendix D: Identifying Key Organisational Factors & Challenges in the Case Study Dataset.....	105

Attestation of Authorship

“I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless it is clearly stated, and referenced, along with the purpose of use), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.”

Yoo Jin Hwang

23/01/2025

Acknowledgements

Like constellations in the vast night sky, each star illuminated my path forward. To those who shone brightly when I needed it most, I am profoundly thankful.

First, I wish to express my deepest gratitude to my primary supervisor, Dr. Ranjan Vaidya, for his thoughtful guidance and unwavering support along the way. Your insights and constructive feedback have been invaluable in shaping this work. I am also sincerely grateful to the representatives of the case company for generously providing access to resources and offering valuable perspectives that enriched this study. Without their contributions, this work would not have been possible.

Special thanks to my family, whose love and warm words reached me across the miles. Even in moments of distance, your care and steady reassurance gave me the strength to persevere. To my friends, you were the spark I needed when I felt dim. You brought laughter and lightness to the long days, being my cheerful break from reality. I would also like to extend my heartfelt thanks to my dear family friends, who welcomed me into their home with open arms. Your kindness, nourishing meals, and gentle encouragement created an atmosphere of true comfort.

Lastly, throughout this journey, my late grandmother has been a serene presence as her warmth continues to guide me. The enduring love has become an anchor in the quiet seas of my heart, where there lies an isle of you.

Chapter 1: Introduction

As businesses navigate today's dynamic marketplace, Digital Transformation (DT) has emerged as a strategic priority for organisations seeking to maintain competitive advantage, enhance operational efficiency, and drive innovation. DT is "organizational change triggered and shaped by the widespread diffusion of digital technology" (Hanelt et al., 2021, p. 1187). The success of organisations across multiple industries lies in embedding digital technologies at the core of business models (Reis & Melão, 2023), as it reshapes operational practice and customer value delivery (Vial, 2019), positioning it as a key focus for management. Central to this digital shift is the integration of Business Intelligence (BI) systems. BI combines both technical and organisational elements. Technically, BI encompasses a wide range of analytical tools, applications, and technologies designed to gather, store, integrate, and analyse data from various sources, which help identify meaningful business trends. (Gangadharan & Swami, 2004; Olszak, 2016; Vercellis, 2011). Through an organisational lens, BI is "a holistic and sophisticated approach to cross-organizational decision support" (Olszak, 2016, p. 107). By utilising the strategic insights offered by BI alongside the transformative processes of DT, organisations can advance strategic choices, improve business efficiency, and elevate industry standing. As a result, the integration of BI and DT generates a strong synergy that fosters innovation and performance, ultimately leading to organisational success (Al Saed, 2013).

BI-driven DT refers to the integration of BI tools and data-driven insights into an organisation's DT strategy to enhance decision-making, refine workflows, and drive innovation (Ain et al., 2019; Arefin et al., 2015; Grublješič & Jaklič, 2015b). BI-driven DT holds significant promise by combining the analytical power of BI with the transformative potential of DT. When integrated effectively, BI-driven DT can:

- Align organisational strategy with market demands through real-time analytics (N'Dri & Su, 2024).
- Optimise resource allocation by identifying inefficiencies (Kiu & Chan, 2024).
- Enhance customer experiences through data-driven personalisation (Gaurav & Kongar, 2021).
- Foster innovation by identifying emerging trends and opportunities (Olszak, 2016).

The crucial link between BI-driven DT and organisational success is further illustrated through the significant growth of the BI market, primarily driven by its demonstrated ability to enhance business success and improve company performance (Olszak, 2014). Studies have

suggested that the revenues of BI are on the rise and are expected to reach 54.9 billion by 2032¹.

1.1 Real-World Cases: Challenges in Practice

There are many real-world business cases where BI-driven DT has contributed to organisational efficiency. Procter & Gamble (P&G) and Walmart represent key examples of how BI-driven DT has led to considerable operational improvements in real-world settings. P&G enhanced its operations by implementing BI systems such as Decision Cockpits and Business Spheres, which enabled real-time data analysis and visualisation to improve decision-making, reduce costs, and streamline processes (Rathore et al., 2014). Decision Cockpits provided key performance indicators directly to employees' desktops, supporting quick, informed decisions. Meanwhile, Business Spheres integrated global data with sophisticated visualisation and telepresence technology, allowing executives to collaborate and act on real-time information. Through this BI-driven DT, P&G not only enhanced its supply chain and marketing processes but also nurtured a company-wide culture focused on data-driven decision-making by empowering employees at all levels to access key business metrics (Rathore et al., 2014).

Walmart's Perpetual Inventory (PI) system implementation is another noteworthy example of BI-driven DT. The system combines Online Transaction Processing (OLTP) with Online Analytical Processing (OLAP) to enable real-time tracking and analysis of inventory, thus improving decision-making (Bose et al., 2006). With the help of a centralised data warehouse, Walmart could perform complex analyses, including tracking product movements, assessing operational costs, and designing planograms (Bose et al., 2006). All of which optimised inventory management and boosted customer service, while giving Walmart a competitive edge in maintaining accuracy and operational efficiency. The examples of P&G and Walmart highlight how BI-driven DT can profoundly transform business operations and strengthen market positioning.

Despite the growth in BI-driven DT implementation, a significant 70% of these projects fail to deliver their anticipated returns (Ain et al., 2019; Alali et al., 2019; Boyton et al., 2015; McTaggart & Loonam, 2024; Saldanha, 2019). Such failure rates stress the need for a deeper grasp of the challenges that hinder BI-driven DT success. Several real-world examples underscore both the potential and the pitfalls of BI-driven DT, highlighting the importance of

¹ For detailed figures, please refer to Ain et al. (2019) for USD 18.3 billion in 2017 and Precedence Research (2022) for USD 27.24 billion in 2022 and the future projection of USD 54.9 billion by 2032. Both sources are included in the reference list.

understanding its complexities. One such example is the failed implementation of a Financial Decision Support System (FDSS) in the Finance department within a Mexican subsidiary of a major global automaker. The FDSS, a BI system intended to integrate financial data across various plants and corporate functions, was designed to offer consolidated views of financial performance and support dynamic decision-making (Arizmendi & Stapleton, 2019). Although the external consultancy that oversaw the project expressed satisfaction with the progress made, the system could not fulfil the needs of the organisation's users, leading to a lack of adoption and failure to provide actionable insights (Arizmendi & Stapleton, 2019). Despite several years of development, the project was eventually shut down as the system still did not meet its goal and the expectations of the company's management (Arizmendi & Stapleton, 2019).

Well-established, globally recognised brands such as Apple and KFC have also encountered challenges during BI-driven DT (Ramakrishnan et al., 2020). For instance, Apple faced notable setbacks in its manufacturing process due to an ineffective application of BI systems. The inability to optimise its manufacturing line led to large-scale production delays, resulting in a months-long postponement of product shipments to retailers (Ramakrishnan et al., 2020). This issue could have been mitigated through the effective use of the BI system, such as lot scheduling and sequencing, which would have streamlined the manufacturing workflow and prevented disruptions (Ramakrishnan et al., 2020). Similarly, KFC faced significant challenges during its BI-driven DT, particularly in its UK supply chain. Following a change in delivery partners, the integration of BI systems failed to adequately support logistical operations and customer process capability, resulting in supply chain disruptions and the temporary closure of over 900 branches (Ramakrishnan et al., 2020).

These cases illustrate the complexities inherent in BI-driven DT, where even well-established organisations face substantial challenges. The lessons from such failures underscore the need for deeper research into the factors that influence the success of BI-driven DT in diverse organisational contexts. The challenges of BI-driven DT are multifaceted, stemming from the interplay between social and technical factors, as it is seen as a sociotechnical process where both collaborate to achieve a shared objective (Imran et al., 2021). The technical factors include data and system quality, hardware, software, and integration between BI and other systems (Alali et al., 2019; Khojasteh et al., 2013; Nahrkhalaji et al., 2018). Social factors are in the form of many organisational factors, such as structure, culture, leadership, and employee competencies (Alali et al., 2019; Khojasteh et al., 2013; Nahrkhalaji et al., 2018). Challenges that arise from these factors can hinder the realisation of the full potential of BI-driven DT and, consequently, impact its success within organisations.

1.2 Unpacking Organisational Complexity

In the context of BI-driven DT, the sociotechnical perspective posits that success hinges on a balanced approach that optimises both the social and technical dimensions of an organisation (Cooper & Foster, 1971). However, prior research suggests an overemphasis on technical aspects in BI-driven DT, often overlooking the equally significant organisational factors (Grublješič & Jaklič, 2015a; Heavin & Power, 2018; Yeoh & Popovič, 2016). This technical focus can lead to various issues, such as resistance to change, misaligned objectives, and ineffective use of BI systems (Grublješič & Jaklič, 2015a; Yeoh et al., 2008; Yeoh & Popovič, 2016). Therefore, it is imperative to shift the focus towards understanding and addressing the organisational factors contributing to the challenges.

Unlike technical factors, which can typically be standardised and replicated, organisational factors encompass human behaviours, social dynamics, and cultural context that vary markedly even within the same industry (Taruté et al., 2018). Thus, a nuanced approach tailored to the unique context of each company is required to address the inherent variability and complexity of organisational factors (Graf et al., 2023; Yeoh et al., 2008). This stands in contrast to the more straightforward trajectory of the technical aspect, where once the technology is selected, its adaption to the organisational infrastructure follows a relatively predictable path (Yeoh et al., 2008). While prior studies have thoroughly examined the technical aspects, a substantial gap persists in understanding how the organisational factors, shaped by diverse contexts, affect BI-driven DT success across various organisations (Gangadharan & Swami, 2004; Grublješič & Jaklič, 2015b; Olexova, 2014; Yeoh et al., 2008).

Organisational factors become pronounced for BI systems as their usage is driven by individual acceptance and motivation rather than being mandated (Grublješič & Jaklič, 2015a, 2015b). Previous studies on BI system acceptance have often neglected the critical role of organisational factors, concentrating on individual behaviours and system characteristics (Grublješič & Jaklič, 2015a). Technical systems provide the foundational tools for BI-driven DT; however, the outcomes are heavily influenced by the diverse organisational setting in which they are implemented. Consequently, organisational factors are more influential than technical factors in defining the effectiveness and success of BI-driven DT (Alali et al., 2019; Dobrev & Hart, 2015; Grublješič & Jaklič, 2015a; Yeoh & Popovič, 2016). Although organisational factors are acknowledged as crucial elements, the existing literature falls short in explaining how these factors directly affect the challenges associated with BI-driven DT and, ultimately, the overall outcomes (Reis & Melão, 2023; Vial, 2019; Yeoh & Popovič, 2016).

1.3 Organisational Factors: A key to success

BI-driven DT amplifies the role of organisational factors in the successful outcome as the transformation itself is not just about implementing new technology – it's about changing how the organisation operates at its core. For instance, simple BI implementation in organisations typically focuses on deploying and utilising BI tools to improve data processing and support decision-making within specific functions, primarily dealing with the technical aspects of data collection, analysis, and interpretation to enhance performance (Alali et al., 2019; Gangadharan & Swami, 2004). This contrasts with BI-driven DT, which is much broader and more complex, requiring a fundamental shift in organisational strategies, structures, cultures, and business models (Kane, 2019; Saarikko et al., 2020).

Unlike simple BI implementation projects, which tend to follow a linear, single-phase approach, BI-driven DT is an ongoing, iterative process that necessitates long-term support (Grublješič & Jaklič, 2015a). This sustained commitment is vital for both technical acquisitions and addressing the organisational challenges that arise (Boyton et al., 2015; Grublješič & Jaklič, 2015a). However, many organisations mistakenly assume that the deployment of BI tools marks the completion of their transformation journey. In reality, BI-driven DT surpasses merely integrating advanced BI tools; it requires rethinking how the BI system contributes to a holistic transition towards data-oriented decision-making and value creation across the organisation (Ahmad, 2015; Vial, 2019). As organisations embark on this continuous journey, it becomes indispensable to focus on the organisational factors that drive successful BI-driven DT, such as leadership, culture, employee engagement, and clear communication (Ghafoori et al., 2024; Saihi et al., 2024). These elements are important not only for initial implementation but also for maintaining momentum and refining strategies over time, ensuring lasting alignment between technology and organisational objectives in BI-driven DT to meet evolving business needs (Grublješič & Jaklič, 2015a; Kane, 2019; Saarikko et al., 2020; Yeoh & Popovič, 2016).

Thus, while BI implementation is more contained, BI-driven DT introduces challenges that span technical and organisational dimensions, making the process more comprehensive and difficult to navigate. By identifying the distinct challenges posed by BI-driven DT (compared to simple BI implementation), organisations can shape customised strategies and unlock the full potential for sustainable business value creation via the DT journey. Based on the current insights found in the literature, these challenges extend beyond technical issues and are deeply embedded in organisational factors (Alali et al., 2019; Grublješič & Jaklič, 2015a; Vial, 2019; Yeoh & Popovič, 2016). Therefore, a failure to align these organisational elements risks the underutilisation of BI systems, leading to poor return on investment and disruptions in transformation efforts.

1.4 Research Question

Understanding the role of various factors in overcoming the challenges is essential for the successful deployment of BI-driven DT. Studies suggest that many organisations fail to sustain BI-driven DT as they overlook the organisational factors such as cultural, structural, and managerial adjustments needed to infuse BI into everyday business operations (Ain et al., 2019; Ghafoori et al., 2024; Grublješić & Jaklič, 2015b). Explicitly addressing the importance of organisational factors, the study seeks to investigate:

How do organisational factors contribute to the challenges faced during the implementation of BI-driven DT?

The contributions of this study are twofold. First, it provides a comprehensive framework for understanding the organisational factors that influence the success of BI-driven DT. By identifying the key challenges associated with integrating BI into DT efforts, this study bridges the gap between simple BI implementation and the broader scope of BI-driven DT. Second, it offers practical insights for organisations aiming to navigate these challenges, providing strategies to mitigate resistance to change, improve data literacy, and ensure that BI initiatives are aligned with business goals.

The rest of the thesis is structured as follows. Chapter 2 outlines the research methodology, detailing the application of a Systematic Literature Review (SLR) and case study approach. In Chapter 3, the findings from the SLR and case study results are presented, along with the development of a conceptual framework that identifies the key organisational factors influencing the success of BI-driven DT. Chapter 4 discusses the findings and proposes an integrated framework. The thesis concludes in Chapter 5, highlighting the implications for academic research and industry practice.

Chapter 2: Research Methodology

To answer the research question (presented in the introduction chapter), this research employs a mixed-method design incorporating a SLR following the guidelines of Okoli (2015) and a single case study approach proposed by Yin (2018). SLR was conducted to identify organisational factors influencing BI-driven DT initiatives, followed by case study analyses to explore these factors in practical contexts. By combining theoretical insights with empirical data, the research offers a comprehensive understanding of the challenges of BI-driven DT, thereby addressing critical gaps in the existing literature. Both these methods are detailed in the following sub-sections.

2.1 Systematic Literature Review

SLR is defined as “a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners” (Fink, 2020, p. 6). Given the complex organisational dynamics of BI-driven DT, a SLR is well-suited to capture the multifaceted nature of the challenges, with a focus on the impact of organisational factors. This study undertook a SLR based on the guidelines suggested by Okoli (2015). The guidelines provide a structured method involving the following steps: planning, selection, extraction, and execution. The steps followed are described in the following sub-sections.

2.1.1 Planning

The purpose of the SLR was to comprehensively explore how organisational factors contribute to challenges in BI-driven DT. The objective was to develop a conceptual framework for studying the organisational factors related to BI-driven DT challenges. To achieve this, a comprehensive review protocol was developed to guide the SLR, detailing the approaches to be followed and the quality criteria to be applied during the literature selection process. As shown in Table 1, the selected databases are considered highly relevant, providing access to high-impact journal articles in the BI field.

Table 1*Search Procedure of SLR*

Timeframe	2013 – 2024
Language	English
Search terms	“Business intelligence” and/or “Business intelligence implementation” and/or “business intelligence adoption” and/or “digital transformation” and/or “digitalisation”; AND “organisational factors” and/or “organisational causes” and/or “organisational determinants” and/or “success factors” and/or “critical success factors”;
Databases	ACM Digital Library, AIS eLibrary, Business Source Complete (EBSCO), Google Scholar, IEEE Xplore, IGI Global's Database Search, Scopus, Springer
Source Type	Academic Journals
ABDC Rating	A*, A, B

Inclusion & Exclusion Criteria

Specific inclusion and exclusion criteria were applied to ensure the relevance and quality of the studies included in the SLR. Full-length peer-reviewed studies published between 2013 – 2024 were included. The inclusion criteria applied to studies directly related to organisational aspects of BI-driven DT implementation, as well as to studies available in selected databases with the English language only. Moreover, the review focused on studies published in the highest-ranking journals, as per the Australian Business Deans Council (ABDC) 2022 Journal Quality List, including journals ranked as A*, A, and B.

Studies unavailable in full text or outside the selected databases, along with book chapters, reports, conference papers, and duplicated articles, were excluded. Non-English studies and studies with a highly technical perspective or unrelated to the research question were also excluded from the review list. Furthermore, the exclusion criteria applied to studies published before 2013 as BI adoption was primarily limited to large companies during this period and was not widely implemented across organisations (Almusallam & Chandran, 2020).

2.1.2 Selection

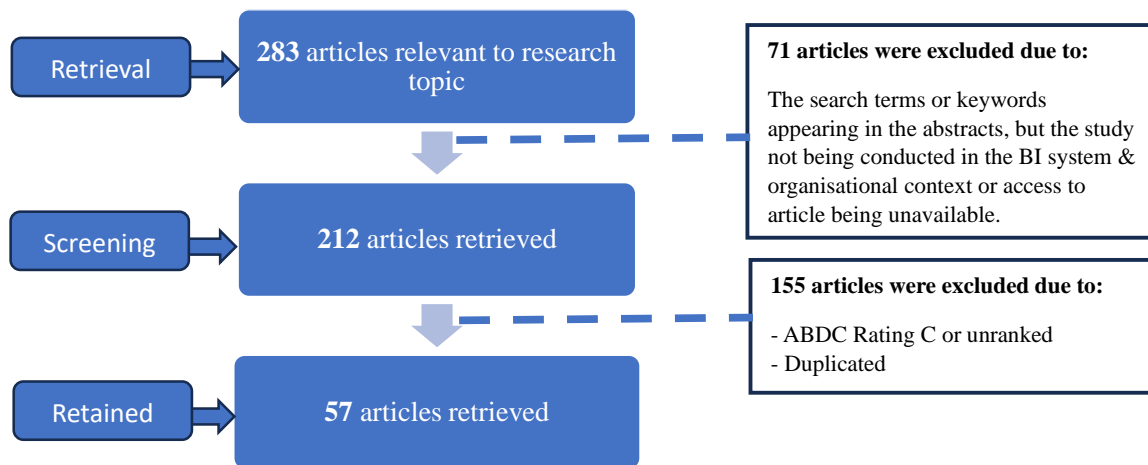
The search terms of interest, detailed in Table 1, were applied to the selected databases to identify relevant studies. The primary search terms included *business intelligence implementation/adoption*, *digital transformation*, and *digitalisation*, combined using AND/OR

to maximise results. The terms *implementation* and *adoption* terms were used interchangeably. These keywords were paired with terms like *organisational factors*, *critical success factors*, and *success factors* (with *factors*, *causes*, and *determinants* also used interchangeably) using the AND function to refine the search.

Upon completing the search process, the study identified 283 articles potentially relevant to the research question. The inclusion and exclusion criteria, as outlined in the planning stage, were applied to filter the results for the most relevant studies. Initially, each article's titles, abstracts, and keywords were scanned, resulting in the exclusion of 71 articles that were either not conducted in BI systems/organisational contexts or unavailable in the selected databases. This step reduced the pool to 212 articles. A further review involved skimming the full content of each article to ensure relevance to the research question. This process led to the elimination of 155 articles, leaving 57 articles deemed relevant for this study. Figure 1 presents an overview of the article selection and retention process, illustrating the systematic filtering applied to ensure the quality and relevance of the final dataset.

Figure 1

SLR Articles Selection & Retention Process



2.1.3 Extraction

All included articles at this stage were thoroughly reviewed and assessed for quality. No articles were excluded for insufficient quality, as all 57 met the predefined criteria. Each selected article was systematically examined to extract relevant information. Descriptive information, such as the author, publication year, industry type, and key research findings, were recorded in Microsoft Excel spreadsheets to ensure traceability and organisation. The

extraction process focused on identifying organisational factors and the associated challenges organisations face regarding BI-driven DT.

To provide an overview of the selected studies, the data was summarised using visual representations. Table 2 presents the distribution of publications by ABDC rating, showcasing the quality of the journals where the articles were published.

Table 2

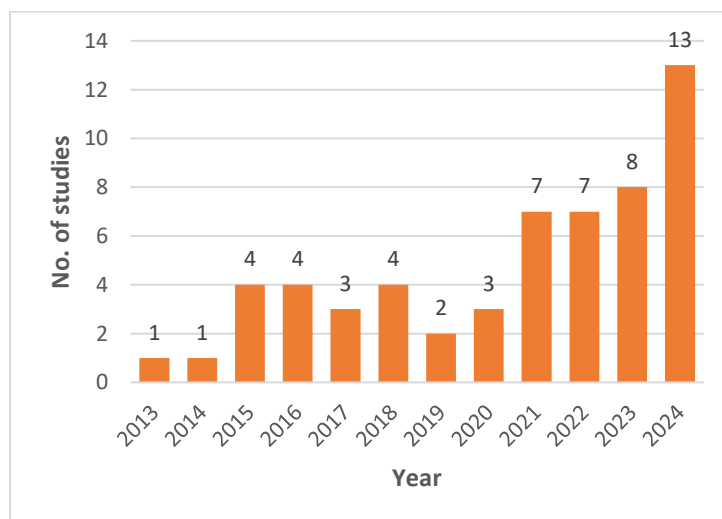
Publications by ABDC Rating

ABDC Rating	No. of studies
A*	9
A	28
B	20

Figure 2 illustrates the number of studies published per year from 2013 to 2024, highlighting trends in research activity over the past decade. It was noticed that there was a relatively low number of publications in 2013 and 2014. However, a notable increase in research activity occurred from 2021 to 2024, during which 35 articles were published, reflecting a growing interest in BI-driven DT in recent years.

Figure 2

Publications by Years from 2013 to 2024

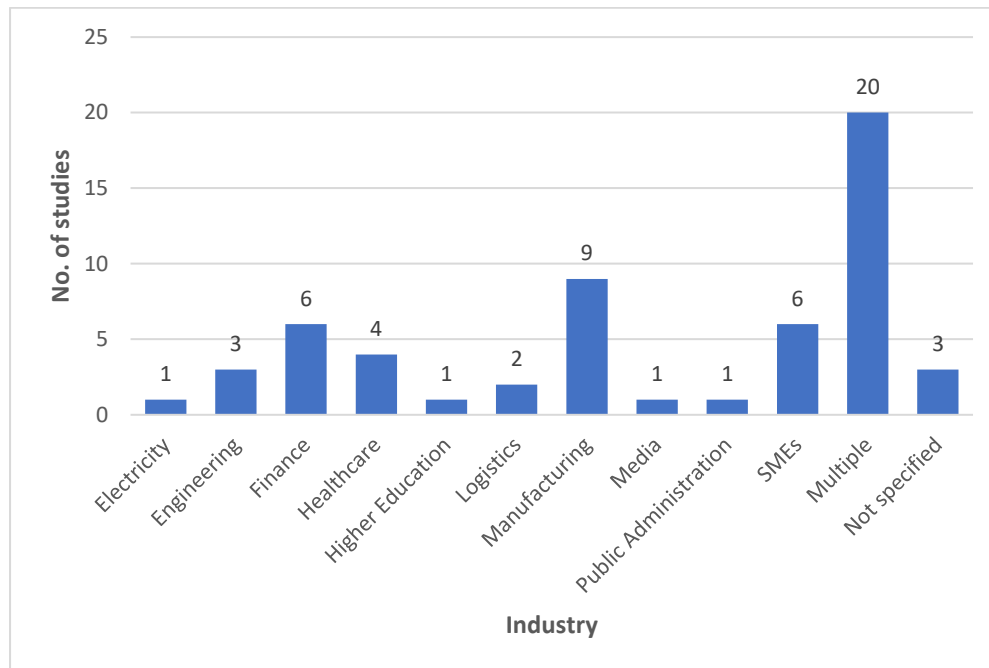


The analysis also showed that studies predominantly focused on multiple industries, accounting for 35% of the research, as depicted in Figure 3. Among single-industry studies, manufacturing (16%), finance (11%), and healthcare (7%) were the most frequently studied sectors. Fewer studies represented other industries, ranging from one to three articles. 11%

of the studies focused specifically on small and medium-sized enterprises (SMEs). Additionally, 5% of the research did not specify or clearly define the industries in which the studies were conducted.

Figure 3

Distribution of Studies by Industry



2.1.4 Execution

Following the data extraction process, the collected information was subjected to further analysis. The analysis involved synthesising the data through thematic analysis to identify recurring themes and patterns related to organisational factors and challenges. The procedures for the thematic analysis of the SLR findings are detailed in the subsequent section. The final step of the SLR included reporting the findings and writing the review, which is presented in Section 3.1 of this thesis.

2.1.5 Thematic Analysis of SLR

Thematic analysis, as described by Braun and Clarke (2012), is a qualitative method for identifying, analysing, and interpreting patterns or themes within data. Recognised for its flexibility and utility in qualitative research, this approach was adopted to analyse the data in this study. Its structured framework facilitates a systematic and rigorous examination of

qualitative data, making it particularly well-suited for uncovering and interpreting meaningful patterns and themes within the dataset.

Thematic analysis provides an effective method for summarising large datasets by identifying key features and offering detailed descriptions. It captures similarities and differences across the data, highlighting significant patterns and themes. This method often uncovers unexpected insights that may not emerge during the initial stages of data collection (Braun & Clarke, 2012). Its adaptability and systematic nature make it an ideal choice for studies seeking to gain in-depth understanding, such as this research on BI-driven DT challenges and organisational factors.

Procedures Followed

The study adhered to Braun and Clarke's (2012) six-phase process for thematic analysis, utilising Microsoft Excel spreadsheets to facilitate data management and analysis:

1. *Familiarisation with Data*: The process began with repeated reading of the SLR dataset to gain familiarity while noting initial observations and ideas.
2. *Generating Initial Codes*: Meaningful segments of the data were systematically identified and labelled. Manual coding was then transferred to a Microsoft Excel spreadsheet for electronic storage (Table 3).
3. *Searching for Themes*: Codes with shared meanings or ideas were grouped to identify potential overarching themes. Relationships between codes and themes were examined, leading to the development of a thematic map, as shown in Figure 4.
4. *Reviewing and Refining Themes*: The candidate themes were thoroughly examined to ensure they accurately represented the dataset. Coded extracts were re-evaluated for coherence, with adjustments made as necessary – either reassigning data to existing themes, creating new themes, or excluding irrelevant codes. Each theme's validity was checked in relation to the SLR dataset to confirm its alignment with the underlying data patterns.

Table 3

Example of Coding Applied to SLR Dataset

#	Auth	Year	Title	Databas	ABDC Rating	Indust	Derived Codes - Organizational Facto	Derived Codes - Challenges Identified
3	Puklavec et al.	2018	Understanding the determinants of business intelligence system adoption stages	EBSCO	A	SME	<ul style="list-style-type: none"> - Management support - Project Champion - Rational decision-making culture - Organizational data environment - Organizational Readiness 	<ul style="list-style-type: none"> - Inadequate resource allocation - Lack of direction & coordination in BI projects - Poor communication and user engagement - Resistance to data-driven decision-making - Preference for intuition-based decisions - Reluctance to adapt existing workflows - Lack of adequate financial resources - Inadequate IT infrastructure - Shortage of skilled personnel - Data inconsistencies, poor data quality, and lack of data integration - Difficulty accessing relevant data
4	Ain et al.	2019	Two decades of research on business intelligence system adoption, utilization and success – A systematic literature review	EBSCO	A*	Multiple	<ul style="list-style-type: none"> - Management Support - Strategic Alignment - Project Champion - Roles and Responsibilities - Cross-Functional Data Integration - Data-Oriented Decision-Making - Openness to Change - Collaboration and Knowledge Sharing - IT Infrastructure - Skilled Personnel - Data Management - Support and Training 	<ul style="list-style-type: none"> - Inadequate resource allocation - Resistance from low prioritisation - Poor user adoption and engagement - Misalignment of objectives - Loss of direction & momentum. - Siloed Information and Limited Collaboration - Insufficient communication between IT staff and business users - Reluctance to use data insights - Difficulty integrating BI into decision processes - Change aversion - Fear of losing power over information - User distrust in the system - Unwillingness to leverage data for decision-making - Skill gaps - Lack of Data Integration - Inaccurate & inconsistent data quality - Inadequate Data Accessibility

Figure 4

Example of Thematic Map: Organisational Leadership and Strategy



5. *Defining and Naming Themes*: A detailed analysis of each theme was conducted, subcategorising into sub-themes when appropriate to articulate each theme's narrative concerning the research question. A summary of the thematic analysis undertaken on the shortlisted studies is provided in *Appendix A*. Table 4 presents the finalised list of organisational factors and challenges, highlighting the key themes that emerged during the SLR.

Table 4

Consolidated Themes from SLR: Organisational Factors and Challenges

Organisational Factors		Challenges of BI-driven DT
Organisational Culture	- Data-Driven Innovation & Agility - Shared Values	- Data & Technological Capabilities - Employee Engagement
Organisational Leadership & Strategy	- Top Management Support - Clear Vision & Strategy	- Ineffective Communication & Collaboration - Project Management & Adaptability
Organisational Resources & Capabilities	- Roles & Skills - Resource Foundation	- Resistance to Change - Resource Constraints
Organisational Structure	- Structural Design - Interdepartmental Collaboration	- Skill Gaps & Training Deficiencies - Strategic Misalignment

6. *Producing the Report*: The final phase involved compiling a comprehensive report and presenting themes with supporting data extracts and interpretations that aligned with the research objectives.

2.2 Case Study

2.2.1 Case Study Design

This research utilised a single case study design in order to observe the details and depth of a specific organisation's experience with BI-driven DT. The case study is a practical approach that thoroughly explores a contemporary phenomenon, referred to as the 'case', within its real-world setting, relying on empirical methods for investigation (Yin, 2018). A single case study is particularly useful for generating new insights, as it allows for abductive reasoning, uncovering novel forms of understanding (Vincent & Wapshott, 2014; Yin, 2018).

The case study method, which emphasises qualitative analysis, is recognised as one of the most effective approaches for theory development (Eisenhardt, 1991). Observing how constructs emerge and evolve in real-world contexts enables a deeper comprehension of the complexities and nuances within specific organisational phenomena (Eisenhardt, 1991). These strengths align with the study's objective of understanding the interplay between organisational factors and the success or hindrance of BI-driven DT, offering valuable implications for both theory and practice. To maintain a rigorous approach, this study adhered to established principles and recommendations for conducting qualitative research, following Yin's (2018) comprehensive case study guidelines.

2.2.2 Case Selection & Description

The selected case company, referred to as 'TravelX'², is a New Zealand-based travel management company with over 350 employees and a history of significant growth and innovation. Established in 2001, TravelX operates across nine cities in New Zealand and expanded into Australia following a strategic move in 2013. The company serves over 1,000 clients from various industries, offering a comprehensive portfolio of services, including tailored travel management solutions, an advanced online booking tool, and a proprietary expense management system. Leveraging its innovative approach and strong industry partnerships, TravelX has positioned itself as a leading provider of cost-effective, bespoke travel solutions.

TravelX is an ideal subject for examining the research question due to their recent implementation of a BI-driven system called 'ScheduleSync'. This system automates airline schedule changes, a task previously performed manually by consultants (Section 3.2 elaborates on the operational details of ScheduleSync project). Their commitment to BI-driven DT is also evident in their adoption of technologies such as the TravelX Online Analytics reporting tool (powered by Microsoft PowerBI), which was developed to provide a greater level of analysis and insights on customers' travel expenditure and activity. The organisation's complex structure, as part of a global network, also provides a rich context for exploring organisational factors and relevant challenges. Moreover, its willingness to participate ensures the feasibility of collecting in-depth data through internal document reviews, making it an information-rich and appropriate choice for the study.

² A fictitious name, 'TravelX,' is used to describe the case company to ensure anonymity while preserving the integrity of the findings.

2.2.3 Data Collection & Analysis

The study gathered various project documentation as secondary sources of research data. The data collection process involved an extensive review of project documentation³ comprised of: project proposals, project roadmap, meeting schedules, presentation slides, organisational charts, employee evaluations, project management plans, enhancement communication, and user manuals (Table 5).

Table 5

Project Documentation: Sources and Uses in Case Study Analysis

Data Source	Description	Purpose in Analysis
Project Proposal/Outline	Objectives, scope, implementation plan, initial challenges	Understanding the goals and challenges of the project
Project Roadmap	Timelines, milestones, project plan	Identifying key phases and events in the project
Meeting Schedules	Stakeholder involvement, meeting frequency	Examining the coordination and communication process
Presentation Slides	Stakeholder updates, strategy communication	Capturing project updates and communicating strategies
Organisational Structure Charts	Hierarchical structure, reporting lines, and departmental structure	Understanding organisational setup and team dynamics
Project Evaluation	Performance feedback, role clarity, user feedback	Exploring employee involvement and contributions Understand project outcomes and value brought to business
Project Management Plan	Resource allocation, change management	Reviewing planning and execution of the project
Enhancement Communications	Details of updates, process refinements	Assessing changes and iterative development processes
User/Operations Manuals	System usage guidelines	Understanding the operational support and training process
Implementation Documentations	Testing applications with mock services, time zone error troubleshooting, etc.	Reviewing implementation challenges and troubleshooting measures
Company Background	Organisational structure, mission, and culture	Gaining an overview of the company's operational context

³ Project documentation is cited as personal communications in accordance with the APA 7th referencing style guide since it is accessible exclusively through the company's internal intranet. Personal communications are cited only within the text and are not included in the reference list.

Although interviews are an important source of case study evidence often involving guided conversations (Yin, 2018), they “should be used only to obtain information that cannot be obtained in any other way” (Darke et al., 1998, p. 283). For example, organisational details such as functional areas, reporting structures, and roles and responsibilities can frequently be obtained from internal documents like team structure charts and procedures (Baskarada, 2014). This rationale supports the exclusive use of secondary data, such as project documentation, for this case study, ensuring a comprehensive analysis while maintaining resource efficiency⁴.

The project documents were reviewed through a structured abductive thematic analysis, drawing on the principles outlined by Thompson (2022). Abductive thematic analysis combines deductive and inductive approaches, allowing the integration of existing theoretical frameworks with empirical observations (Thompson, 2022). This method is particularly suited for case study analysis following the SLR as it enables uncovering of new insights by identifying anomalies or gaps unexplained by the literature (Timmermans & Tavory, 2012). Specifically, the process involved:

1. *Familiarisation & Initial Coding*: The analysis began with a repeated review of the project documents to immerse in the dataset. Meaningful data segments were identified, coded manually, and then transferred to a Microsoft Excel spreadsheet for electronic storage (Table 6).
2. *Grouping Codes & Theme Development*: Codes sharing similar ideas were grouped into SLR-derived themes (presented in Table 4) through deductive coding. Subsequently, inductive coding identified new codes specific to the case, capturing nuances unique to the organisational context. This abductive approach was iterative, involving the revision of codes to reassign to existing themes, create new themes, or exclude irrelevant codes.
3. *Theorising & Comparison of Datasets*: The deductive insights were then compared and refined alongside inductive findings to integrate theoretical and practical perspectives. This iterative coding process enabled a balanced approach, uncovering both patterns consistent with existing literature and novel insights from the case study. Thematic maps developed from the SLR were revised to integrate the case study insights (e.g., a new sub-theme of *Customer-Centric Focus* emerged directly from the case study, as shown in Figure 5.)

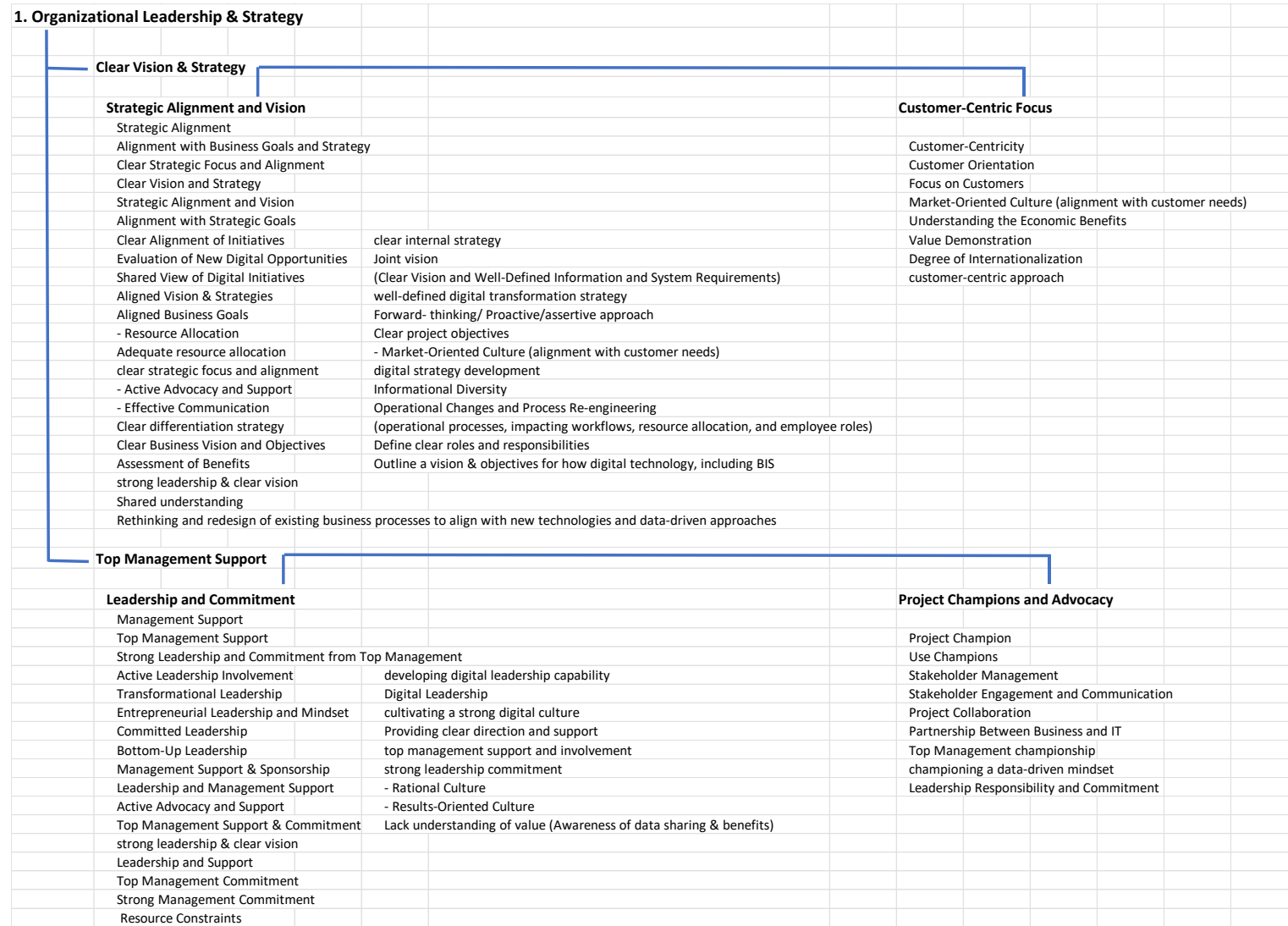
⁴ As per AUT PGR office requirements, the case study relied on secondary data with no primary data collection involved.

Table 6*Example of Coding Applied to Case Study Dataset*

Data Source	Observation	Derived Codes - Organizational Factors	Derived Codes - Challenges
Structure Chart	- Inclusion of leadership team throughout the project.	Active commitment from the IT Governance	Prevent Inadequate Resource Strategic Alignment Employee Engagement
	- Project team solely focus on ScheduleSync project with adequate staff from required departments.	Dedicated team to focus on project	Skills & Roles Project Management
	- Technical & non-technical skill roles available within the company. No external support throughout the project.	Internal capability	Not rely on external - resource constraint data & technological capabilities
	- Project team consists of Leadership, Transformation, IT staff. End-product for Customer Engagement & Product-Air team users (Consultants)	Project team consists of multiple departments Involvement of Product Owners	Communication Knowledge sharing Value Alignment Project Management Communication across departments
Project Outline	- Problem identified & why solution required stated clearly	Clear objective	Strategic Alignment Resource Constraint
	- List of stakeholders with clear responsibilities defined.	No reliance on external resources	Resource Allocation Skilled personnel - inhouse
	- Shared understanding of project values facilitated through Product Owners.	Shared values of BI project	Employee Engagement Project Management - smooth execution Resistance to Change
	- Stakeholders from Leadership, Transformation, IT, Customer Engagement, and Product-Air team staff.	Cross-functional collaboration	Effective communication method

Figure 5

Revised SLR Thematic Map Extract: Organisational Leadership and Strategy Factor



4. *Data Display & Writing Up*: Overlapping themes reinforced findings from the literature, while unique insights highlighted practical or context-specific challenges. Any deviations between the SLR and the case study findings were noted to reflect distinctions between theoretical concepts and real-world organisational dynamics. The findings were then synthesised into a cohesive narrative, presenting the themes supported by data from project documents. *Appendix B* summarises the thematic analysis conducted on the case study dataset comprising internal documents.

This structured and rigorous analysis ensured the validation of key themes from the literature. It also provided empirical grounding, allowing the synthesis of empirical and theoretical data to build a comprehensive framework addressing the organisational factors behind BI-driven DT challenges.

Chapter 3: Research Findings

This chapter is divided into two sections to present the findings from the SLR and case study perspectives. Section 3.1 focuses on theoretical insights derived from the SLR. Section 3.1.1 summarises the organisational factors influencing BI-driven DT, while Section 3.1.2 highlights key challenges organisations frequently encounter during these transformations. Section 3.1.3 synthesises findings by exploring the interrelationships between organisational factors and challenges, incorporating industry-specific perspectives (single-industry, SME, and multi-industry) and proposing a conceptual framework.

Section 3.2 transitions to practical insights gained from the case study analysis. Section 3.2.1 explores the organisational factors, and Section 3.2.2 identifies challenges encountered in the case study's BI-driven DT project. Finally, Section 3.2.3 examines the most significant factors and challenges observed in the case study, comparing them with the SLR findings to comprehensively understand their interplay.

3.1 Theoretical Insights from the SLR

3.1.1 Organisational Factors

The SLR revealed four major themes related to organisational factors that significantly influence the success of BI-driven DT: *Organisational Culture, Leadership & Strategy, Resources & Capabilities*, and *Structure*. Each of these themes comprises the diverse aspects of organisational context impacting BI-driven DT and are discussed in turn.

3.1.1.1 Organisational Culture

Organisational Culture influences how companies embrace a mindset of *data-driven innovation & agility* while upholding *shared values* to foster a collaborative and adaptive environment. The SLR identified two key sub-themes: '*Data-Driven Innovation & Agility*' and '*Shared Values*', which are pivotal in successfully driving BI-driven DT. Each of these cultural elements is described below.

Data-Driven Innovation & Agility. Organisations that integrate data-driven culture into decision-making and operational practices create an environment where analytical insights guide actions, enabling teams to adapt quickly to change. This cultural shift – away from traditional methods toward continuous learning, experimentation, and innovation –

empowers businesses to fully leverage the potential of BI tools and technologies (Heavin & Power, 2018; Hooi & Chan, 2022; Monaco et al., 2024; Omrani et al., 2024). Agile-friendly environments, coupled with open communication and collaboration, allow for iterative improvements, ensuring that BI solutions are not only implemented effectively but are also continuously refined to meet evolving needs (Batra, 2017; Tsoy & Staples, 2021). Iterative improvement is a core principle of the agile approach, enabling adaptation and evolution of solutions, which is particularly vital in the face of uncertainty during complex BI-driven DT (Tsoy & Staples, 2021). By embedding a data-driven culture across all levels and fostering a mindset of innovation and agility, organisations lay the groundwork for a resilient and adaptive approach to BI-driven DT, ultimately increasing the likelihood of its success.

Shared Values. In BI-driven DT, shared values act as a unifying force that aligns individuals, teams, and organisational goals, shaping the cultural foundation necessary for success. A culture rooted in shared values with a strong belief in the BI system across all organisational levels promotes recognition and motivation, empowering employees to participate in BI-driven DT initiatives and embrace change actively (Deacon et al., 2023; Hooi & Chan, 2022; Olszak, 2014). By aligning digital initiatives with organisational values, companies create an environment where stakeholder engagement, teamwork, and user-centric approaches thrive, driving BI-driven DT efforts forward (Batra, 2018; Dinter, 2013; Figalst et al., 2022). This alignment is particularly important in organisations where the separation between IT and business functions is deeply ingrained in their values (Vial, 2019). A shared mindset fostering a sense of collective purpose is imperative for overcoming these silos and adapting to the disruptions brought about by BI-driven DT (Olszak, 2014). Such culture not only bridges departmental gaps but also ensures that digital strategies resonate with the employees and encourage buy-in while reducing resistance. When shared values are combined with empowerment and readiness for change, they build trust and cohesion, ensuring a smoother and more effective BI-driven DT.

3.1.1.2 Organisational Leadership & Strategy

Organisational Leadership & Strategy play a vital role in guiding BI-driven DT by combining *top management support* with a *clear vision & strategy*. The SLR findings categorised this theme into two sub-themes: '*Top Management Support*' and '*Clear Vision & Strategy*', which together create a roadmap for achieving strategic alignment and drive organisational efforts toward successful implementation.

Top Management Support. One of the essential drivers of successful BI-driven DT is top management support, which is indispensable for driving organisational change.

Transformational leadership at the top levels cultivates a culture that values innovation, data-driven decision-making, and cross-functional collaboration (Alos-Simo et al., 2017; Hooi & Chan, 2022). Leaders who actively sponsor digital initiatives play a crucial role in ensuring that projects receive the necessary attention, resources, and support to succeed (Yeoh & Popovič, 2016). Studies consistently highlight that organisations with strong leadership commitment are more likely to overcome resistance, align business and IT strategies, and create a unified approach to transformation (Ain et al., 2019; Puklavec et al., 2018). Project champions, often emerging as extensions of top management support, act as advocates for BI-driven DT initiatives, bridging the gap between leadership vision and operational execution. By actively engaging stakeholders, communicating the value of data-driven insights, and ensuring alignment with organisational goals, project champions amplify the effectiveness of top management support (Deacon et al., 2023; Lennerholt et al., 2023; Puklavec et al., 2018). This interconnected support system underscores the importance of leadership in uniting vision and execution for successful BI-driven DT.

Clear Vision & Strategy. A clear vision & strategy serve as the compass guiding BI-driven DT, ensuring alignment between organisational goals and the adoption of new technologies. Leadership that articulates a well-defined strategic focus empowers organisations to navigate the complexities of BI-driven DT. Also, a clear vision ensures that digital initiatives are synchronised with broader business goals and market demands (Ghafoori et al., 2024). For instance, rethinking and redesigning operational processes to integrate BI solutions requires not only technological changes but also a proactive approach to aligning workflows, resources, and employee roles with the organisation's vision (Arefin et al., 2015; Monaco et al., 2024). This alignment is further strengthened by effective communication and collaboration across departments, creating a shared understanding of BI-driven DT objectives. Studies emphasise that a cohesive vision, coupled with clearly defined strategy and responsibilities, fosters a unified approach to digital initiatives, enabling organisations to maximise the value of BI tools and data-driven insights (Deacon et al., 2023; McTaggart & Loonam, 2024; Vallurupalli & Bose, 2018; Weißmüller et al., 2023). Fundamentally, a clear vision & strategy provide the foundation for sustained progress, equipping organisations to adapt to dynamic market conditions and fully leverage the BI system's transformative potential.

3.1.1.3 Organisational Resources & Capabilities

The SLR procedure highlighted Organisational Resources & Capabilities as one of the key factors, primarily comprising the sub-themes: '*Roles & Skills*' and '*Resource Foundation*'. Organisations rely on well-defined *roles & skills* to manage the complexities of BI-driven DT,

while a solid *resource foundation* supports technological and operational demands. These interrelated aspects form the backbone of an organisation's adaptability and innovative capacity, supporting transformation initiatives effectively.

Roles & Skills. The success of BI-driven DT hinges significantly on the roles & skills within an organisation. A skilled workforce equipped with digital competencies and data literacy forms the backbone of transformation efforts, enabling effective adoption and integration of BI solutions (Ahmad, 2015). The complexity of modern BI systems necessitates not only technical expertise but also an adaptive and collaborative approach among team members, ensuring seamless alignment with evolving organisational needs. Equipping employees with the necessary competencies requires strategic investment in training and education (Saihi et al., 2024; Sergei et al., 2023). By fostering data literacy and analytical skills through targeted learning and development programs, organisations empower their workforce to fully leverage BI tools and insights. Moreover, clear definitions of roles and responsibilities, such as designated data governance functions, enhance accountability and streamline the transformation process (Ain et al., 2019; Martins et al., 2024; Mittal et al., 2024). Organisations that excel in BI-driven DT often cultivate a learning culture, encouraging experimentation and pilot projects to upskill employees and adapt to new technologies (Lennerholt et al., 2023). A workforce proficient in digital and analytical capabilities drives BI-driven DT and fosters innovation, adaptability, and long-term success in an increasingly data-centric landscape.

Resource Foundation. A robust resource foundation is a critical enabler of BI-driven DT, influencing its scalability, efficiency, and long-term success. Adequate financial support and resource allocation provide the foundation for organisations to invest in essential technological capabilities, IT infrastructure, and workforce development (Gupta et al., 2022; Olszak, 2016; Yan). Organisations that allocate sufficient resources to secure scalable and reliable IT infrastructure, such as robust data management systems and interoperable platforms, create an ecosystem that supports seamless data integration and standardisation (Hoang & Bui, 2023; Rodrigues et al., 2023; Zhang et al., 2023). This ensures compatibility with existing systems while fostering operational efficiency and agility. Financial investment in scalable infrastructure also enables phased implementation approaches, minimising disruption to business workflows while gradually integrating BI solutions into decision-making processes (Hoang & Bui, 2023). By building a solid resource foundation (consisting financial, technological, and human resources), organisations can overcome operational and financial barriers, cultivate a sustainable framework for scalability, and enhance adaptability to rapid technological advancements and complex data environments through their BI-driven DT.

3.1.1.4 Organisational Structure

Organisational Structure is also a key element in BI-driven DT. The SLR revealed two sub-themes within this category: '*Structural Design*' and '*Interdepartmental Collaboration*'. Organisations undergoing BI-driven DT depend on *structural design* to define clear roles, responsibilities, and workflows that support transformation efforts. Simultaneously, *interdepartmental collaboration* fosters synergy across diverse teams, ensuring that BI initiatives are integrated seamlessly across functions.

Structural Design. An organisation's structural design is pivotal in shaping its ability to navigate BI-driven DT successfully. Organisational structures, whether centralised, decentralised, or a hybrid of the two, directly influence how effectively information flows, decisions are made, and cross-functional collaboration is facilitated (Arefin et al., 2015). Traditional, rigid hierarchical structures often hinder agility and responsiveness, creating silos that limit communication and fragment transformation efforts (Gaurav & Kongar, 2021; McTaggart & Loonam, 2024; Witschel et al., 2022). Conversely, organisations that embrace structural adaptation, such as flattening hierarchies or fostering collaborative environments, are better positioned to support agile and flexible approaches critical for BI-driven DT (Gupta et al., 2022). Aligning IT functions with business departments ensures that BI-driven DT initiatives are not isolated but rather embedded into core processes. With minimal restructuring, the integration approach allows traditional and digital business units to coordinate effectively, enhancing synergy for optimal results (Graf et al., 2023; Lennerholt et al., 2023). In contrast, a fragmented or siloed approach to structure offers greater flexibility by granting operational independence, empowering units to innovate autonomously while retaining resource accessibility (Hess et al., 2016). For instance, organisations may choose to establish dedicated digital units to experiment with new technologies while maintaining alignment with broader strategic goals (Hess et al., 2016; Martins et al., 2024). A thoughtful approach to redesigning or optimising structures – grounded in collaboration, integration, and agility – enables organisations to overcome traditional barriers, foster innovation, and align BI-driven DT initiatives with their strategic objectives.

Interdepartmental Collaboration. Interdepartmental collaboration, often referred to interchangeably as cross-functional collaboration, highlights the cooperative efforts of teams from different departments working towards shared organisational goals (Kao et al., 2016; Li et al., 2024; Mittal et al., 2024). In BI-driven DT, the partnership between business and IT department is particularly vital. Effective collaboration ensures that the technical capabilities of IT are complemented by the domain expertise of business units, creating a synergy that drives the adoption and effective use of BI systems (Hess et al., 2016; Rodrigues

et al., 2023). When IT and business units operate in silos, organisations often experience communication breakdowns, misaligned objectives, and inefficiencies (Arefin et al., 2015; McTaggart & Loonam, 2024; Monaco et al., 2024). However, when cross-functional collaboration is prioritised, teams can work together to co-develop technically feasible and strategically relevant solutions. For example, the integration of IT capabilities with marketing, operations, or finance functions enables organisations to leverage data-driven insights gained from BI systems for decision-making across the enterprise, resulting in more agile and informed strategies (Arefin et al., 2015; Lennerholt et al., 2023). Essentially, interdepartmental collaboration enables the co-creation of solutions that align technological innovation with organisational strategy. By fostering open communication, building cross-functional teams, and empowering employees, organisations can break down silos, align their resources, and ensure the success of BI-driven DT initiatives.

Table 7 below presents all the organisational factors and their sub-themes obtained from the SLR.

Table 7

Organisational Factors: SLR Analysis of Themes & Sub-Themes

Organisational Factor Components	Sub-themes
Organisational Culture	- Data-Driven Innovation & Agility - Shared Values
Organisational Leadership & Strategy	- Top Management Support - Clear Vision & Strategy
Organisational Resources & Capabilities	- Roles & Skills - Resource Foundation
Organisational Structure	- Structural Design - Interdepartmental Collaboration

3.1.2 Challenges

Organisations encounter various challenges during BI-driven DT that hinder successful implementation. SLR reveals that these challenges are related to *data & technological capabilities*, *employee engagement*, *ineffective communication & collaboration*, *project management & adaptability*, and *resource constraints*, all of which complicate the transformation process. Additionally, issues like *resistance to change*, *skill gaps & training deficiencies*, and *strategic misalignment* are the most recurring themes across the studies, further exacerbating the difficulties faced by organisations.

3.1.2.1 Data & Technological Capabilities

Many organisations face challenges related to data inconsistencies, poor data quality, and fragmented silos that hinder the effective use of BI systems. When data is inconsistent, inaccurate, or inaccessible, decision-makers often struggle to trust the insights generated, leading to underutilisation of BI functionality (Hoang & Bui, 2023; Olszak, 2016; Sergei et al., 2023). For instance, limitations in integrating data across departments or geographic locations create barriers to leveraging data-driven insights effectively, complicating efforts to make strategic decisions or drive innovation (Monaco et al., 2024; N'Dri & Su, 2024). Also, legacy IT architectures may not align well with modern BI tools, making integrating new systems or sharing data seamlessly across departments difficult. These challenges are compounded when organisations adopt BI systems prematurely or without fully considering their long-term fit and scalability, leading to rushed implementations and technical difficulties (Lennerholt et al., 2023; Zhang et al., 2023).

Technical barriers due to inflexible IT architectures or performance limitations caused by a lack of user-friendly systems may prevent teams from fully leveraging customer data to deliver personalised experiences or optimise operations (Goede, 2021; N'Dri & Su, 2024). Overcoming these challenges requires a strategic focus on enhancing both data management and technological capabilities. Building a reliable data infrastructure involves addressing issues of quality, accessibility, and integration. Investments in scalable, adaptable IT systems and robust data governance frameworks ensure that data can be collected, managed, and shared effectively across the organisation (Deacon et al., 2023; Foshay & Kuziemy, 2014).

3.1.2.2 Employee Engagement

One of the key barriers to successful BI-driven DT is fostering sustained involvement and acceptance from employees. Employees may avoid utilising new digital tools and analytical practices brought through BI-driven DT due to a lack of motivation, empowerment, or trust in the value of data insights (Ain et al., 2019; Tsoy & Staples, 2021). This low engagement often stems from an inflexible, status-quo-oriented mindset or fears of losing power over information, which creates organisational scepticism toward data-driven decision-making (Ain et al., 2019; Alnoor et al., 2024). When users are not actively engaged in the design, implementation, and feedback processes of BI-driven DT, the result is low user satisfaction, limited adoption, and a failure to align digital solutions with actual needs (Zeng et al., 2021). For example, ambiguity around the benefits of BI systems or a mismatch between digital tools and employee workflows can lead to frustration, further stifling innovation and collaboration (Sergei et al., 2023).

Lack of incentives and focus on continuous improvement also diminishes motivation for employees to embrace BI tools and contribute to BI-driven DT efforts. Without visible support, recognition, and clear leadership direction, employees may disengage, viewing BI initiatives as top-down mandates rather than shared endeavours (Deacon et al., 2023; Ghafoori et al., 2024). Employees may feel disconnected from the real purpose of BI-driven DT when they fail to see tangible value or alignment with customer needs. Addressing these challenges requires a deliberate focus on fostering a culture of collaboration, empowerment, and shared ownership. Leadership must actively involve employees, promote open communication, and provide opportunities for user participation to ensure alignment between BI solutions and day-to-day work realities and unlock the full potential of BI-driven DT (Carroll et al., 2023; Grublješič & Jaklič, 2015a; Kulkarni et al., 2017).

3.1.2.3 Ineffective Communication & Collaboration

Ineffective communication and collaboration present paramount challenges in BI-driven DT, hindering an organisation's ability to share knowledge, align efforts, and achieve cross-functional synergy. One of the primary obstacles is the persistence of siloed departments and fragmented information flows, where isolated working practices and reluctance to share data prevent smooth coordination between teams (Mittal et al., 2024; Omrani et al., 2024; Rodrigues et al., 2023). These silos lead to duplication of effort, inhibit mutual understanding, and create substantial knowledge gaps, ultimately slowing down decision-making processes and reducing the effectiveness of BI-driven DT (Alnoor et al., 2024). For example, insufficient communication between IT staff and business users often results in misaligned expectations, technical misunderstandings, and a lack of buy-in from key stakeholders (Ain et al., 2019). Communication barriers arise from the use of technical jargon, information bottlenecks, and unclear data responsibilities, which limit the accessibility and transparency of critical insights.

In many cases, centralised decision-making and over-reliance on informal arrangements fail to accommodate modern digital economies' collaborative and interconnected nature (Arefin et al., 2015; Foshay & Kuziemy, 2014). This creates conflicts, internal competition, and resistance to sharing data, undermining efforts to foster a data-driven and integrated organisational culture (Dinter, 2013; Ghafoori et al., 2024; Li et al., 2024). When communication gaps persist, stakeholders lack a shared understanding of BI-driven DT initiatives, impeding their ability to evaluate the impact of new systems on workflows, roles, and resource allocation. By encouraging structured interactions between IT and business units and fostering a culture of transparency and knowledge-sharing, organisations can build the

strong internal connections needed to fully capitalise on BI capabilities and achieve their BI-driven DT goals.

3.1.2.4 Project Management & Adaptability

Project management and adaptability are central challenges in BI-driven DT, often stemming from competing priorities, unclear project ownership, and limited flexibility to meet evolving business needs. Organisations frequently face scope creep and unrealistic expectations, where the ambiguity in project objectives and responsibilities undermines focus and direction (Goede, 2021; Vallurupalli & Bose, 2018). Prolonged implementation timelines, compounded by competing short-term priorities, lead to a loss of momentum, with projects stalling or delivering suboptimal results (Mittal et al., 2024). For instance, poorly defined project scopes and conflicting stakeholder expectations create project coordination gaps and prevent teams from achieving shared understanding and commitment. Also, short-term gains often precede long-term strategies, resulting in fragmented efforts and failing to embed continuous improvement practices into project workflows (Ghafoori et al., 2024; Mittal et al., 2024; Rodrigues et al., 2023).

Organisations operating within traditional, rigid hierarchical structures face challenges adapting project management methodologies to BI-driven DT initiatives. Traditional project management approaches may lack the agility to address rapidly changing priorities and dynamic business environments (Gaurav & Kongar, 2021; Omrani et al., 2024; Witschel et al., 2022). This inflexibility limits the organisation's ability to embrace iterative processes, which are vital for adapting BI tools to emerging opportunities and challenges. Organisations must foster adaptable project management practices emphasising ownership, flexibility, and alignment with strategic objectives to maintain consistency and continuity in BI-driven DT project execution.

3.1.2.5 Resource Constraints

Organisations face difficulty securing dedicated financial, human, and technological resources to support their BI-driven DT, especially when competing priorities demand budgetary attention. Limited budgets often prioritise short-term gains over long-term strategic objectives, which leads to underinvestment in scalable systems and evolving BI tools (Mittal et al., 2024; Porfirio et al., 2024). For instance, BI initiatives frequently compete with other IT priorities for funding, leaving pressing BI projects under-resourced and unable to meet evolving business demands. Organisations may also hesitate to invest in long-term transformation efforts due to uncertainty

about immediate returns, further limiting their ability to scale and innovate (Ghafoori et al., 2024; Omrani et al., 2024). While fiscally conservative, this cautious approach can impede BI tool adoption and hinder the organisation's competitive advantage in a data-driven economy.

Moreover, rigid budgeting mechanisms or hesitation to reallocate funds often limit flexibility, slowing the ability to adapt to changing priorities or emerging opportunities (Witschel et al., 2022). By proactively assessing workflows, processes, and resource needs, businesses can minimise inefficiencies and optimise resource utilisation (Vallurupalli & Bose, 2018). Organisations must adopt a long-term perspective, viewing BI-driven DT as a strategic investment rather than a cost. Securing adequate funding through careful prioritisation and evaluation of initiatives is essential to ensure sustained progress of BI-driven DT.

3.1.2.6 Resistance to Change

Resistance to change remains one of the most pervasive challenges in BI-driven DT, arising from fear of disruption and reluctance to shift from traditional workflows. For instance, employees accustomed to intuition-based decision-making may resist adopting data-driven processes due to a perceived loss of control or power over information (Hoang & Bui, 2023; Puklavec et al., 2018; Zhang et al., 2023). This reluctance hampers the integration of BI tools into everyday decision-making and limits their overall utilisation and impact. Resistance to process redesign and reluctance to adopt new technologies further hinder progress, preventing businesses from fully leveraging BI systems for operational improvements and innovation.

Organisations often encounter resistance at multiple levels – employees, middle management, and leadership – stemming from risk aversion, fear of job displacement, and discomfort with new technologies and processes (Alos-Simo et al., 2017; Grublješič & Jaklič, 2015b). Middle management, in particular, often poses a significant barrier as they balance legacy responsibilities while facing pressures to adopt new processes (Arefin et al., 2015; Grublješič & Jaklič, 2015a). Reluctance to redesign workflows or adapt existing practices to new BI technologies can perpetuate status quo thinking and reinforce resistance. This resistance is augmented by risk-averse organisational cultures where experimentation and failure are viewed negatively, creating an environment where employees are reluctant to embrace the cultural shift toward data-driven innovation.

Top-down approaches, though well-intentioned, can exacerbate this resistance if leadership fails to secure buy-in across all levels of the organisation (Deacon et al., 2023; Ghafoori et al., 2024; Olszak, 2016). Without adequate communication and support, employees may perceive

change initiatives as disruptive or disconnected from their daily responsibilities. A lack of clear rationale for adopting new technologies or systems contributes to slower adoption rates, further weakening momentum (Gupta et al., 2022; Hautala-Kankaanpää, 2022; Hess et al., 2016). Overcoming the challenge of resistance to change requires strong leadership advocacy, clear communication, and inclusive engagement strategies to foster trust and secure organisational buy-in.

3.1.2.7 Skill Gaps & Training Deficiencies

Without a workforce equipped to understand, interpret, and use BI tools effectively, organisations face low adoption rates, misinterpretations of outputs, and underutilisation of BI capabilities. One of the most pivotal barriers is the digital skills gap and shortage of personnel with specialised expertise. Organisations often lack internal capabilities in key areas, such as data analysis, visualisation, technical system management, and agile methodologies (Yoo et al., 2022; Zhang et al., 2023). The absence of skilled personnel – both technical (e.g., developers, analysts, testers, etc.) and managerial – hampers BI-driven DT initiatives and leads to an over-reliance on external consultants (Hung & Chen, 2020; Kala Kamdjoug, 2024; Puklavec et al., 2018). While external support can provide temporary relief, it fails to address long-term capability-building within the organisation, creating a dependency that is neither sustainable nor cost-effective.

Additionally, employees' lack of data literacy and analytical skills due to insufficient training and continuous support restricts their ability to interpret BI outputs and make informed decisions (Hanelt et al., 2021; N'Dri & Su, 2024). Training programs often focus solely on system usage without addressing broader skills such as data interpretation, analytical thinking, and decision-making. Without adequate literacy, employees cannot confidently use BI tools, leading to difficulty in extracting meaningful insights or misinterpreting the data presented by BI systems (Grublješič & Jaklič, 2015b; Hoang & Bui, 2023). Limited investment in initiatives like cross-training, upskilling, and specialised training workshops leave employees without the skills to meet evolving BI-driven DT demands (Gaurav & Kongar, 2021). Users who lack sufficient training tend to resist adopting new BI systems due to their perceived complexity and difficulty. Thus, organisations must prioritise building internal expertise through comprehensive training programs that cover both technical (e.g., data management, system usage) and non-technical (e.g., analytical thinking, decision-making) skills.

3.1.2.8 Strategic Misalignment

Strategic misalignment arises when BI-driven DT initiatives fail to align with an organisation's overarching strategic goals, priorities, and business needs (Arefin et al., 2015; Carroll et al., 2023; Yeoh & Popovič, 2016). This misalignment creates a disconnect between investments in BI systems and their ability to deliver meaningful value. As a result, organisations experience fragmented efforts, directionless initiatives, and missed opportunities for leveraging data to drive performance. For instance, while one department may prioritise immediate operational needs, another may focus on long-term transformation goals, creating a fragmented approach to BI-driven DT (Mittal et al., 2024; Rodrigues et al., 2023). This inconsistency hinders the development of a robust digital strategy and prevents BI systems from delivering anticipated benefits.

Failure to address business needs further highlights the disconnect between BI capabilities and organisational goals. Systems not aligning with user requirements or operational workflows often face resistance, underutilisation, and poor adoption rates (Gupta et al., 2022). For example, if BI outputs fail to provide actionable insights that meet stakeholders' practical needs, they are perceived as having low value, undermining the organisation's ability to leverage data for informed decision-making (Figalíst et al., 2022; Monaco et al., 2024; Vallurupalli & Bose, 2018). This misalignment results in lost potential for improving business performance, fostering innovation, and achieving strategic objectives through BI-driven DT (Grublješič & Jaklič, 2015b). Hence, developing a clear, well-defined BI-driven DT strategy that aligns BI capabilities with organisational objectives is essential for success. This requires strong leadership commitment, effective coordination among departments, and a shared understanding of the value that BI systems can deliver.

Table 8 below lists all the challenges identified through the SLR process.

Table 8

Challenges: SLR Analysis of Key Themes

Challenges in BI-Driven DT
- Data & Technological Capabilities
- Employee Engagement
- Ineffective Communication & Collaboration
- Project Management & Adaptability
- Resistance to Change
- Resource Constraints
- Skill Gaps & Training Deficiencies
- Strategic Misalignment

3.1.3 Conceptualising Organisational Factors & Challenges

This section presents the interrelationships between the organisational factors and the challenges faced by organisations in their BI-driven DT. Before exploring these interrelationships, the major organisational factors and challenges are identified in the two sub-sections below.

3.1.3.1 Major Organisational Factors

To identify the major organisational factors influencing BI-driven DT, the frequency of occurrence was analysed as described in Appendix C. Top Management Support, Data-Driven Innovation & Agility, and Clear Vision & Strategy were consistently emphasised as the most prominent sub-themes across the reviewed studies (Table 9). Table 9 shows the number of articles mentioning each factor as identified through the SLR.

Table 9

Article Count for Organisational Factors in BI-Driven DT

Organisational Factors	Count	
Organisational Culture	- Data-Driven Innovation & Agility	33
	- Shared Values	27
Organisational Leadership & Strategy	- Top Management Support	43
	- Clear Vision & Strategy	33
Organisational Resources & Capabilities	- Roles & Skills	29
	- Resource Foundation	26
Organisational Structure	- Structural Design	14
	- Interdepartmental Collaboration	20

Top Management Support stands out as the most influential contributor to BI-driven DT success out of the three factors, which aligns with previous studies (Boyton et al., 2015; Grublješič & Jaklič, 2015a; McTaggart & Loonam, 2024; Yeoh & Popovič, 2016). Leadership is pivotal in driving BI-driven DT by securing necessary resources, promoting a data-driven culture, and demonstrating a commitment to change (Goede, 2021; Kulkarni et al., 2017). Active involvement from top executives also helps overcome resistance to BI-driven DT and ensures alignment with organisational priorities. When leadership champions BI-driven DT, it encourages employees at all levels to embrace data-driven practices.

Clear Vision & Strategy also emerged as one of the most frequently mentioned organisational factors across the studies. Strategic clarity helps organisations focus their efforts on priority

areas, define measurable outcomes, and avoid fragmented or directionless initiatives (Mittal et al., 2024; Saarikko et al., 2020). Organisations with a strong vision can more effectively integrate BI into their decision-making processes, aligning technology investments with practical business needs and long-term objectives (Figalist et al., 2022; Rodrigues et al., 2023).

A culture that fosters Data-Driven Innovation & Agility is another indispensable organisational factor identified through the SLR. Agility allows organisations to adopt a proactive approach to problem-solving while building a data-driven culture promotes an environment where decisions are based on data rather than intuition or tradition, which is essential for successful BI-driven DT implementation (Alnoor et al., 2024; Puklavec et al., 2018).

While these three most recurring organisational factors emerged as vital for successful BI-driven DT, other factors discussed also play significant roles in shaping outcomes. These interconnected factors collectively influence the organisation's ability to overcome challenges and maximise the value of BI-driven DT initiatives. With this understanding of organisational factors, the focus now shifts to examining the specific challenges organisations face in their journey toward BI-driven DT.

3.1.3.2 Major Challenges

The major challenges were identified by analysing their occurrences across contexts within each article. Unlike organisational factors, the same challenge might appear multiple times within a single article if linked to different factors. Each instance was treated separately to capture their linkage to various factors, and the details of this process are explained in Appendix C.

Resistance to Change, Strategic Misalignment, and Skill Gaps & Training Deficiencies were the most recurring challenges cited across the studies. Resistance to change, cited as the most significant challenge, reflects deep-rooted organisational rigidity, reluctance to adopt new systems, and aversion to changing existing workflows. The second most frequently mentioned challenge, Strategic Misalignment, highlights organisations' difficulty aligning BI-driven DT initiatives with overall business goals. Ranked as the third most recurring challenge, Skill Gaps & Training Deficiencies reflect a critical barrier to success, highlighting the lack of adequate expertise and the need for targeted training to support BI-driven DT efforts. Table 10 illustrates the frequency of each challenge recorded across the reviewed studies in the SLR analysis.

Table 10*Occurrences of Challenges Identified in SLR Studies*

Challenges in BI-Driven DT	Count
Resistance to Change	110
Strategic Misalignment	76
Skill Gaps & Training Deficiencies	74
Project Management & Adaptability	65
Ineffective Communication & Collaboration	63
Employee Engagement	60
Resource Constraints	58
Data & Technological Capabilities	42


3.1.3.3 Interrelationships: Organisational Factors and Challenges

This sub-section presents the primary organisational factors linked to each challenge, emphasising the multifaceted nature of BI-driven DT challenges. Interrelationships were analysed by calculating their occurrence frequency in the SLR. The steps undertaken to produce these insights are detailed in Appendix C.

The heat map (Figure 6) illustrates the frequency and intensity of each relationship. By highlighting the most recurrent factors across multiple challenges (column-wise analysis), this sub-section sheds light on the broader, cross-industry relevance of key organisational influences on BI-driven DT barriers.

Figure 6*Heat Map of Organisational Factors and Their Relationships with Key Challenges in BI-Driven DT*

Organizational Factors \ Challenges	Data & Technological Capabilities	Employee Engagement	Ineffective Communication & Collaboration	Project Management & Adaptability	Resistance to Change	Resource Constraints	Skill Gaps & Training Deficiencies	Strategic Misalignment
Clear Vision & Strategy	5	7	3	16	10	15	4	23
Data-Driven Innovation & Agility	4	9	11	9	24	1	11	12
Interdepartmental Collaboration	5	1	16	4	8	1	4	5
Resource Foundation	21	2	1	4	5	12	11	2
Roles & Skills	5	6	3	4	15	4	27	1
Shared Values	-	12	12	6	17	-	10	8
Structural Design	1	1	11	6	8	1	1	2
Top Management Support	1	22	6	16	23	24	6	23
Total (Challenges)	42	60	63	65	110	58	74	76



Among organisational factors, *Top Management Support* plays a significant role in either mitigating or exacerbating *Resistance to Change*. Limited leadership commitment in providing direction or actively promoting BI-driven DT initiatives and insufficient efforts to foster a data-driven culture often result in heightened scepticism and slower implementation (Kao et al., 2016; Kulkarni et al., 2017; Saihi et al., 2024). Similarly, a rigid culture with limited *Data-Driven Innovation & Agility* compounds resistance as employees struggle to see the broader purpose and benefits of BI-driven DT, which hampers adaptability and employee acceptance of new processes (Goede, 2021; Hautala-Kankaanpää, 2022; Rueckel et al., 2020).

The challenge of '*Strategic Misalignment*' is closely linked to the organisational factors of *Clear Vision & Strategy* and *Top Management Support*. The findings suggest that when organisations fail to articulate a clear strategy or align BI-driven DT initiatives with broader objectives, efforts become fragmented and fail to deliver value (Arefin et al., 2015; Boyton et al., 2015; Tsoy & Staples, 2021). Additionally, insufficient management support often leads to low prioritisation of BI-driven DT, creating further misalignment between the perceived value of BI systems and business needs (Batra, 2017; Dinter, 2013; Foshay & Kuziemy, 2014). This is followed by *Data-Driven Innovation & Agility*, which is central to bridging the gap between BI capabilities and strategic objectives. When organisations embrace agility and innovation in their data-driven initiatives, they are better positioned to realign BI strategies with shifting organisational priorities, ensuring sustained value creation and enhanced profitability (Kiu & Chan, 2024; Rueckel et al., 2020).

Skill Gaps & Training Deficiencies further demonstrate the critical influence of organisational factors on BI-driven DT challenges. This challenge is predominantly associated with *Roles & Skills*, underscoring the importance of analytical, technical, and managerial expertise required to support BI-driven DT. The absence of clearly defined roles and responsibilities for BI-driven DT further expands this issue as organisations struggle to assign ownership and accountability for developing internal competencies (Ain et al., 2019; Lennerholt et al., 2023; Monaco et al., 2024). The lack of adequate *Data-Driven Innovation & Agility* exacerbates skill gaps as organisations struggle to foster a culture of experimentation, adaptability, and continuous learning. Additionally, deficiencies in the *Resource Foundation* highlight underinvestment in training programs and infrastructure necessary for upskilling employees. Without adequate training and support structures, employees struggle to interpret BI outputs, adopt data-driven processes, and leverage BI systems effectively (Ain et al., 2019; Batra, 2018; Kiu & Chan, 2024). Notably, *Shared Values* also influence this challenge, as the absence of a collective mindset that prioritises data literacy and skill development inhibits the integration of BI systems into decision-making processes (Alnoor et al., 2024; Mittal et al., 2024; Weißmüller et al., 2023).

While these three challenges – Resistance to Change, Strategic Misalignment, and Skill Gaps & Training Deficiencies – are the most prominent, other challenges also exhibit significant interrelationships with organisational factors. For instance, *Project Management & Adaptability* is heavily influenced by *Clear Vision & Strategy* and *Top Management Support*, as a lack of strategic direction and leadership commitment often leads to scope creep, ambiguous objectives, and ineffective change management (Sergei et al., 2023; Vallurupalli & Bose, 2018; Yeoh & Popovič, 2016). Conversely, *Ineffective Communication & Collaboration* is strongly tied to *Interdepartmental Collaboration*, where siloed operations and poor coordination hinder the flow of information necessary for BI-driven DT (McTaggart & Loonam, 2024). Additionally, weak *Shared Values*, ineffective *Structural Design*, and deficient *Data-Driven Innovation & Agility* further hinder seamless communication and collaboration essential for successful BI-drive DT.

Employee Engagement is strongly impacted by *Top Management Support* and *Shared Values*. Leadership's role in fostering a supportive, inclusive, and data-driven culture, combined with efforts to align organisational values, is crucial for engaging employees and ensuring their active participation in BI-driven DT (Carroll et al., 2023; Grublješič & Jaklič, 2015a; Kulkarni et al., 2017). *Resource Constraints* are linked to deficiencies in *Resource Foundation* and reflect budgetary limitations, competing priorities due to a lack of *Clear Vision & Strategy*, and underinvestment in BI-driven DT projects resulting from inadequate *Top Management Support*. Lastly, *Data & Technological Capabilities* are closely tied to the availability of a strong *Resource Foundation*. Insufficient infrastructure, underinvestment in technology, and limited skilled personnel hinder the full utilisation of BI systems (Olszak, 2016; Puklavec et al., 2018). These findings reinforce that while certain factors are more prominent, the holistic alignment of organisational elements remains essential to overcoming BI-driven DT challenges.

Overall, the findings reveal a complex and systemic interplay between organisational factors and challenges. Key factors such as *Top Management Support*, *Clear Vision & Strategy*, and *Data-Driven Innovation & Agility* consistently appear across multiple challenges, reinforcing their vital role in driving BI-driven DT and mitigating barriers. However, certain factors are more influential in specific contexts, underscoring the need for a holistic and integrated approach to address organisational gaps. The following sections delve deeper into these interrelationships across various industry contexts.

3.1.3.4 Single, SMEs, and Multiple Industry Focus

Building on insights from the previous sub-section, this part delves into sector-specific variations based on industry classification. By distinguishing between research papers

addressing single industries, SMEs, or multiple industries, this analysis reveals how organisational factors and challenges manifest differently across industries. Appendix C outlines the analysis process.

The primary purpose of this sub-section is to analyse the variations across different industries, recognising that industry classification is an important aspect of BI-driven DT research. Previous studies have highlighted that some industries face unique challenges in implementing BI systems, such as the healthcare sector, where the complexity of information systems and resource constraints pose significant hurdles (Foshay & Kuziemsky, 2014). Furthermore, Yeoh and Popovič (2016) underscore the need to consider inter-industry differences, as factors like firm size and industry sector can considerably affect BI implementation outcomes (Yeoh & Popovič, 2016). By categorising studies based on industry focus, this analysis provides insights into tailoring strategies for specific contexts.

Multiple. Broader studies spanning multiple industries emphasised the universal importance of **Top Management Support** in overcoming challenges related to *Employee Engagement*, *Resource Constraints*, *Strategic Misalignment*, and *Project Management & Adaptability*. This is followed by **Data-Driven Innovation & Agility**. The SLR findings reveal that organisations across sectors struggle with embedding a Data-Driven Innovation & Agility culture, irrespective of their industry. This factor influences predominantly *Resistance to Change*, followed by *Ineffective Communication & Collaboration* and *Project Management & Adaptability* challenges. Additionally, **Clear Vision & Strategy** emerged as a recurring organisational factor in studies with multiple industry focus, profoundly impacting *Strategic Misalignment*, *Resource Constraints*, and *Project Management & Adaptability* challenges.

Figure 7 illustrates the interrelationships between organisational factors and the challenges faced in BI-driven DT across multiple industries.

Figure 7

Heat Map of Interrelationships Between Organisational Factors and BI-driven DT Challenges – Multiple Industry

Challenge \ Organizational Factor	Data & Technological Capabilities	Employee Engagement	Ineffective Communication & Collaboration	Project Management & Adaptability	Resistance to Change	Resource Constraints	Skill Gaps & Training Deficiencies	Strategic Misalignment
Clear Vision & Strategy	1	3	1	5	3	7	-	10
Data-Driven Innovation & Agility	3	3	6	5	12	-	4	2
Interdepartmental Collaboration	2	-	7	2	3	-	1	2
Resource Foundation	7	-	-	2	1	3	4	-
Roles & Skills	2	4	-	1	7	2	10	1
Shared Values	-	5	5	3	6	-	3	4
Structural Design	-	-	3	1	4	1	-	-
Top Management Support	1	10	1	8	6	9	-	9

Single. This research focused on the Manufacturing, Finance, and Healthcare industries as they were most recurring in the shortlisted studies focusing on single industries (Figure 3). These studies identified similar significant organisational factors to multiple industry focus, with nuanced differences in the associated challenges (Figure 8).

Figure 8

Heat Map of Interrelationships Between Organisational Factors and BI-driven DT Challenges – Single Industry

Challenge	Industry	Organisational Factor							
		Data & Technological Capabilities	Employee Engagement	Ineffective Communication & Collaboration	Project Management & Adaptability	Resistance to Change	Resource Constraints	Skill Gaps & Training Deficiencies	Strategic Misalignment
Clear Vision & Strategy	Manufacturing	2	1	-	4	-	1	-	4
	Finance	-	1	-	-	2	1	2	4
	Healthcare	-	-	-	1	1	1	-	-
Data-Driven Innovation & Agility	Manufacturing	-	2	1	2	4	-	-	4
	Finance	1	2	-	-	1	-	2	2
	Healthcare	-	1	-	-	1	-	2	-
Interdepartmental Collaboration	Manufacturing	-	1	3	1	1	1	-	1
	Finance	-	-	2	1	-	-	1	-
	Healthcare	-	-	1	-	-	-	1	-
Resource Foundation	Manufacturing	2	-	-	1	2	1	-	1
	Finance	-	-	-	-	-	2	-	1
	Healthcare	1	-	-	-	-	-	-	-
Roles & Skills	Manufacturing	-	-	1	1	2	-	2	-
	Finance	-	-	-	-	1	-	1	-
	Healthcare	-	-	1	1	-	-	2	-
Shared Values	Manufacturing	-	1	1	1	3	-	-	-
	Finance	-	2	3	-	3	-	4	-
	Healthcare	-	1	1	-	1	-	2	-
Structural Design	Manufacturing	-	1	1	1	1	-	-	-
	Finance	-	-	3	3	-	-	-	1
	Healthcare	-	-	1	-	1	-	-	-
Top Management Support	Manufacturing	-	5	1	1	5	3	3	2
	Finance	-	1	1	1	2	1	-	2
	Healthcare	-	2	1	-	1	3	1	2

Top Management Support was highlighted as a predominant factor in both the manufacturing and healthcare sectors, consistent with multiple industry-focused studies. Although it was less prominent in the finance sector, it still played a critical role in addressing associated challenges. A lack of management support intensified challenges such as *Resource Constraints*, *Employee Engagement*, and *Strategic Misalignment*. Notably, in the manufacturing sector, **Top Management Support** had a more decisive influence on mitigating *Resistance to Change* than observed in multiple industry studies.

Studies also indicated that **Data-Driven Innovation & Agility** and **Clear Vision & Strategy** play pivotal roles, frequently cited as significant organisational factors contributing to challenges faced in all three sectors. In line with findings from multi-industry research, **Data-Driven Innovation & Agility** were linked to overcoming *Resistance to Change*. However, in

the manufacturing sector, this factor exhibited a more pronounced relationship with *Strategic Misalignment* compared to multiple industry focus, where this correlation was weaker.


Clear Vision & Strategy was found to impact similar challenges, like *Strategic Misalignment* and *Project Management & Adaptability*, across the three sectors. A noteworthy observation of Figure 8 is that **Shared Values** appear to be the most crucial in the finance industry, particularly influencing *Skill Gaps & Training Deficiencies*.

SMEs. In studies focused on SMEs, **Clear Vision & Strategy** was identified as the most significant organisational factor, primarily impacting the *Strategic Misalignment* challenge, as shown in Figure 9. This finding aligns with research on single and multiple industries. However, **Roles & Skills** emerged as a pervasive organisational factor for SMEs, closely linked to *Skill Gaps & Training Deficiencies* and *Resistance to Change*.

Figure 9

Heat Map of Interrelationships Between Organisational Factors and BI-driven DT Challenges – SMEs

Challenge \ Organizational Factor	Data & Technological Capabilities	Employee Engagement	Ineffective Communication & Collaboration	Project Management & Adaptability	Resistance to Change	Resource Constraints	Skill Gaps & Training Deficiencies	Strategic Misalignment
Clear Vision & Strategy	2	1	-	2	2	2	1	3
Data-Driven Innovation & Agility	-	-	1	1	2	-	-	1
Interdepartmental Collaboration	1	-	1	-	2	-	1	1
Resource Foundation	3	-	-	-	1	3	2	-
Roles & Skills	1	-	-	-	3	1	5	-
Shared Values	-	-	-	-	-	-	-	-
Structural Design	-	-	-	-	-	-	-	-
Top Management Support	-	-	-	-	-	-	-	-



Additionally, **Resource Foundation** was particularly acute in studies focused on SMEs, with inadequate resources leading to pronounced challenges in *Data & Technological Capabilities* and *Resource Constraints*. These findings contrast against research studies with multiple and single industry focus.

3.1.3.5 Industry-wide Organisational Factors Contributing to the Challenges

This sub-section summarises how each organisational factor – Organisational Culture, Organisational Leadership & Strategy, Organisational Resources & Capabilities, and Organisational Structure – influences specific challenges, revealing their interdependencies across all industries.

By shifting the focus from challenge-specific patterns (column-wise analysis in Sub-section 3.1.3.3) to an organisational factor-driven perspective (row-wise analysis of Figure 6), this analysis identifies the most frequently occurring challenges associated with each factor, directly addressing the research question. Relationships that consistently appeared across multiple industries and ranked among the top two or three most frequent interconnections are classified as industry-wide findings and incorporated into the conceptual framework⁵ (Table 11, presented at the end of this sub-section). Details of the analysis process are provided in Appendix C.

Organisational Culture.

Data-Driven Innovation & Agility are essential for organisations to adapt and thrive in a BI-driven DT environment. However, a lack of emphasis on fostering this culture contributes to *Resistance to Change*, as employees accustomed to traditional existing workflows may reject new, data-driven processes (Puklavec et al., 2018; Vallurupalli & Bose, 2018). *Resistance to Change* was identified as a particularly recurring challenge, with a stronger relationship to Data-Driven Innovation & Agility than others. Weak agility exacerbates *Strategic Misalignment* as BI-driven DT initiatives fail to adapt to changing business goals. Moreover, limited innovation stifles cooperation and interaction, creating *Ineffective Communication & Collaboration* between departments. This challenge is further heightened by *Skill Gaps & Training Deficiencies* as organisations struggle to build the capabilities required for BI-driven DT. A culture prioritising experimentation, agility, and continuous learning is imperative to overcoming these interconnected challenges (Gaurav & Kongar, 2021; Kane, 2019; Tsoy & Staples, 2021).

Shared Organisational Values are central to fostering alignment, engagement, and collaboration. However, when shared values are lacking, it leads to challenges such as *Resistance to Change*, as employees fail to recognise the purpose and value of BI-driven DT. This gap also contributes to *Ineffective Communication & Collaboration*, as a lack of collective commitment creates silos and fragmented communication channels (Olszak, 2016; Omrani et al., 2024). Additionally, *Employee Engagement* suffers when employees are not aligned with the organisation's BI-driven DT vision, resulting in low motivation and adoption (Grublješič & Jaklič, 2015b; Mittal et al., 2024). Strengthening shared values through clear communication, leadership involvement, and employee inclusion can address these challenges effectively. *Resistance to Change* was more frequently linked to Shared Values like Data-Driven

⁵ The number of challenges listed may vary in cases where multiple challenges share the same ranking.

Innovation & Agility than other challenges, indicating that cultural factors play a crucial role in overcoming this challenge.

Organisational Leadership & Strategy.

Top Management Support is a foundational driver of BI-driven DT success, yet its absence contributes to multiple challenges. A lack of visible leadership commitment results in *Resource Constraints*, as organisations fail to secure the financial and human resources required for BI-driven DT. Insufficient leadership involvement also fuels *Strategic Misalignment* when BI-driven DT lacks precise alignment with overarching business goals. Additionally, top management's failure to promote and advocate for BI-driven DT creates *Resistance to Change* among employees, who may question the system's value or feel uncertain about its implementation (Goede, 2021; Monaco et al., 2024; Omrani et al., 2024). Furthermore, weak leadership support negatively impacts *Employee Engagement*, as employees feel disconnected and unsupported in the BI-driven DT journey (Boyton et al., 2015; Yoo et al., 2022). These challenges were mentioned in relation to Top Management Support with similar frequency across multiple studies, indicating that a lack of commitment from leadership commonly leads to these issues.

The presence of a **Clear Vision & Strategy** ensures that BI-driven DT aligns with organisational goals and remains sustainable over time. However, a lack of strategic direction exacerbates *Strategic Misalignment* as organisations struggle to connect BI-driven DT capabilities to business needs (Arefin et al., 2015; Lennerholt et al., 2023; Tsoy & Staples, 2021). *Strategic Misalignment* was frequently cited as a noteworthy challenge concerning Clear Vision & Strategy, emphasising that BI-driven DT efforts can be undermined without a coherent and unified direction. This also impacts *Project Management & Adaptability*, as unclear goals and priorities hinder project execution, resulting in delays, inefficiencies, and misalignment (Grublješič & Jaklič, 2015a). Additionally, *Resource Constraints* arise when organisations fail to prioritise and plan resource allocation effectively (Gaurav & Kongar, 2021; Porfirio et al., 2024). Establishing a clear vision, supported by strategic planning and communication, helps address these challenges and align BI initiatives with desired outcomes.

Organisational Resources & Capabilities.

Roles & Skills remain a significant organisational factor of BI-driven DT, directly contributing to *Skill Gaps & Training Deficiencies*. Organisations often lack employees with the data literacy and analytical expertise necessary to utilise BI systems effectively, limiting the system's value (Hoang & Bui, 2023; Olszak, 2016). *Skill Gaps & Training Deficiencies* showed the strongest correlation with Roles & Skills, underscoring the vital need for the appropriate expertise and

clearly defined responsibilities to ensure the success of BI-driven DT. Furthermore, insufficient skills aggravate *Resistance to Change*, as employees may resist adopting BI tools or processes they do not understand or feel ill-prepared to use (Hoang & Bui, 2023; Mittal et al., 2024; Zhang et al., 2023). Addressing these issues requires focused investment in training, upskilling, and developing BI-specific roles to build internal capabilities.

Resource Foundation, consisting of financial, technological, and human resources, pronouncedly impacts BI-driven DT implementation. Inadequate resource foundations directly contribute to *Data & Technological Capabilities* challenges, as organisations lack the infrastructure and tools to support BI-driven DT implementation. Limited resources also intensify *Skill Gaps & Training Deficiencies*, as underinvestment in training hinders employees' ability to acquire essential skills (Kutnjak, 2021; Monaco et al., 2024; Saihi et al., 2024). Additionally, *Resource Constraints* manifest when funding and resource allocation fail to keep pace with BI-driven DT needs, slowing implementation and creating inefficiencies (Gupta et al., 2022; Yang & Yee, 2022). Among the challenges, *Data & Technological Capabilities* emerged as a more frequent concern in relation to Resource Foundation, highlighting that organisations must prioritise resource investments to overcome.

Organisational Structure.

Rigid or outdated **Structural Designs** inflame key BI-driven DT challenges. Traditional hierarchies often lead to *Ineffective Communication & Collaboration*, as silos prevent departments from working together toward shared BI goals. The challenge of *Ineffective Communication & Collaboration* was mainly tied to Structural Design compared to other challenges. Structural rigidity also contributes to *Resistance to Change*, as employees struggle to adapt to new workflows or cross-functional processes required for BI-driven DT success (Gaurav & Kongar, 2021; Sergei et al., 2023). Furthermore, *Project Management & Adaptability* is impacted by inefficient structures that hinder the agility needed to address evolving priorities or unexpected project challenges (Dinter, 2013; Hooi & Chan, 2022). Flexible, cross-functional structures are fundamental to overcoming these barriers and fostering a more integrated approach to BI-driven DT.

Effective **Interdepartmental Collaboration** is essential for BI-driven DT success, with its absence contributing to challenges like *Ineffective Communication & Collaboration*. When departments operate in isolation, it leads to fragmented initiatives and poor information sharing, limiting the organisation's ability to implement BI-driven DT effectively (Ain et al., 2019; Dinter, 2013). This also fuels *Resistance to Change*, as departments resist collaboration or integration efforts that disrupt established workflows (Batra, 2017; Hanelt et al., 2021; Kraus et al., 2021). Strengthening interdepartmental collaboration through shared goals, improved

communication mechanisms, and integrated workflows is essential to mitigating these challenges. Interdepartmental Collaboration profoundly contributes to *Ineffective Communication & Collaboration*, similar to Structural Design, demonstrating that organisational structure factors are paramount in overcoming this challenge.

To summarise these industry-wide relationships, the conceptual framework (Table 11) presents the most relevant challenges associated with each organisational factor sub-theme.

Table 11

Conceptual Framework – Organisational Factors and Their Most Relevant Challenges

Organisational factors	Challenges	
Organisational Culture	Data-Driven Innovation & Agility	<ul style="list-style-type: none"> – Resistance to Change – Strategic Misalignment – Ineffective Communication & Collaboration – Skill Gaps & Training Deficiencies
	Shared Values	<ul style="list-style-type: none"> – Resistance to Change – Ineffective Communication & Collaboration – Employee Engagement
Organisational Leadership & Strategy	Top Management Support	<ul style="list-style-type: none"> – Resource Constraints – Strategic Misalignment – Resistance to Change – Employee Engagement
	Clear Vision & Strategy	<ul style="list-style-type: none"> – Strategic Misalignment – Project Management & Adaptability – Resource Constraints
Organisational Resources & Capabilities	Roles & Skills	<ul style="list-style-type: none"> – Skill Gaps & Training Deficiencies – Resistance to Change
	Resource Foundation	<ul style="list-style-type: none"> – Data & Technological Capabilities – Resource Constraints – Skill Gaps & Training Deficiencies
Organisational Structure	Structural Design	<ul style="list-style-type: none"> – Ineffective Communication & Collaboration – Resistance to Change – Project Management & Adaptability
	Interdepartmental Collaboration	<ul style="list-style-type: none"> – Ineffective Communication & Collaboration – Resistance to Change

This framework highlights the dominant relationships while acknowledging the interconnected nature of organisational factors and challenges. It provides a structured foundation for identifying and addressing the key factors influencing BI-driven DT outcomes.

To ensure alignment with the industry-specific analysis presented in Sub-section 3.1.3.4, it is important to acknowledge how these findings are integrated into the industry-wide perspective. While some relationships appeared more pronounced when viewed within specific industry contexts, the industry-wide analysis identified those that remained consistently significant across multiple sectors. For instance, key relationships observed in the manufacturing and SME-focused studies were also among the most frequent interconnections in the broader analysis, reinforcing their cross-industry relevance. In contrast, certain industry-specific findings, such as those in finance, were less prominent outside their respective sectors and therefore not classified as industry-wide. Industry-specific variations are discussed in Section 4.2.

While these findings are derived from the SLR, the next section will explore how these relationships manifest in practice through case study findings. The case study analysis will apply this framework to examine real-world organisational contexts, identifying key challenges and evaluating how organisational factors contribute to BI-driven DT. This practical perspective will provide deeper insights into the complexities and nuances of these interrelationships, offering evidence-based recommendations for addressing challenges effectively.

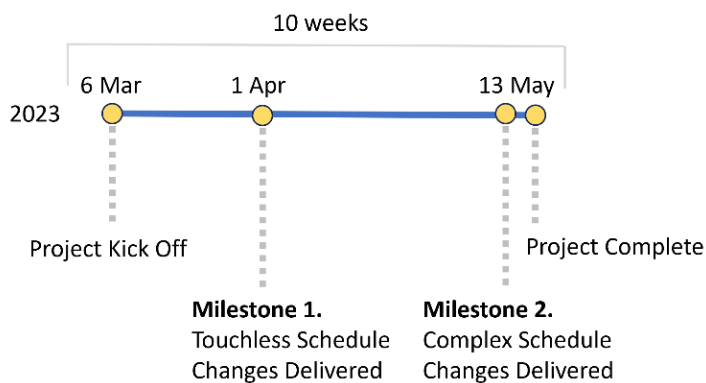
3.2 Case Study Analysis

The case study focuses on ‘ScheduleSync’, a BI-driven DT project undertaken by TravelX to address the growing volume of airline reschedules, which frequently disrupted customer itineraries and required significant manual intervention from consultants. The project's primary goal was to automate schedule changes, minimise human effort, and enhance the customer experience. The project began on March 6, 2023, and concluded on May 13, 2023, processing over 200,000 schedule changes in TravelX internal system alone. With each schedule change previously taking an estimated 5 minutes per person to process, the time saved adds up to approximately 170,000 hours of manual processing, equivalent to the workload of over eight staff.

Key milestones included the implementation of touchless schedule changes, completed on April 1, 2023, and complex schedule changes, finalised on May 13, 2023. The project was subsequently scaled to online and retail channels (as separate projects). Regular governance sessions, sprint planning, and daily standups highlighted an agile and iterative approach to project delivery. Figure 10 illustrates the timeline of these key events, outlining the project's structured delivery process.

Figure 10

Timeline and Milestones in the ScheduleSync Project



The reduction in man hours has directly contributed to operational cost savings, allowing TravelX “to grow [its] customer base” without corresponding increases in staff cost (TravelX, personal communication, June 2024). The project has had a notable impact on customer experience, as evidenced by the improvement in feedback from “Voice of Customer surveys” (TravelX, personal communication, June 2024). The development of automated processes utilising the BI system has not only made operations more efficient but has also enhanced the customer’s interaction with the service, demonstrating the value of BI-driven DT in achieving

both internal and external performance improvements. This aligns with findings in existing literature that underline the potential for BI systems to drive operational excellence and improve organisational performance (Ain et al., 2019; Al Saed, 2013; Yeoh & Popovič, 2016).

3.2.1 Organisational Factors

This sub-section focuses on the organisational factors identified in the case study data. It details how these factors influenced the obstacles encountered and shaped the outcomes of TravelX's BI-driven DT.

Roles & Skills. The ScheduleSync project highlighted the vital position of internal capabilities in the success of BI-driven DT projects. This includes the importance of clearly defined responsibilities and the availability of adequately skilled personnel, which in turn reduces the reliance on external resources. The team mitigated potential conflicts arising from blurred responsibilities by listing all relevant stakeholders and clearly designating roles in the project outline (Table 12). The data presented in Table 12 is based on the TravelX structure chart and ScheduleSync project proposal (TravelX, personal communication, June 2024).

Table 12

Stakeholders of ScheduleSync Project

	Role	Team
The TravelX IT Governance Board	Business Owner & Managing Director	Leadership
	Managing Director	Leadership
	Strategy & Corporate Director	Leadership / Transformation
	IT Director	Leadership / IT
	Stream Delivery Manager	IT
The TravelX IT Delivery Team	Project Manager / Stream Coordinator	IT
	BI Developer	IT
	Software Developer	IT
	Functional Analyst / Tester	IT
	Business Product Owners x 2	Transformation
End-users	Consultants	Customer Engagement, Product – Air

TravelX ensured that the project team was equipped with the necessary digital skills and technical expertise for BI-driven DT, including BI Developer, Software Developer, and Functional Analyst/Tester roles. The internal expertise enabled knowledge sharing within TravelX, which was actively promoted through user testing, the creation of operational

manuals, and system enhancement documentation. For instance, step-by-step instructions for User Acceptance Testing (UAT) offered additional support to users and fostered engagement. In addition, the Product Owners of the project organised a showcase to demonstrate how the ScheduleSync platform worked, enhancing end-users understanding and promoting a data-driven mindset. This comprehensive approach enabled smooth execution and continuous learning, ensuring that the new BI system was utilised to its full potential. Along with adequate skilled personnel, knowledge sharing, and sufficient ongoing user support through multiple enhancements of the ScheduleSync system, TravelX successfully mitigated challenges commonly associated with Roles & Skills factors such as *Skill Gaps & Training Deficiencies* and *Resistance to Change*.

Clear Vision & Strategy. The project outline with defined objectives, milestones, and expected outcomes reflects a clear strategic direction. Clear objectives and milestones allowed incremental delivery and timely execution of the project, leading to the completion of the project on time. Project documentations emphasise the project's aim to minimise man-hours and improve customer experience, aligning with the organisation's broader goals of transparency and customer satisfaction. TravelX has adopted BI systems and other technological tools as part of its overarching strategy to enhance business performance, with a particular focus on customer experience. Maximising savings and efficiencies for the company is also part of their strategy. Still, TravelX is dedicated to “bring[ing] savings to customers” and ensuring they “have the resources and customer focus to support” its operations (TravelX, personal communication, June 2024). This alignment of project objectives with organisational priorities was instrumental in supporting the successful implementation of the ScheduleSync project. The case study underscores the importance of the Customer-Centric Focus sub-theme under Clear Vision & Strategy. By maintaining alignment between project objectives and the extensive organisational vision of “delivering effective travel solutions” to customers (TravelX, personal communication, June 2024), TravelX avoided challenges related to *Strategic Misalignment*. Furthermore, the clarity in strategic direction minimised potential issues with *Project Management & Adaptability*. However, the case study did not reveal significant evidence of the interplay between Clear Vision & Strategy and *Resource Constraints*.

Data-Driven Innovation & Agility. TravelX's adoption of agile methodologies was crucial in ensuring the project's success, enabling the organisation to remain flexible and adaptive throughout the project lifecycle. Agile practices, such as fortnightly sprint planning involving all stakeholders, ensured the team consistently focused on actionable outcomes for

the next two weeks. This enabled continuous alignment of organisational goals and project objectives. Using Kanban boards and user stories streamlined project management for short-term initiatives (under six months) such as ScheduleSync, allowing for incremental delivery and responsive troubleshooting. The team further demonstrated a data-driven mindset by implementing mechanisms for continuous improvement. For instance, they closely monitored project progress, identified potential issues, and tested various scenarios to optimise outcomes. TravelX's proactive approach to testing various scenarios helped identify potential issues before they became paramount. This approach alleviated significant challenges, such as *Resistance to Change* and *Ineffective Communication & Collaboration*, as stakeholders were actively involved in project meetings, fostering buy-in and collaboration. It also addressed *Strategic Misalignment* by keeping the project aligned with the company's vision and values, ensuring a shared understanding of project objectives. However, the case study did not indicate a noteworthy impact of Data-Driven Innovation & Agility in mitigating the *Skill Gaps & Training Deficiencies* challenge.

Interdepartmental Collaboration. The ScheduleSync project involved integrating various departments, including leadership, IT, and transformation teams. The project team's daily stand-ups encouraged open communication, enabling team members to share progress updates, identify emerging issues, and foster real-time problem-solving. This routine created a shared understanding of project goals across departments. In addition, fortnightly sprint planning meetings and governance sessions ensured that all stakeholders actively engaged and shared project updates, further promoting interdepartmental synergy. This collaboration mitigated challenges like *Resistance to Change* by cultivating a culture of teamwork and shared accountability. Involving end-users from various departments, such as consultants from the Customer Engagement and Product–Air teams, throughout the project ensured continuous feedback, alignment with project objectives, and the delivery of a BI-driven DT solution tailored to its intended purpose. Change management processes, including the transparent documentation of changes such as enhancements, also supported effective collaboration by eliminating ambiguities and minimising misunderstandings. These collaborative practices addressed *Ineffective Communication & Collaboration*, fostering a unified approach across departments.

Top Management Support. Active engagement from top management was an instrumental enabler of the ScheduleSync project's success. The IT Governance Board (comprising key executives, such as the Strategy & Corporate Director, Business Owner & Managing Director, IT Director, and Stream Delivery Manager) provided oversight and

guidance, ensuring the project stayed aligned with the organisation's strategic priorities. The active participation of the Business Owner & Managing Director in "day-to-day operations and customer relationships" further demonstrated strong leadership commitment (TravelX, personal communication, June 2024). This level of involvement ensured alignment across all organisational levels, preventing *Strategic Misalignment and low Employee Engagement*. Fortnightly governance sessions where project updates were shared with all stakeholders strengthened communication, enabling the team to quickly address potential issues and keep the project on track. The IT Governance Board's active commitment ensured resources were allocated efficiently, helping to mitigate *Resource Constraints*. Furthermore, top management's visible commitment helped alleviate *Resistance to Change* by demonstrating their dedication to the project's success and fostering employee trust.

Structural Design. TravelX's flat organisational structure, characterised by its unique Owner Operator Model, played a significant role in facilitating effective communication and collaboration across teams. Owner Operator Model refers to the Business Owner & Managing Director being "active in day-to-day operations and customer relationships" (TravelX, personal communication, June 2024). Open communication about the project was encouraged at all levels, promoting transparency and fostering a culture of collaboration. This structural approach was influential in allowing the team to respond quickly to challenges, adapt to changing requirements, and mitigate *Project Management & Adaptability* challenges. Additionally, removing hierarchical barriers enabled seamless information flow among team members, reducing *Ineffective Communication & Collaboration*. The project also benefitted from a dedicated team structure that streamlined communication and execution, ensuring focused efforts. Forming a cross-functional project team, including leadership, transformation, IT staff, and end-users (consultants), exemplified effective Structural Design. Through engagement of all stakeholders and cross-functional collaboration, TravelX fostered a sense of shared ownership, which was instrumental in overcoming *Resistance to Change*.

Shared Value. TravelX's dedication to fostering shared organisational values was evident in its clear focus on customer satisfaction and measurable progress. The involvement of Product Owners played a fundamental role in ensuring the alignment of project outcomes with user needs, as their active participation allowed for continuous communication. Through consistent and open communication, the issue of *Ineffective Communication & Collaboration* was alleviated, promoting coordinated efforts across all teams and assuring all stakeholders remained informed. Product Owners demonstrated the ScheduleSync platform's functionality through showcases, which helped build user trust and facilitate *Employee Engagement*. This

focus on Shared Values helped overcome challenges such as *Resistance to Change*, as the team consistently communicated how the project would lead to improved outcomes for both the organisation and its customers.

Resource Foundation. Robust resource allocation of financial, technological, and human resources led to the successful implementation of the ScheduleSync project. Specifically, TravelX leveraged its existing technological capabilities, expanding the Resource Foundation to include the Technology Readiness sub-theme. This readiness directly contributed to addressing the challenge of *Data & Technological Capabilities*, ensuring that the project team had the tools and expertise required to deliver effective BI-driven DT. The project team demonstrated internal capability, reinforcing the organisation's capacity to support BI-driven DT. By avoiding reliance on external resources, TravelX mitigated potential *Skill Gaps & Training Deficiencies* and ensured technological agility. Additionally, the project was designed to be implemented internally within TravelX's operations and later extended to online and retail partnerships through a separate project. The scalability of the ScheduleSync project ensured that the solution could be adapted to meet various business requirements without compromising functionality.

3.2.2 Challenges

Despite the successful outcome, TravelX faced notable challenges during the pilot phase of the ScheduleSync project. Issues with automation rules resulted in email notifications about flight schedule updates failing for approximately eight hours, prompting the project team to implement additional monitoring systems. Additionally, the project faced difficulties with Minimum Connection Time (MCT) logic, which required adjustments to avoid scheduling errors during flight changes. These challenges exemplify *Data & Technological Capabilities*, underlining the inherent complexity of ensuring robust and reliable BI systems.

The failure of the email service and the need for MCT adjustments demonstrate how unexpected technical issues can disrupt project workflows and impact user confidence. However, TravelX's proactive response through enhanced monitoring and logic refinement demonstrated its adaptability and commitment to continuous improvement. This experience underscores the importance of a strong foundation in *Roles & Skills*, as the ability to quickly identify and resolve issues was key to minimising disruption and ensuring the project's overall success. Additionally, the iterative and flexible approach employed by TravelX reflects *Data-Driven Innovation & Agility*. It reinforces its value in BI-driven DT, enabling the team to respond effectively to unforeseen challenges and enhance the system's reliability.

3.2.3 Major Organisational Factors & Challenges.

This sub-section identifies major organisational factors and challenges based on their occurrences across the case study dataset (as determined through the analysis outlined in Appendix D).

Table 13 ranks organisational factors in descending order of occurrence, highlighting the most prominent factors. For each factor, Table 13 also presents the top two or three challenges most frequently associated with it⁶.

Table 13

Frequency of Organisational Factors and Top Challenges Identified in Case Study

Organisational Factors	Count	Associated Challenges	Count
- Roles & Skills	10	- Skill Gaps & Training Deficiencies	9
		- Resistance to Change	8
- Clear Vision & Strategy	7	- Strategic Misalignment	7
		- Project Management & Adaptability	5
- Data-Driven Innovation & Agility	7	- Strategic Misalignment	7
		- Ineffective Communication & Collaboration	6
		- Resistance to Change	4
- Interdepartmental Collaboration	7	- Ineffective Communication & Collaboration	8
		- Resistance to Change	5
- Top Management Support	6	- Employee Engagement	6
		- Strategic Misalignment	6
		- Resource Constraints	6
		- Resistance to Change	4
- Structural Design	3	- Ineffective Communication & Collaboration	2
		- Resistance to Change	2
		- Project Management & Adaptability	2
- Shared Values	3	- Ineffective Communication & Collaboration	3
		- Resistance to Change	3
		- Employee Engagement	3
- Resource Foundation	1	- Data & Technological Capabilities	1
		- Skill Gaps & Training Deficiencies	1

In the case study of TravelX, *Roles & Skills* emerged as one of the most significant organisational factors in shaping the outcome of the ScheduleSync project. The availability of adequately skilled employees and clearly defined responsibilities consistently surfaced as key contributors to the project's smooth execution. The presence of roles such as BI Developers,

⁶ The number of challenges listed may vary in cases where multiple challenges share the same ranking.

Software Developers, and Functional Analysts/Testers ensured that the project team possessed the necessary technical expertise to navigate the complexities of BI-driven DT. Well-defined responsibilities minimised ambiguity, facilitated knowledge sharing, and streamlined stakeholder collaboration. This is further supported by its pivotal role in alleviating *Data & Technological Capabilities* concerns exemplified through technical challenges encountered during the project. Technical issues with automation rules and MCT logic were resolved swiftly, showcasing the importance of employee competencies and their ability to adapt and troubleshoot effectively.

Additionally, *Clear Vision & Strategy* and *Data-Driven Innovation & Agility* were among the most frequently observed factors in the case study, reinforcing findings from the literature. TravelX's strategic clarity, supported by defined milestones and objectives documented in the project outline, ensured the project remained aligned with organisational goals. This alignment was further strengthened by agile practices, such as fortnightly sprint planning and iterative improvements, which allowed the project team to adapt quickly to emerging challenges and maintain conformity with stakeholder expectations. The data-driven innovation mindset & agile approach also encouraged a culture of continuous improvement, enhancing the team's ability to deliver incremental value and improve user engagement.

A notable finding from the case study is the significance of *Interdepartmental Collaboration*. The involvement of leadership, IT, transformation teams, and end-users throughout the project fostered seamless communication and a shared understanding of objectives. Regular daily stand-ups and sprint planning meetings ensured transparency, real-time problem-solving, and a unified approach to project delivery. This reflects a key distinction between theoretical and real-world contexts, as *Interdepartmental Collaboration* emerged as a more influential factor in the case study than suggested by the literature. Its role in mitigating *Ineffective Communication & Collaboration* and *Resistance to Change* highlights its importance in addressing practical challenges faced during BI-driven DT projects.

The findings from the case study are synthesised in Table 14, which builds upon the conceptual framework developed through the SLR (Table 11). The organisational factors are arranged according to their significance, based on their influence and relevance observed during the case study. This structured comparison underscores the dynamic interplay between theoretical insights and practical observations, offering a nuanced understanding of organisational factors in BI-driven DT.

Table 14*Key Findings of Case Study*

Organisational Factor	Challenges	Refinements/Insights
Roles & Skills	<ul style="list-style-type: none"> – Skill Gaps & Training Deficiencies – Resistance to Change 	– Emerged as the most significant factor
Clear Vision & Strategy	<ul style="list-style-type: none"> – Strategic Misalignment – Project Management & Adaptability – <i>Resource Constraints</i> 	<ul style="list-style-type: none"> – Strong alignment with the conceptual framework – Limited link to <i>Resource Constraints</i> in the case study
Data-Driven Innovation & Agility	<ul style="list-style-type: none"> – Resistance to Change – Strategic Misalignment – Ineffective Communication & Collaboration – <i>Skill Gaps & Training Deficiencies</i> 	<ul style="list-style-type: none"> - Validated as a critical factor - Limited evidence of <i>Skill Gaps & Training Deficiencies</i> linkage in the case study
Interdepartmental Collaboration	<ul style="list-style-type: none"> – Ineffective Communication & Collaboration – Resistance to Change 	– Added as a core factor
Top Management Support	<ul style="list-style-type: none"> – Resource Constraints – Strategic Misalignment – Resistance to Change – Employee Engagement 	– Universally significant across contexts
Structural Design	<ul style="list-style-type: none"> – Ineffective Communication & Collaboration – Resistance to Change – Project Management & Adaptability 	<ul style="list-style-type: none"> – Showed less significance compared to other organisational factors – Aligns with the SLR findings
Shared Values	<ul style="list-style-type: none"> – Resistance to Change – Ineffective Communication & Collaboration – Employee Engagement 	
Resource Foundation	<ul style="list-style-type: none"> – Data & Technological Capabilities – Skill Gaps & Training Deficiencies 	

Chapter 4: Discussion

This discussion integrates findings from the SLR and the case study of TravelX to answer the research question. By analysing patterns across industries (multiple, single, and SMEs) and contextualising findings within the framework developed, the discussion highlights critical organisational factors, validates theoretical perspectives, and introduces practical insights from real-world applications. The outcome is a refined framework that comprehensively explains the interplay between organisational factors and BI-driven DT challenges.

4.1 Integration of SLR & Case Study Findings

The SLR emphasised the recurrence of several organisational factors crucial to the success of BI-driven DT projects across industry contexts. *Top Management Support*, *Clear Vision & Strategy*, and *Data-Driven Innovation & Agility* emerged as central to mitigating common challenges such as *Strategic Misalignment* and *Resistance to Change*. These findings align with previous literature, where *Top Management Support* was frequently associated with ensuring resource availability, aligning organisational goals, and fostering employee engagement (Alos-Simo et al., 2017; Eder & Koch, 2018; Yeoh & Popovič, 2016). Similarly, *Clear Vision & Strategy* is consistently highlighted as a key enabler of strategic alignment and a unified operational focus, guiding transformation efforts (Deacon et al., 2023; Vallurupalli & Bose, 2018; Weißmüller et al., 2023). Moreover, fostering a culture of *Data-Driven Innovation & Agility* enables the infusion of BI into routine processes, making it an embedded part of the business that supports the organisational vision and strategy (Ain et al., 2019; Ghafoori et al., 2024; Grublješič & Jaklič, 2015b).

The case study of TravelX reinforced the importance of these factors, demonstrating their practical application. For instance, *Top Management Support* was instrumental in ensuring resource allocation and maintaining project alignment with organisational goals through governance board meetings and active leadership involvement. Likewise, *Clear Vision & Strategy* played a crucial role in preventing scope creep by establishing well-defined objectives in project documentation that guided decision-making and prioritisation throughout the transformation process. This ensured that the BI-driven DT initiative remained aligned with TravelX's long-term business strategy, avoiding misalignment between technological capabilities and organisational needs.

Moreover, the case study underscored the significance of *Data-Driven Innovation & Agility*, particularly in addressing operational inefficiencies and fostering adaptability. The project team's iterative approach to ScheduleSync implementation, supported by real-time

performance tracking and continuous feedback loops, allowed for greater responsiveness to emerging challenges and ensured the sustainability of BI-driven DT. This aligns with the SLR findings, which underline that organisations with a strong culture of *Data-Driven Innovation & Agility* are better positioned to overcome *Strategic Misalignment* and *Resistance to Change* as BI becomes an intrinsic part of business operations rather than a standalone technological tool.

On the other hand, *Roles & Skills* emerged as the most significant organisational factor in the case study (Table 14), differing from industry-wide studies but aligning with findings from SMEs (Figure 9) despite TravelX being considered a large firm. This alignment may stem from TravelX's operational structure, which, while characteristic of a large firm, is distributed across nine locations, each operating on a smaller scale. Additionally, the ScheduleSync project, a relatively small-scale BI-driven DT undertaken by TravelX, had a brief 10-week timeframe. The distributed setup, coupled with the project's limited scope, mirrors the challenges commonly faced by SMEs, such as resource constraints and reliance on multi-functional employees (Hoang & Bui, 2023; Kala Kamdjoug, 2024; Zhang et al., 2023). In such contexts, the availability of adequately skilled personnel and clearly defined roles becomes imperative to ensure operational efficiency and the successful implementation of projects like ScheduleSync.

Another possible reason for this alignment is the organisation's reliance on internal capabilities. TravelX prioritised leveraging its internal workforce rather than outsourcing key tasks, necessitating a higher emphasis on roles, responsibilities, and training. This approach not only reinforced knowledge-sharing practices but also minimised potential disruptions caused by external dependencies, further highlighting the importance of *Roles & Skills* in alleviating challenges such as *Skill Gaps & Training Deficiencies* and *Resistance to Change*. Lastly, TravelX's focus on customer-centric operations could also contribute to the prominence of *Roles & Skills*. Employees must possess technical and interpersonal skills to effectively align BI-driven DT initiatives with customer needs, emphasising the significance of the factor (Ain et al., 2019). This also confirms the theoretical finding underlining the importance of *Clear Vision & Strategy*. The shared understanding of the ScheduleSync project (to reduce man-hours and improve customer experience) and the organisational vision of TravelX (to “[deliver] effective travel solutions to customers”) was aligned (TravelX, personal communication, June 2024), preventing scope creep and facilitating smooth execution.

Furthermore, the case study introduced a notable practical insight: the vital role of *Interdepartmental Collaboration*. While this factor was not identified as a major organisational factor in the SLR findings, it emerged as a significant enabler in the case study. However, both SLR and case study data indicate that *Interdepartmental Collaboration* is one of the primary

factors contributing to overcoming *Ineffective Communication & Collaboration*, a recurring challenge in BI-driven DT projects. At TravelX, practices such as regular stand-ups, cross-functional team involvement, and knowledge-sharing processes were pivotal in reducing communication barriers and promoting shared accountability. Such practices align with prior research stipulating that frequent, structured interactions between teams are paramount to lowering miscommunication and fostering alignment in complex organisational settings (Ain et al., 2019; Kraus et al., 2021; Porfírio et al., 2024).

This finding underscores a potential gap in the literature, as theoretical models often emphasise strategic or leadership-driven approaches to overcoming communication challenges, with limited focus on the operational mechanisms of collaboration (Batra, 2017; Ghafoori et al., 2024; Rodrigues et al., 2023). The case study demonstrates that fostering *Interdepartmental Collaboration* through governance meetings, collective responsibility, and iterative feedback mechanisms can markedly reduce communication barriers in practice. Thus, future research is needed to explore the role of *Interdepartmental Collaboration* in different organisational and industry contexts, refining its position within existing frameworks for BI-driven DT.

Besides, *Structural Design*, *Shared Values*, and *Resource Foundation* emerged as less influential than other organisational factors, a pattern consistently observed across both the SLR and the case study. While these factors provide supporting functions in BI-driven DT, their relative impact was less evident in shaping the project's success. For instance, *Structural Design*, which pertains to the formal configuration of positions and workflows, was not a dominant concern at TravelX, as the existing organisational structure was flexible enough to accommodate BI-driven changes without requiring major restructuring or creating hierarchal barriers. Similarly, *Shared Values*, though relevant in ensuring employee engagement and collaboration, did not prove to be a primary driver of transformation when compared to more direct enablers such as leadership commitment and strategic clarity. Lastly, *Resource Foundation*, which encompasses financial, technical, and human capital, was found to be a secondary consideration, as the project's success relied more on employee skills, strategic alignment, and leadership advocacy than on sheer resource availability.

These insights reaffirm the notion that while certain organisational factors are broadly recognised as key enablers, their degree of influence may vary depending on the specific context of an organisation's BI-driven DT journey. These variations can also be shaped by industry-specific characteristics, which are explored in the following sub-section.

4.2 Industry-Specific Considerations

Although BI-driven DT is widely adopted across industries, the factors influencing its success often differ depending on the nature of the industry, company size, and regulatory environment (Kao et al., 2016; Martins et al., 2024; Yeoh & Popovič, 2016). Organisations in highly regulated sectors such as finance and healthcare must navigate strict compliance requirements, which shape how BI systems are integrated and governed (Kao et al., 2016; McTaggart & Loonam, 2024). In contrast, industries such as manufacturing prioritise operational efficiency, supply chain optimisation, and real-time analytics, making data-driven agility a crucial organisational factor (Alnoor et al., 2024; Ghafoori et al., 2024; Hautala-Kankaanpää, 2022). Given these industry-specific variations, a one-size-fits-all approach to BI-driven DT is insufficient. Instead, organisations must tailor their strategies based on their sector's unique challenges and requirements.

One of the key insights from the industry context was the emergence of *Shared Values* as an influential organisational factor for BI-driven DT in the finance sector. The “digital revolution has put banks under siege” (McTaggart & Loonam, 2024, p. 13787), driving a shift from traditional output-centric approaches to input-centric, customer-focused strategies. *Shared Values* support this transition by prioritising user engagement through harmonising BI-driven DT initiatives with customer needs. This ensures that projects are executed with a clear focus on delivering value to the end-user (employees) and, by extension, to customers. BI-driven DT causes changes in value creation and resultantly impacts organisational culture, leadership, and structure, necessitating alignment across all levels of the organisation (Ghafoori et al., 2024; Vial, 2019). *Shared Values* ensure that such alignment is achieved by promoting value realisation of BI systems for all stakeholders, empowering employees to actively participate and embrace change (Carroll et al., 2023).

By driving continuous improvement through user engagement, *Shared Values* enable organisations in the finance sector to ease adaptation to new technologies and market trends (Porfírio et al., 2024). This cultural foundation not only supports the development of employee competencies but also encourages ongoing learning, which is indispensable for bridging *Skill Gaps & Training Deficiencies*. Encouraging professional growth as part of *Shared Values* motivates employees to learn and engage in BI-driven DT. This ensures that BI systems deliver meaningful outcomes while equipping employees with the skills necessary to thrive in BI-driven DT.

While *Shared Values* play a defining role in the finance sector, the manufacturing sector exhibits distinct organisational dynamics in its approach to BI-driven DT. For instance, *Top Management Support* is universally recognised as a critical factor, but its influence in

addressing *Resistance to Change* is particularly magnified in manufacturing. Unlike finance or healthcare, where regulatory compliance and data governance drive adoption, the manufacturing sector is highly structured and process-driven, with long-standing operational workflows, automation systems, and established employee routines. Disruptions caused by BI-driven DT can lead to substantial resistance among employees who perceive changes as threats to efficiency, job security, or production stability (Ghafoori et al., 2024; Vallurupalli & Bose, 2018).

In manufacturing, top-down leadership is essential for fostering trust, reducing uncertainty, and ensuring alignment between BI-driven DT initiatives and operational goals. Studies indicate that visible executive involvement – such as consistent communication, structured change management initiatives, and workforce training programs – significantly reduces scepticism and promotes employee buy-in (Alos-Simo et al., 2017; Ghafoori et al., 2024; Witschel et al., 2022). Without strong leadership engagement, manufacturing firms often struggle to gain workforce acceptance, leading to delays, inefficiencies, and even failed transformation efforts. In contrast, firms with committed leadership teams see greater success in embedding BI-driven decision-making into production processes, supply chain optimisation, and automation strategies, reinforcing the essential role of *Top Management Support* in overcoming *Resistance to Change*.

Another distinct pattern observed in manufacturing is the strong link between *Data-Driven Innovation & Agility* and *Strategic Misalignment*. Contrary to finance, where alignment is primarily achieved through regulatory compliance and customer-centric BI initiatives, manufacturing firms face challenges in ensuring that BI-driven DT efforts remain synchronised with production efficiency, logistics, and real-time operational needs (Alnoor et al., 2024; Hautala-Kankaanpää, 2022). Manufacturing firms operate in fast-changing supply chain environments, where fluctuations in demand, raw material availability, and production schedules require dynamic, data-driven decision-making. Successfully aligning BI-driven DT strategies with these evolving conditions depends on an organisation's ability to instil agile data-driven processes, fostering real-time adaptability and strategic coherence across operations (Hautala-Kankaanpää, 2022; Kao et al., 2016).

Manufacturing firms that do not promote a culture of *Data-Driven Innovation & Agility* risk falling into a cycle of *Strategic Misalignment*, as their BI-driven DT initiatives may fail to generate insights that translate effectively into actual production needs. Moreover, studies show that firms prioritising *Data-Driven Innovation & Agility* are better equipped to bridge misalignment gaps, ensuring BI strategies remain responsive to shifting industry demands (Sergei et al., 2023; Yang & Yee, 2022). By continuously refining their BI strategies to align

with evolving operational requirements, organisations can enhance the practical applicability of data-driven insights, driving long-term, scalable benefits and ensuring BI-driven DT delivers sustained improvements in production efficiency (Boyton et al., 2015; Witschel et al., 2022).

The pronounced relationships observed in manufacturing were identified as broadly critical across diverse industries through industry-wide analysis (Table 11). Conversely, the role of *Shared Values* in addressing *Skill Gaps & Training Deficiencies* in the finance sector emerged as a more distinctive, industry-specific insight. To translate these findings into a structured approach, the next sub-section presents an integrated framework that provides a strategic perspective on the organisational factors shaping BI-driven DT challenges.

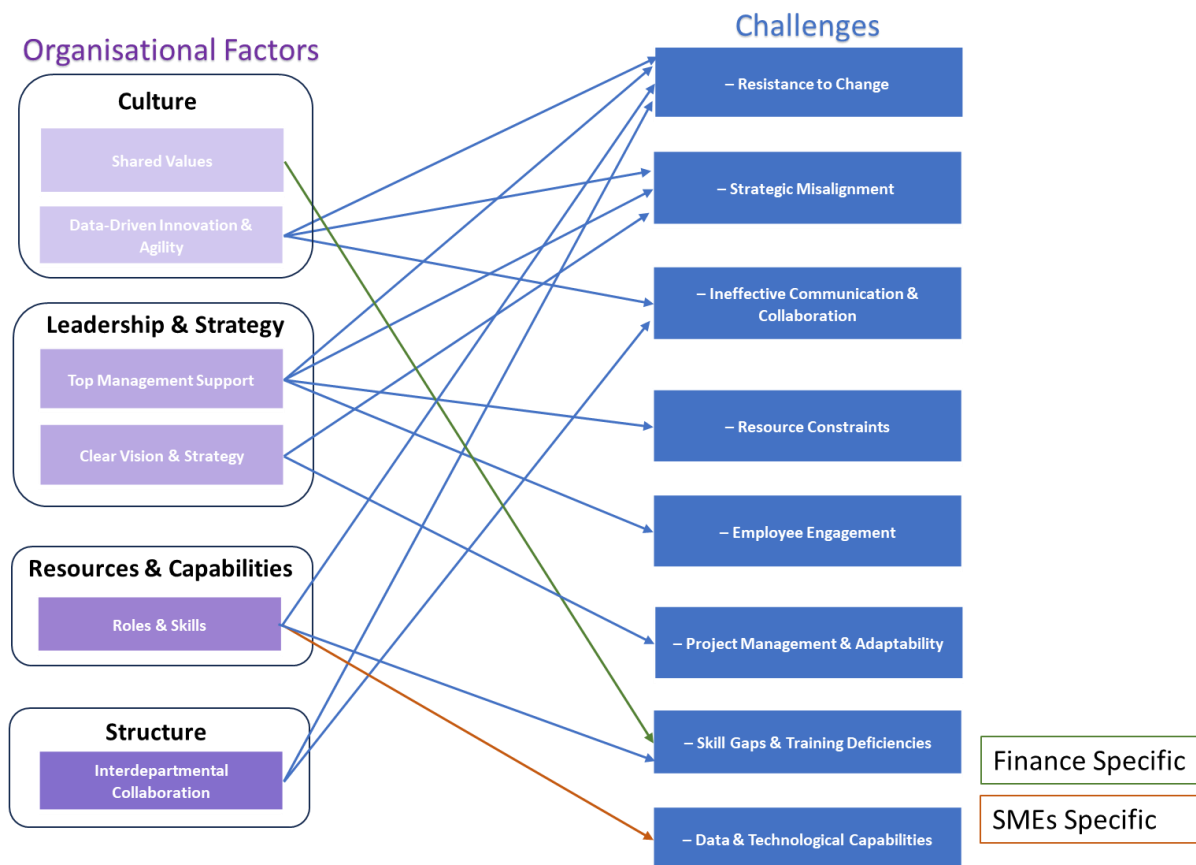
4.3 Integrated Framework

The integration of findings from the SLR and the case study provides a comprehensive understanding of how organisational factors contribute to the challenges of BI-driven DT. This synthesis highlights both universally significant factors and context-dependent variations, offering nuanced insights into their interplay across different industry settings and organisational structures. Building on these insights, this sub-section introduces the proposed *Integrated Framework* (Figure 11), consolidating key organisational factors and their relationships with core challenges identified across datasets.

In the framework presented, the purple rectangles represent the organisational factors identified. The blue rectangles represent the associated challenges. The arrows connecting the organisational factors and challenges illustrate the relationships between them. Different arrow colours are used to indicate how these relationships vary depending on organisational contexts, such as industry focus. The blue arrows represent industry-wide relationships. The green arrow highlights connections specific to the finance industry, while the orange arrow portrays SME-specific relationships. By visualising these dynamics, the framework aims to provide actionable guidance for addressing challenges and optimising organisational practices in BI-driven DT projects.

Figure 11

Integrated Framework – Organisational Factors Contributing to Challenges of BI-driven DT



Theoretical and empirical data showed similar results regarding the interplay between organisational factors and challenges throughout various industries, represented by blue arrows in Figure 11. Primary challenges common across all contexts were *Resistance to Change*, *Strategic Misalignment*, and *Skill Gaps & Training Deficiencies*. The framework underlines the contribution of multiple organisational factors to these key challenges.

Certain organisational factors were more prevalent in specific contexts, represented by green and orange arrows in Figure 11 for the finance industry and SMEs, respectively. Practical insights from the case study helped deepen the theoretical understanding of organisational factors and their interlinked challenges, particularly within the context of SMEs. For instance, *Data & Technological Capabilities* are closely linked with *Roles & Skills* in SMEs, reflecting unique resource constraints and skill-related challenges. In addition, the variation between SLR and case study results introduced new perspectives, such as the emergence of *Shared Values* as a crucial factor in the finance sector. This divergence underscores the differences between theoretical constructs and practical applications, emphasising the importance of context-specific adaptations.

In contrast to *Shared Values* in the finance industry, which emerged as a distinct, industry-specific influence, *Top Management Support* and *Data-Driven Innovation & Agility* have long been recognised as fundamental enablers across diverse industries, including manufacturing (Alos-Simo et al., 2017; Ghafoori et al., 2024; Hung & Chen, 2020). Industry-wide analysis confirmed their broad relevance (Table 11), with *Top Management Support* playing a key role in mitigating *Resistance to Change* and *Data-Driven Innovation & Agility* addressing *Strategic Misalignment* across sectors. While these relationships were notably apparent in the manufacturing sector, they align with findings from multiple industries, reinforcing their universal applicability. As such, the final integrated framework positions them as industry-wide findings rather than newly emergent sector-specific insights. This approach ensures the framework retains conceptual clarity, accurately reflecting sectoral dynamics while preserving the general relevance of key organisational factors in BI-driven DT.

In developing the proposed integrated framework, certain organisational factors, such as *Resource Foundation* and *Structural Design*, were excluded due to their relatively low significance in both the SLR and the case study findings. *Resource Foundation* appeared as the third-lowest ranked factor in the SLR (Table 9). It was among the least emphasised in the case study (Table 13), suggesting that while it contributes to specific challenges, its overall influence is less pivotal compared to other factors like *Top Management Support* or *Clear Vision & Strategy*. Similarly, *Structural Design* ranked at the lower end in both datasets, indicating that its impact on the challenges is minimal and often overshadowed by more prominent factors such as *Interdepartmental Collaboration*. While these factors may play supportive roles in certain contexts, their exclusion from the framework ensures a focused representation of the most impactful organisational factors, enabling more actionable and targeted strategies for addressing BI-driven DT challenges.

Chapter 5: Conclusion

Organisational factors have long been recognised as vital to the success of BI-driven DT, and their importance remains evident in recent studies (Ain et al., 2019; Grublješič & Jaklič, 2015a; Gupta et al., 2022; Yeoh & Popovič, 2016). Despite this, previous research has focused primarily on the technical aspects of BI systems, leaving the role of organisational factors underexplored (Grublješič & Jaklič, 2015b; Heavin & Power, 2018; Yeoh & Popovič, 2016). This study fills a critical gap in the existing literature by examining how specific organisational factors impact the challenges and overall outcomes in the BI-driven DT journey.

Across various industries, shared organisational factors have been identified in the context of BI-driven DT (Martins et al., 2024; Williams et al., 2024; Yeoh & Popovič, 2016). *Top Management Support, Clear Vision & Strategy, Data-Driven Innovation & Agility, Interdepartmental Collaboration, and Roles & Skills* play a pivotal role in shaping success (Boyton et al., 2015; Grublješič & Jaklič, 2015b; Rueckel et al., 2020; Witschel et al., 2022). Commitment from *top management* ensures adequate resource allocation and facilitates user engagement, minimising resistance to change. A shared understanding of organisational *vision and strategy* prevents strategic misalignment and reluctance to adopt BI-driven DT. Organisations that foster a *data-driven mindset with agility* encourage a shift towards rational and fact-based decision-making while promoting a developmental culture that supports open communication, experimentation, and innovation, accelerating BI-driven DT implementations. Without an environment that promotes *collaboration*, employees often struggle to align with the shared goals of BI-driven DT, creating communication barriers that hinder success. Employees possessing the necessary *competencies* and having clearly defined *responsibilities* enhance the organisation's capability to embrace BI-driven DT effectively.

Each organisational factor contributes to diverse challenges that demand careful management to ensure the success of BI-driven DT. *Resistance to Change, Strategic Misalignment, and Skill Gaps & Training Deficiencies* were identified as key challenges commonly encountered in BI-driven DT. Interdepartmental collaboration enhances the synergy of employee roles & skills with BI-driven DT, helping to overcome *Resistance to Change*. Environments stimulating data-driven innovation & agility, supported by top management support, also encourage employees to be less *resistant to change* brought by BI-driven DT. *Strategic Misalignment* is mitigated through strong leadership support, which facilitates the adoption of data-driven innovation & agility while ensuring a clearly articulated vision & strategy. Setting defined roles and involving adequately skilled personnel is imperative in overcoming *Skill Gaps & Training Deficiencies*.

Regarding the impact of organisational factors on industry-specific contexts in BI-driven DT, unique insights suggest that tailored approaches are required for particular settings. In the finance industry, where rapid technological advancements demand new competencies, *Shared Values* support the alignment of training initiatives with organisational priorities. This ensures that employees are equipped with the essential skills to avoid *Skill Gaps & Training Deficiencies*. SMEs, on the other hand, often face substantial *Data & Technological Capabilities* challenges compared to larger organisations. Limited resources in SMEs necessitate a greater reliance on employees' *Roles & Skills* to achieve successful BI-driven DT.

The proposed framework consolidates theoretical and practical insights, highlighting universal organisational factors while accommodating the complexities and variations of specific contexts. By illustrating the interrelationships between organisational factors and challenges, the framework demonstrates the inherent complexities of BI-driven DT. Therefore, aligning organisational factors with BI-driven DT goals is key to successful implementation, whilst carefully navigating the challenges to ensure sustainable and impactful outcomes.

BI-driven DT is fundamentally a continuous evolution rather than a one-time event or implementation. It requires persistent organisational commitment, agility, and strategic adaptation. As businesses navigate increasingly dynamic and data-centric environments, long-term success hinges on embedding data-driven innovation into company culture, fostering cross-functional collaboration, and ensuring BI systems remain relevant and scalable. Moving beyond a 'project-based' mindset focused on one-off milestones, organisations must embrace BI-driven DT as an ongoing strategic endeavour, consistently refining BI capabilities to meet growing business needs. By doing so, they can maximise the transformative potential of BI, driving sustained innovation, operational excellence, and competitive advantage.

5.1 Practical & Theoretical Implications

This study offers actionable insights for organisations embarking on BI-driven DT journey, emphasising the need to align organisational factors with specific challenges. Organisations can utilise the proposed integrated framework to assess and address the interplay of organisational factors and challenges, guiding the effective allocation of resources and strategic planning. The framework can also be applied as a diagnostic tool to identify organisation areas requiring intervention, ensuring smoother and more impactful BI-driven DT implementations.

The study furthermore provides valuable insights for project managers and leaders by contributing empirical data for assessing and classifying BI-driven DT strategies that influence management decisions. Organisations can leverage the framework to navigate BI-driven DT projects by adopting structured approaches customised to their contexts. For instance, the case study demonstrates how TravelX effectively employed *Interdepartmental Collaboration* and *Roles & Skills* to mitigate challenges such as *Ineffective Communication & Collaboration*, *Skill Gaps & Training Deficiencies*, and *Data & Technological Capabilities*.

One of the key theoretical contributions is the distinction between universal and context-dependent organisational factors, providing a framework for analysing their varying impacts. The integration of multi-industry and single-industry perspectives enhances theoretical understanding of organisational dynamics. Multi-industry studies provide a broader lens, revealing universal factors such as *Top Management Support*, *Clear Vision & Strategy*, and *Data-Driven Innovation & Agility*. Contrarily, single-industry studies offer deeper insights into context-specific nuances, such as the amplified importance of *Shared Values* in finance or the paramount role of *Roles & Skills* in SMEs. By distinguishing between these perspectives, the study advances a more sophisticated understanding of how organisational factors influence BI-driven DT challenges across diverse contexts.

The study also bridges the gap between theoretical constructs and practical applications by validating theoretical insights through case study analysis. The discrepancies observed between SLR findings and case study results – such as the prominence of *Interdepartmental Collaboration* in practice – highlight emerging factors relatively underexplored in earlier studies. This finding demonstrates the importance of contextualising theoretical frameworks to reflect real-world complexities, offering a more accurate representation of organisational challenges and their solutions.

Overall, this study not only enhances theoretical frameworks for BI-driven DT but also offers practical tools and strategies for organisations to navigate their transformation journeys effectively.

5.2 Limitations

While this study provides valuable insights into the interplay between organisational factors and challenges in BI-driven DT, some limitations should be acknowledged to contextualise the findings and provide anchor points for future research.

The scope of the SLR was constrained by the availability of industry-specific studies, resulting in limited inclusion of specific sectors such as healthcare or education, which may face unique

challenges and organisational dynamics. Furthermore, reliance on existing literature means emerging or unpublished insights might not be captured, particularly from rapidly evolving industries. These factors suggest the need for further research incorporating grey literature or exploring underrepresented industries to provide a more balanced perspective.

The case study focused on a single organisation within the travel industry, which, while providing rich, contextual insights, limits the generalisability of the findings to other sectors or organisational types. Future research could include multiple case studies across diverse industries and organisational sizes to enhance generalisability. Additionally, this study primarily relied on secondary data for the case analysis, providing a strong foundation but limiting the validation of findings through primary data sources like interviews or surveys. The absence of direct interaction with employees or stakeholders may have constrained the depth of insights into individual perspectives on organisational factors and challenges. Incorporating mixed-method design, such as qualitative interviews alongside secondary data analysis, could strengthen future studies by capturing a more holistic view of organisational dynamics.

While the proposed framework integrates findings from both theoretical and practical datasets, its applicability may vary across industries and organisational contexts. For example, the heightened significance of *Roles & Skills* in SMEs observed in the study might not translate to larger-scale SMEs with more robust training programs. Similarly, the prominence of *Shared Values* in the finance industry underlines the context-dependent nature of some organisational factors. Future research should focus on cross-industry comparative studies to test the framework's validity in diverse contexts and identify potential adaptations for specific sectors.

Despite these limitations, this study offers a foundational understanding of the organisational factors shaping BI-driven DT and their associated challenges. By acknowledging these constraints and suggesting avenues for future exploration, this research lays the groundwork for more robust and contextually nuanced studies, advancing both academic knowledge and practical applications in BI-driven DT.

References

- Ahmad, A. (2015). Business intelligence for sustainable competitive advantage. In *Sustaining competitive advantage via business intelligence, knowledge management, and system dynamics* (Vol. 22A, pp. 3-220). Emerald Group Publishing Limited.
- Ain, N., Vaia, G., DeLone, W. H., & Waheed, M. (2019). Two decades of research on business intelligence system adoption, utilization and success – A systematic literature review. *Decision Support Systems*, 125, 1-13. <https://doi.org/https://doi.org/10.1016/j.dss.2019.113113>
- Al Saed, R. (2013). The relationship between business intelligence and business success: An investigation in firms in Sharjah Emirate. *American Journal of Business and Management*, 2(4), 332-339.
- Alali, H., Nofal, M., & Alharafsheh, M. (2019). Business intelligence implementation success framework: A literature review. *European Journal of Business and Management*, 11(6), 1-6.
- Almusallam, M., & Chandran, D. (2020). Current and prospective views of the adoption of BISs in large companies and SMEs. *AMCIS 2020 Proceedings*, 4, 1-10.
- Alnoor, A., Atiyah, A. G., & Abbas, S. (2024). Unveiling the determinants of digital strategy from the perspective of entrepreneurial orientation theory: A two-stage SEM-ANN approach. *Global Journal of Flexible Systems Management*, 25(2), 243-260. <https://doi.org/10.1007/s40171-024-00385-0>
- Alos-Simo, L., Verdu-Jover, A. J., & Gomez-Gras, J. M. (2017). How transformational leadership facilitates e-business adoption. *Industrial Management & Data Systems*, 117(2), 382-397. <https://doi.org/10.1108/IMDS-01-2016-0038>
- Arefin, M. S., Hoque, M. R., & Bao, Y. (2015). The impact of business intelligence on organization's effectiveness: An empirical study. *Journal of Systems and Information Technology*, 17(3), 263-285. <https://doi.org/10.1108/JSIT-09-2014-0067>
- Baskarada, S. (2014). Qualitative case study guidelines. *The Qualitative Report*, 19(40), 1-25.
- Batra, D. (2017). Adapting agile practices for data warehousing, business intelligence, and analytics. *Journal of Database Management (JDM)*, 28(4), 1-23. <https://doi.org/10.4018/JDM.2017100101>
- Batra, D. (2018). Agile values or plan-driven aspects: Which factor contributes more toward the success of data warehousing, business intelligence, and analytics project development? *Journal of Systems and Software*, 146, 249-262. <https://doi.org/https://doi.org/10.1016/j.jss.2018.09.081>
- Bose, I., Chun, L. A., Yue, L. V., Ines, L. H., & Helen, W. O. (2006). Business data warehouse: The case of Wal-Mart. In *Database modeling for industrial data*

- management: Emerging technologies and applications* (pp. 244-257). IGI Global.
<https://doi.org/10.4018/978-1-59140-684-6.ch008>
- Boyton, J., Ayscough, P., Kaveri, D., & Chiong, R. (2015). Suboptimal business intelligence implementations: Understanding and addressing the problems. *Journal of Systems and Information Technology*, 17(3), 307-320.
- Braun, V., & Clarke, V. (2012). Thematic analysis. In *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp. 57-71). American Psychological Association. <https://doi.org/10.1037/13620-004>
- Carroll, N., Conboy, K., & Wang, X. (2023). From transformation to normalisation: An exploratory study of a large-scale agile transformation. *Journal of Information Technology*, 38(3), 267-303.
- Cooper, R., & Foster, M. (1971). Sociotechnical systems. *American Psychologist*, 26(5), 467-474.
- Darke, P., Shanks, G., & Broadbent, M. (1998). Successfully completing case study research: Combining rigour, relevance and pragmatism. *Information Systems Journal*, 8(4), 273-289. <https://doi.org/https://doi.org/10.1046/j.1365-2575.1998.00040.x>
- Deacon, B., Laufer, M., & Schäfer, L. O. (2023). Infusing educational technologies in the heart of the university—A systematic literature review from an organisational perspective. *British Journal of Educational Technology*, 54(2), 441-466. <https://doi.org/https://doi.org/10.1111/bjet.13277>
- Dinter, B. (2013). Success factors for information logistics strategy — An empirical investigation. *Decision Support Systems*, 54(3), 1207-1218. <https://doi.org/https://doi.org/10.1016/j.dss.2012.09.001>
- Dobrev, K., & Hart, M. (2015). Benefits, justification and implementation planning of real-time business intelligence systems. *Electronic Journal of Information Systems Evaluation*, 18(2), 104-118.
- Eder, F., & Koch, S. (2018). Critical success factors for the implementation of business intelligence systems. *International Journal of Business Intelligence Research (IJBIR)*, 9(2), 27-46. <https://doi.org/10.4018/IJBIR.2018070102>
- Eisenhardt, K. M. (1991). Better stories and better constructs: The case for rigor and comparative logic. *Academy of Management Review*, 16(3), 620-627. <https://doi.org/10.5465/amr.1991.4279496>
- Figalist, I., Elsner, C., Bosch, J., & Olsson, H. H. (2022). Breaking the vicious circle: A case study on why AI for software analytics and business intelligence does not take off in practice. *Journal of Systems and Software*, 184, 1-16. <https://doi.org/https://doi.org/10.1016/j.jss.2021.111135>
- Fink, A. (2020). *Conducting research literature reviews: From the internet to paper* (5th ed.). Sage publications.

- Foshay, N., & Kuziemy, C. (2014). Towards an implementation framework for business intelligence in healthcare. *International Journal of Information Management*, 34(1), 20-27. <https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2013.09.003>
- Gangadharan, G. R., & Swami, S. N. (2004). Business intelligence systems: Design and implementation strategies. *Proceedings of the 26th International Conference on Information Technology Interfaces*, 1, 139-144.
- Gaurav, J., & Kongar, E. (2021). Value creation via accelerated digital transformation. *IEEE Engineering Management Review*, 49(2), 63-72. <https://doi.org/10.1109/EMR.2021.3054813>
- Ghafoori, A., Gupta, M., Merhi, M. I., Gupta, S., & Shore, A. P. (2024). Toward the role of organizational culture in data-driven digital transformation. *International Journal of Production Economics*, 271, 1-14. <https://doi.org/https://doi.org/10.1016/j.ijpe.2024.109205>
- Goede, R. (2021). Sustainable business intelligence systems: Modelling for the future. *Systems Research and Behavioral Science*, 38(5), 685-695. <https://doi.org/https://doi.org/10.1002/sres.2813>
- Graf, A., Waltermann, H., Müller, L., & Hess, T. (2023). Investigating the impact of digital transformation on organizational identity in an SME: Insights from an in-depth case study. *AMCIS 2023 Proceedings*, 9, 1-10.
- Grublješič, T., & Jaklič, J. (2015a). Business intelligence acceptance: The prominence of organizational factors. *Information Systems Management*, 32(4), 299-315. <https://doi.org/10.1080/10580530.2015.1080000>
- Grublješič, T., & Jaklič, J. (2015b). Conceptualization of the business intelligence extended use model. *Journal of Computer Information Systems*, 55(3), 72-82. <https://doi.org/10.1080/08874417.2015.11645774>
- Gupta, A., Singh, R. K., & Gupta, S. (2022). Developing human resource for the digitization of logistics operations: Readiness index framework. *International Journal of Manpower*, 43(2), 355-379. <https://doi.org/10.1108/IJM-03-2021-0175>
- Hanelt, A., Bohnsack, R., Marz, D., & Antunes Marante, C. (2021). A systematic review of the literature on digital transformation: Insights and implications for strategy and organizational change. *Journal of management studies*, 58(5), 1159-1197.
- Hautala-Kankaanpää, T. (2022). The impact of digitalization on firm performance: Examining the role of digital culture and the effect of supply chain capability. *Business Process Management Journal*, 28(8), 90-109. <https://doi.org/10.1108/BPMJ-03-2022-0122>
- Heavin, C., & Power, D. J. (2018). Challenges for digital transformation – Towards a conceptual decision support guide for managers. *Journal of Decision Systems*, 27(sup1), 38-45. <https://doi.org/10.1080/12460125.2018.1468697>
- Hess, T., Matt, C., Benlian, A., & Wiesböck, F. (2016). Options for formulating a digital transformation strategy. *MIS Quarterly Executive*, 15(2), 123-139.

- Hoang, T. G., & Bui, M. L. (2023). Business intelligence and analytic (BIA) stage-of-practice in micro-, small- and medium-sized enterprises (MSMEs). *Journal of Enterprise Information Management*, 36(4), 1080-1104. <https://doi.org/10.1108/JEIM-01-2022-0037>
- Hooi, L. W., & Chan, A. J. (2022). Innovative culture and rewards-recognition matter in linking transformational leadership to workplace digitalisation? *Leadership & Organization Development Journal*, 43(7), 1063-1079. <https://doi.org/10.1108/LODJ-07-2021-0349>
- Hung, S. Y., & Chen, K. (2020). The role of organizational support and problem space complexity on organizational performance-a business intelligence perspective. *Pacific Asia Journal of the Association for Information Systems*, 12(1), 1-27.
- Imran, F., Shahzad, K., Butt, A., & Kantola, J. (2021). Digital transformation of industrial organizations: Toward an integrated framework. *Journal of Change Management*, 21(4), 451-479.
- Kala Kamdjoug, J. R. (2024). Change management and digital transformation project success in SMEs located in the Democratic Republic of the Congo. *Journal of Enterprise Information Management*, 37(2), 580-605. <https://doi.org/10.1108/JEIM-09-2022-0340>
- Kane, G. (2019). The technology fallacy: People are the real key to digital transformation. *Research-Technology Management*, 62(6), 44-49. <https://doi.org/10.1080/08956308.2019.1661079>
- Kao, H. Y., Yu, M. C., Masud, M., Wu, W. H., Chen, L. J., & Wu, Y. C. J. (2016). Design and evaluation of hospital-based business intelligence system (HBIS): A foundation for design science research methodology. *Computers in Human Behavior*, 62, 495-505. <https://doi.org/https://doi.org/10.1016/j.chb.2016.04.021>
- Khojasteh, N., Ansari, R., & Abadi, H. R. D. (2013). A study of the influencing technological and technical factors successful implementation of business intelligence system in internet service providers companies. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(2), 125-132.
- Kiu, C. T. T., & Chan, J. H. (2024). Firm characteristics and the adoption of data analytics in performance management: A critical analysis of EU enterprises. *Industrial Management & Data Systems*, 124(2), 820-858. <https://doi.org/10.1108/IMDS-07-2023-0430>
- Kraus, S., Schiavone, F., Pluzhnikova, A., & Invernizzi, A. C. (2021). Digital transformation in healthcare: Analyzing the current state-of-research. *Journal of Business Research*, 123, 557-567. <https://doi.org/https://doi.org/10.1016/j.jbusres.2020.10.030>
- Kulkarni, U. R., Robles-Flores, J. A., & Popovič, A. (2017). Business intelligence capability: The effect of top management and the mediating roles of user participation and analytical decision making orientation. *Journal of the Association for Information Systems*, 18(7), 516-541.

- Kutnjak, A. (2021). Covid-19 accelerates digital transformation in industries: Challenges, issues, barriers and problems in transformation. *IEEE Access*, 9, 79373-79388. <https://doi.org/10.1109/ACCESS.2021.3084801>
- Lennerholt, C., Laere, J. V., & Söderström, E. (2023). Success factors for managing the SSBI challenges of the ACQUIRE framework. *Journal of Decision Systems*, 32(2), 491-512. <https://doi.org/10.1080/12460125.2022.2057006>
- Li, L., Tang, W., Zhou, H., & Yang, S. (2024). Digitalization and firm performance: The moderating role of top management team attributes. *IEEE Transactions on Engineering Management*, 71, 6595-6605. <https://doi.org/10.1109/TEM.2023.3242766>
- Martins, A., Bianchi de Aguiar, M. T., Sambento, M., & Branco, M. C. (2024). Business intelligence system adoption and the leveraging of reporting process capabilities. *Journal of Accounting & Organizational Change*. Advance online publication. <https://doi.org/10.1108/JAOC-11-2023-0204>
- McTaggart, V., & Loonam, J. (2024). Exploring top management support for digital transformation: A case study of a European financial services organization. *IEEE Transactions on Engineering Management*, 71, 13787-13801. <https://doi.org/10.1109/TEM.2023.3299033>
- Mittal, A., Kumar, V., Verma, P., & Singh, A. (2024). Evaluation of organizational variables of quality 4.0 in digital transformation: The study of an Indian manufacturing company. *The TQM Journal*, 36(1), 178-207. <https://doi.org/10.1108/TQM-07-2022-0236>
- Monaco, R., Bergaentzlé, C., Leiva Vilaplana, J. A., Ackom, E., & Nielsen, P. S. (2024). Digitalization of power distribution grids: Barrier analysis, ranking and policy recommendations. *Energy Policy*, 188, 1-20. <https://doi.org/https://doi.org/10.1016/j.enpol.2024.114083>
- N'Dri, A. B., & Su, Z. (2024). Successful configurations of technology–organization–environment factors in digital transformation: Evidence from exporting small and medium-sized enterprises in the manufacturing industry. *Information & Management*, 61(7), 1-21. <https://doi.org/https://doi.org/10.1016/j.im.2024.104030>
- Nahrkhalaji, S. S., Shafiee, S., Shafiee, M., & Hvam, L. (2018). Challenges of digital transformation: The case of the non-profit sector. *Proceedings of the 2018 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)*, 1245-1249.
- Okoli, C. (2015). A guide to conducting a standalone systematic literature review. *Communications of the Association for Information Systems*, 37(1), 879-910.
- Olexova, C. (2014). Business intelligence adoption: A case study in the retail chain. *WSEAS Transactions on Business and Economics*, 11(1), 95-106.
- Olszak, C. M. (2014). Business intelligence and analytics in organizations. In *Advances in ICT for business, industry and public sector* (pp. 89-109). Springer.

- Olszak, C. M. (2016). Toward better understanding and use of business intelligence in organizations. *Information Systems Management*, 33(2), 105-123.
<https://doi.org/10.1080/10580530.2016.1155946>
- Omrani, N., Rejeb, N., Maalaoui, A., Dabić, M., & Kraus, S. (2024). Drivers of digital transformation in SMEs. *IEEE Transactions on Engineering Management*, 71, 5030-5043. <https://doi.org/10.1109/TEM.2022.3215727>
- Porfirio, J. A., Felício, J. A., & Carrilho, T. (2024). Factors affecting digital transformation in banking. *Journal of Business Research*, 171, 1-9.
<https://doi.org/https://doi.org/10.1016/j.jbusres.2023.114393>
- Puklavec, B., Oliveira, T., & Popovič, A. (2018). Understanding the determinants of business intelligence system adoption stages. *Industrial Management & Data Systems*, 118(1), 236-261. <https://doi.org/10.1108/IMDS-05-2017-0170>
- Ramakrishnan, T., Khuntia, J., Kathuria, A., & Saldanha, T. J. (2020). An integrated model of business intelligence & analytics capabilities and organizational performance. *Communications of the Association for Information Systems*, 46(1), 722-750.
- Rathore, S., Panwar, A., & Soral, P. (2014). Critical factors for successful implementation of business analytics: Exploratory findings from select cases. *International Journal of Business Analytics and Intelligence*, 2(2), 11-23.
- Reis, J., & Melão, N. (2023). Digital transformation: A meta-review and guidelines for future research. *Heliyon*, 9(1), 1-19.
- Rodrigues, L. F., Oliveira, A., & Rodrigues, H. (2023). Technology management has a significant impact on digital transformation in the banking sector. *International Review of Economics & Finance*, 88, 1375-1388.
<https://doi.org/https://doi.org/10.1016/j.iref.2023.07.040>
- Rueckel, D., Muehlburger, M., & Koch, S. (2020). An updated framework of factors enabling digital transformation. *Pacific Asia Journal of the Association for Information Systems*, 12(4), 1-26.
- Saarikko, T., Westergren, U. H., & Blomquist, T. (2020). Digital transformation: Five recommendations for the digitally conscious firm. *Business Horizons*, 63(6), 825-839. <https://doi.org/https://doi.org/10.1016/j.bushor.2020.07.005>
- Saihi, A., Ben-Daya, M., & As'ad, R. (2024). Advancing maintenance digital transformation: A conceptual framework to guide its effective implementation. *IEEE Engineering Management Review*, 52(1), 121-150.
<https://doi.org/10.1109/EMR.2023.3331151>
- Saldanha, T. (2019). *Why digital transformations fail: The surprising disciplines of how to take off and stay ahead*. Berrett-Koehler Publishers.
- Sergei, T., Arkady, T., Natalya, L., Pathak, R., Samson, D., Husain, Z., & Sushil, S. (2023). Digital transformation enablers in high-tech and low-tech companies: A comparative analysis. *Australian Journal of Management*, 48(4), 801-843.
<https://doi.org/10.1177/03128962231157102>

- Tarutė, A., Duobienė, J., Klovienė, L., Vitkauskaitė, E., & Varaniūtė, V. (2018). Identifying factors affecting digital transformation of SMEs. *Proceedings of the 18th International Conference on Electronics Business*, 373-381.
- Thompson, J. (2022). A guide to abductive thematic analysis. *Qualitative Report*, 27(5), 1410-1421. <https://doi.org/https://doi.org/10.46743/2160-3715/2022.5340>
- Timmermans, S., & Tavory, I. (2012). Theory construction in qualitative research: From grounded theory to abductive analysis. *Sociological Theory*, 30(3), 167-186. <https://doi.org/10.1177/0735275112457914>
- Tsoy, M., & Staples, D. S. (2021). What are the critical success factors for agile analytics projects? *Information Systems Management*, 38(4), 324-341. <https://doi.org/10.1080/10580530.2020.1818899>
- Vallurupalli, V., & Bose, I. (2018). Business intelligence for performance measurement: A case based analysis. *Decision Support Systems*, 111, 72-85. <https://doi.org/https://doi.org/10.1016/j.dss.2018.05.002>
- Vercellis, C. (2011). *Business intelligence: Data mining and optimization for decision making*. John Wiley & Sons.
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems*, 28(2), 118-144.
- Vincent, S., & Wapshott, R. (2014). Critical realism and the organizational case study: A guide to discovering institutional mechanisms. In P. K. Edwards, J. O'Mahoney, & S. Vincent (Eds.), *Studying organizations using critical realism: A practical guide* (pp. 148-167). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199665525.001.0001>
- Weißmüller, K. S., Ritz, A., & Yerramsetti, S. (2023). Collaborating and co-creating the digital transformation: Empirical evidence on the crucial role of stakeholder demand from Swiss municipalities. *Public Policy and Administration*, 0(0), 1-28. <https://doi.org/10.1177/09520767231170100>
- Williams, R. A., Duman, G. M., Kongar, E., & Tenney, D. (2024). Understanding business intelligence implementation failure from technology, organization, and process perspectives. *IEEE Engineering Management Review*, 52(1), 151-176. <https://doi.org/10.1109/EMR.2023.3331247>
- Witschel, D., Baumann, D., & Voigt, K. I. (2022). How manufacturing firms navigate through stormy waters of digitalization: The role of dynamic capabilities, organizational factors and environmental turbulence for business model innovation. *Journal of Management & Organization*, 28(3), 681-714. <https://doi.org/10.1017/jmo.2022.44>
- Yang, Y., & Yee, R. W. Y. (2022). The effect of process digitalization initiative on firm performance: A dynamic capability development perspective. *International Journal of Production Economics*, 254, 1-11. <https://doi.org/https://doi.org/10.1016/j.ijpe.2022.108654>

- Yeoh, W., Koronios, A., & Gao, J. (2008). Managing the implementation of business intelligence systems: A critical success factors framework. *International Journal of Enterprise Information Systems (IJEIS)*, 4(3), 79-94.
- Yeoh, W., & Popovič, A. (2016). Extending the understanding of critical success factors for implementing business intelligence systems. *Journal of the Association for Information Science and Technology*, 67(1), 134-147.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications, Inc.
- Yoo, S., Lim, K., Jung, S. Y., Lee, K., Lee, D., Kim, S., Lee, H. Y., & Hwang, H. (2022). Examining the adoption and implementation of behavioral electronic health records by healthcare professionals based on the clinical adoption framework. *BMC Medical Informatics and Decision Making*, 22(1), 210.
<https://doi.org/10.1186/s12911-022-01959-7>
- Zeng, F., Chan, H. K., & Pawar, K. (2021). The effects of inter- and intraorganizational factors on the adoption of electronic booking systems in the maritime supply chain. *International Journal of Production Economics*, 236, 1-11.
<https://doi.org/https://doi.org/10.1016/j.ijpe.2021.108119>
- Zhang, W., Chu, J., Zhang, T., & Wang, Y. (2023). Identifying the factors influencing enterprise digital transformation intention: An empirical study based on net effects and joint effects. *Business Process Management Journal*, 29(7), 2107-2128.
<https://doi.org/10.1108/BPMJ-03-2023-0174>

Appendices

Appendix A: Thematic Analysis of SLR Dataset.

#	Author	Year	Title	Database	ABDC Rating	Industry	Theme – Organisational Factor	Sub-Theme – Organisational Factors	Theme – Challenges Identified
1	Yeoh & Popovič	2016	Extending the understanding of critical success factors for implementing business intelligence systems	Scopus	A*	Engineering	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Project Management & Adaptability - Resistance to Change
								- Clear Vision & Strategy	- Strategic Misalignment - Project Management & Adaptability
2	Arefin et al.	2015	The impact of business intelligence on organization's effectiveness: An empirical study	Google Scholar	B	Multiple	Organisational Leadership & Strategy	- Clear Vision & Strategy	- Strategic Misalignment - Project Management & Adaptability
							Organisational Structure	- Structural Design - Interdepartmental Collaboration	- Ineffective Communication & Collaboration - Resistance to Change
							Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change - Skill Gaps & Training Deficiencies - Data & Technological Capabilities
							Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities - Resource Constraints - Skill Gaps & Training Deficiencies
3	Puklavec et al.	2018	Understanding the determinants of business intelligence system adoption stages	EBSCO	A	SMEs	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Strategic Misalignment - Ineffective Communication & Collaboration - Employee Engagement

							Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change
							Organisational Resources & Capabilities	- Resource Foundation	- Resource Constraints - Data & Technological Capabilities - Skill Gaps & Training Deficiencies
4	Ain et al.	2019	Two decades of research on business intelligence system adoption, utilization and success – A systematic literature review	EBSCO	A*	Multiple	Organisational Leadership & Strategy	- Top Management Support - Clear Vision & Strategy	- Resource Constraints - Strategic Misalignment - Employee Engagement - Project Management & Adaptability
							Organisational Structure	- Interdepartmental Collaboration	- Ineffective Communication & Collaboration
							Organisational Culture	- Data-Driven Innovation & Agility - Shared Values	- Resistance to Change - Employee Engagement
							Organisational Resources & Capabilities	- Roles & Skills - Resource Foundation	- Resistance to Change - Skill Gaps & Training Deficiencies - Data & Technological Capabilities
5	Boyton et al.	2015	Suboptimal business intelligence implementations: Understanding and addressing the problems	Google Scholar	B	Multiple	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Employee Engagement - Project Management & Adaptability
								- Clear Vision & Strategy	- Strategic Misalignment
6	Porfirio et al.	2024	Factors affecting digital transformation in banking	Google Scholar	A	Finance	Organisational Culture	- Shared Values	- Ineffective Communication & Collaboration - Skill Gaps & Training Deficiencies
							Organisational Leadership & Strategy	- Top Management Support	- Project Management & Adaptability - Employee Engagement

							Organisational Resources & Capabilities	- Resource Foundation	- Resource Constraints - Strategic Misalignment
7	Omrani et al.	2024	Drivers of digital transformation in SMEs	IEEE	A	SMEs	Organisational Culture	- Data-Driven Innovation & Agility - Shared Values	- Resistance to Change - Project Management & Adaptability - Strategic Misalignment - Ineffective Communication & Collaboration
							Organisational Resources & Capabilities	- Roles & Skills - Resource Foundation	- Skill Gaps & Training Deficiencies - Resource Constraints
							Organisational Leadership & Strategy	- Clear Vision & Strategy	- Project Management & Adaptability - Resistance to Change - Strategic Misalignment
							Organisational Structure	- Interdepartmental Collaboration	- Data & Technological Capabilities - Resistance to Change - Ineffective Communication & Collaboration
8	Hanelt et al.	2021	A systematic review of the literature on digital transformation: Insights and implications for strategy and organizational change	Google Scholar	A*	Multiple	Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change - Project Management & Adaptability - Strategic Misalignment
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies
							Organisational Leadership & Strategy	- Clear Vision & Strategy	- Resource Constraints - Project Management & Adaptability - Resistance to Change
							Organisational Structure	- Interdepartmental Collaboration	- Resistance to Change - Skill Gaps & Training Deficiencies
9	Kraus et al.	2021	Digital transformation in healthcare: Analyzing	Scopus	A	Healthcare	Organisational Culture	- Shared Values	- Resistance to Change

			the current state-of-research						- Skill Gaps & Training Deficiencies
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies
							Organisational Leadership & Strategy	- Clear Vision & Strategy	- Project Management & Adaptability - Resource Constraints
							Organisational Structure	- Structural Design	- Ineffective Communication & Collaboration - Resistance to Change
10	N'Dri & Su	2024	Successful configurations of technology–organization–environment factors in digital transformation: Evidence from exporting small and medium-sized enterprises in the manufacturing industry	Google Scholar	A*	SMEs	Organisational Leadership & Strategy	- Top Management Support	- Strategic Misalignment - Resistance to Change
								- Clear Vision & Strategy	- Data & Technological Capabilities - Project Management & Adaptability
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies
11	Zhang et al.	2023	Identifying the factors influencing enterprise digital transformation intention: An empirical study based on net effects and joint effects	Google Scholar	B	SMEs	Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies - Resistance to Change
								- Resource Foundation	- Resource Constraints - Data & Technological Capabilities
							Organisational Culture	- Shared Values	- Ineffective Communication & Collaboration - Strategic Misalignment
12	Sergei et al.	2023	Digital transformation enablers in high-tech and low-tech companies: A comparative analysis	Scopus	A	Manufacturing	Organisational Structure	- Structural Design	- Resistance to Change - Project Management & Adaptability - Employee Engagement
							Organisational Leadership & Strategy	- Clear Vision & Strategy	- Strategic Misalignment - Data & Technological Capabilities

								- Top Management Support	- Employee Engagement - Resistance to Change - Resource Constraints
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies
							Organisational Culture	- Data-Driven Innovation & Agility	- Strategic Misalignment
13	Weißmüller et al.	2023	Collaborating and co-creating the digital transformation: Empirical evidence on the crucial role of stakeholder demand from Swiss municipalities	Scopus	B	Public Administration	Organisational Leadership & Strategy	- Clear Vision & Strategy	- Project Management & Adaptability - Resource Constraints - Employee Engagement
							Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities
							Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to change - Skill Gaps & Training Deficiencies
14	Yang & Yee	2022	The effect of process digitalization initiative on firm performance: A dynamic capability development perspective	Scopus	A	Manufacturing	Organisational Leadership & Strategy	- Clear Vision & Strategy	- Project Management & Adaptability - Employee Engagement
							Organisational Resources & Capabilities	- Resource Foundation	- Resource Constraints - Project Management & Adaptability
								- Roles & Skills	- Ineffective Communication & Collaboration - Resistance to Change
15	Alos-Simo et al.	2017	How transformational leadership facilitates e-business adoption	Scopus	A	Manufacturing	Organisational Leadership & Strategy	- Top Management Support	- Resistance to Change - Employee Engagement
							Organisational Culture	- Data-Driven Innovation & Agility	- Ineffective Communication & Collaboration - Resistance to Change - Employee Engagement
16	Deacon et al.	2023	Infusing educational technologies in the heart of the university—	Scopus	A	Higher Education	Organisational Leadership & Strategy	- Top Management Support	- Resistance to Change - Strategic Misalignment

			A systematic literature review from an organisational perspective				Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities - Resource Constraints - Skill Gaps & Training Deficiencies
							Organisational Culture	- Shared Values	- Employee Engagement - Resistance to Change
17	Hooi & Chan	2022	Innovative culture and rewards-recognition matter in linking transformational leadership to workplace digitalisation?	Scopus	B	Multiple	Organisational Leadership & Strategy	- Top Management Support	- Employee Engagement - Resistance to Change - Project Management & Adaptability
							Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change - Project Management & Adaptability - Ineffective Communication & Collaboration
								- Shared Values	- Strategic Misalignment - Project Management & Adaptability
18	Gupta et al.	2022	Developing human resource for the digitization of logistics operations: Readiness index framework	Scopus	A	Logistics	Organisational Culture	- Data-Driven Innovation & Agility	- Employee Engagement - Resistance to Change - Ineffective Communication & Collaboration
							Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Project Management & Adaptability
								- Clear Vision & Strategy	- Resource Constraints - Strategic Misalignment
							Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities - Skill Gaps & Training Deficiencies
								- Roles & Skills	- Data & Technological Capabilities - Skill Gaps & Training Deficiencies - Resistance to Change

							Organisational Structure	- Structural Design	- Ineffective Communication & Collaboration - Data & Technological Capabilities
19	Zeng et al.	2021	The effects of inter- and intraorganizational factors on the adoption of electronic booking systems in the maritime supply chain	Scopus	A	Logistics	Organisational Leadership & Strategy	- Top Management Support	- Resistance to Change - Resource Constraints
							Organisational Resources & Capabilities	- Resource Foundation	- Resource Constraints - Employee Engagement - Resistance to Change
20	Foshay & Kuziemy	2014	Towards an implementation framework for business intelligence in healthcare	EBSCO	A*	Healthcare	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Ineffective Communication & Collaboration - Strategic Misalignment
								- Clear Vision & Strategy	- Resistance to Change
							Organisational Culture	- Data-Driven Innovation & Agility	- Skill Gaps & Training Deficiencies - Employee Engagement
							Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities
- Roles & Skills	- Project Management & Adaptability - Ineffective Communication & Collaboration								
21	Kiu & Chan	2024	Firm characteristics and the adoption of data analytics in performance management: A critical analysis of EU enterprises	EBSCO	A	Multiple	Organisational Structure	- Structural Design	- Resource Constraints - Resistance to Change
								- Interdepartmental Collaboration	- Data & Technological Capabilities - Project Management & Adaptability
							Organisational Culture	- Shared Values	- Ineffective Communication & Collaboration - Resistance to Change
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies - Employee Engagement - Resistance to Change

							Organisational Leadership & Strategy	- Top Management Support	- Strategic Misalignment - Project Management & Adaptability
22	Vallurupalli & Bose	2018	Business intelligence for performance measurement: A case based analysis	EBSCO	A*	Manufacturing	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Resistance to Change - Project Management & Adaptability - Ineffective Communication & Collaboration - Employee Engagement - Skill Gaps & Training Deficiencies
								- Clear Vision & Strategy	- Project Management & Adaptability - Strategic Misalignment - Resource Constraints
							Organisational Culture	- Data-Driven Innovation & Agility	- Employee Engagement - Resistance to Change
							Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities - Resistance to Change - Strategic Misalignment
23	Dinter	2013	Success factors for information logistics strategy — An empirical investigation	EBSCO	A*	Multiple	Organisational Leadership & Strategy	- Clear Vision & Strategy	- Resource Constraints - Strategic Misalignment
								- Top Management Support	- Strategic Misalignment - Resource Constraints - Employee Engagement
							Organisational Structure	- Structural Design	- Ineffective Communication & Collaboration - Resistance to Change
								- Interdepartmental Collaboration	- Project Management & Adaptability - Ineffective Communication & Collaboration
							Organisational Culture	- Shared Values	- Strategic Misalignment - Employee Engagement

							Organisational Resources & Capabilities	- Roles & Skills	- Project Management & Adaptability - Resource Constraints - Resistance to Change
24	Grublješič & Jaklič	2015	Business intelligence acceptance: The prominence of organizational factors	EBSCO	B	Multiple	Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change - Project Management & Adaptability - Data & Technological Capabilities - Ineffective Communication & Collaboration
								- Shared Values	- Resistance to Change - Ineffective Communication & Collaboration - Skill Gaps & Training Deficiencies
							Organisational Leadership & Strategy	- Top Management Support	- Strategic Misalignment - Resistance to Change
							Organisational Resources & Capabilities	- Roles & Skills	- Resource Constraints - Skill Gaps & Training Deficiencies - Resistance to Change - Employee Engagement
25	Lennerholt et al.	2023	Success factors for managing the SSBI challenges of the AQUIRE framework	EBSCO	B	Not specified	Organisational Culture	- Shared Values	- Employee Engagement - Resistance to Change
							Organisational Resources & Capabilities	- Roles & Skills	- Employee Engagement - Skill Gaps & Training Deficiencies - Resistance to Change
								- Resource Foundation	- Data & Technological Capabilities
							Organisational Structure	- Structural Design	- Ineffective Communication & Collaboration - Strategic Misalignment - Resistance to Change

								- Interdepartmental Collaboration	- Resistance to Change - Data & Technological Capabilities
							Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Resistance to Change - Project Management & Adaptability - Strategic Misalignment
26	Hoang & Bui	2023	Business intelligence and analytic (BIA) stage-of-practice in micro-, small- and medium-sized enterprises (MSMEs)	EBSCO	A	SMEs	Organisational Leadership & Strategy	- Top Management Support - Clear Vision & Strategy	- Resource Constraints - Resistance to Change - Employee Engagement - Strategic Misalignment - Skill Gaps & Training Deficiencies
							Organisational Resources & Capabilities	- Roles & Skills	- Data & Technological Capabilities - Skill Gaps & Training Deficiencies - Resistance to Change
								- Resource Foundation	- Data & Technological Capabilities - Resistance to Change
							Organisational Structure	- Interdepartmental Collaboration	- Resistance to Change - Strategic Misalignment - Skill Gaps & Training Deficiencies
27	Kulkarni et al.	2017	Business intelligence capability: The effect of top management and the mediating roles of user participation and analytical decision making orientation	EBSCO	A*	Multiple	Organisational Leadership & Strategy	- Top Management Support	- Employee Engagement - Data & Technological Capabilities
							Organisational Culture	- Shared Values	- Employee Engagement - Resistance to Change
								- Data-Driven Innovation & Agility	- Strategic Misalignment - Resistance to Change
28	Olszak	2016	Toward better understanding and use of business intelligence in organizations	EBSCO	B	Multiple	Organisational Leadership & Strategy	- Top Management Support	- Resistance to Change - Resource Constraints - Project Management & Adaptability

								- Employee Engagement	
							- Clear Vision & Strategy	- Strategic Misalignment - Resource Constraints	
						Organisational Culture	- Data-Driven Innovation & Agility	- Ineffective Communication & Collaboration - Employee Engagement - Resistance to Change	
						Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies - Employee Engagement	
							- Resource Foundation	- Project Management & Adaptability - Data & Technological Capabilities - Skill Gaps & Training Deficiencies	
29	Batra	2018	Agile values or plan-driven aspects: Which factor contributes more toward the success of data warehousing, business intelligence, and analytics project development?	EBSCO	B	Multiple	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Project Management & Adaptability
							Organisational Culture	- Shared Values	- Ineffective Communication & Collaboration - Project Management & Adaptability - Strategic Misalignment
							Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities
30	Tsoy & Staples	2021	What are the critical success factors for agile analytics projects?	EBSCO	B	Finance	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Strategic Misalignment - Resistance to Change
							Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change - Strategic Misalignment - Data & Technological Capabilities
								- Shared Values	- Ineffective Communication & Collaboration - Employee Engagement

									- Skill Gaps & Training Deficiencies	
31	Grublješič & Jaklič	2015	Conceptualization of the business intelligence extended use model	EBSCO	A	Multiple	Organisational Leadership & Strategy	- Top Management Support	- Strategic Misalignment - Resistance to Change	
								- Clear Vision & Strategy	- Strategic Misalignment - Employee Engagement - Data & Technological Capabilities	
							Organisational Culture	- Data-Driven Innovation & Agility	- Ineffective Communication & Collaboration - Skill Gaps & Training Deficiencies	
								- Shared Values	- Resistance to Change - Skill Gaps & Training Deficiencies	
Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies - Employee Engagement								
32	Figaliet al.	2022	Breaking the vicious circle: A case study on why AI for software analytics and business intelligence does not take off in practice	EBSCO	B	Engineering	Organisational Leadership & Strategy	- Top Management Support	- Employee Engagement - Resource Constraints - Project Management & Adaptability	
								Organisational Culture	- Shared Values - Data-Driven Innovation & Agility	- Skill Gaps & Training Deficiencies - Strategic Misalignment
									Organisational Resources & Capabilities	- Resource Foundation - Roles & Skills
33	Batra	2017	Adapting agile practices for data warehousing, business intelligence, and analytics	EBSCO	A	Multiple	Organisational Leadership & Strategy	- Top Management Support	- Strategic Misalignment - Resource Constraints - Employee Engagement	
								Organisational Culture	- Shared Values	- Strategic Misalignment - Project Management & Adaptability

									- Ineffective Communication & Collaboration
							Organisational Resources & Capabilities	- Resource Foundation	- Resource Constraints - Data & Technological Capabilities
							Organisational Structure	- Structural Design	- Project Management & Adaptability - Ineffective Communication & Collaboration - Resistance to Change
								- Interdepartmental Collaboration	- Ineffective Communication & Collaboration - Resistance to Change
34	Hung & Chen	2020	The role of organizational support and problem space complexity on organizational performance - A business intelligence perspective	AIS eLibrary	B	Not specified	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Skill Gaps & Training Deficiencies
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies - Ineffective Communication & Collaboration
35	Carroll et al.	2023	From transformation to normalisation: An exploratory study of a large-scale agile transformation	AIS eLibrary	A*	Finance	Organisational Leadership & Strategy	- Clear Vision & Strategy	- Resistance to Change - Strategic Misalignment - Skill Gaps & Training Deficiencies
							Organisational Culture	- Shared Values	- Employee Engagement - Ineffective Communication & Collaboration - Resistance to Change
								- Interdepartmental Collaboration	- Skill Gaps & Training Deficiencies - Ineffective Communication & Collaboration
36	Rodrigues et al.	2023	Technology management has a significant impact on	EBSCO	A	Finance	Organisational Structure	- Structural Design - Interdepartmental Collaboration	- Project Management & Adaptability - Ineffective Communication & Collaboration

			digital transformation in the banking sector				Organisational Resources & Capabilities	- Roles & Skills - Resource Foundation	- Skill Gaps & Training Deficiencies - Resistance to Change - Data & Technological Capabilities - Resource Constraints
							Organisational Leadership & Strategy	- Clear Vision & Strategy	- Resource Constraints - Strategic Misalignment - Resistance to Change
							Organisational Culture	- Shared Values	- Resistance to Change - Skill Gaps & Training Deficiencies
37	Witschel et al.	2022	How manufacturing firms navigate through stormy waters of digitalization: The role of dynamic capabilities, organizational factors and environmental turbulence for business model innovation	EBSCO	B	Manufacturing	Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities - Resistance to Change
							Organisational Culture	- Data-Driven Innovation & Agility	- Project Management & Adaptability - Strategic Misalignment
							Organisational Leadership & Strategy	- Top Management Support - Clear Vision & Strategy	- Resistance to Change - Employee Engagement - Strategic Misalignment - Project Management & Adaptability
							Organisational Structure	- Interdepartmental Collaboration	- Resource Constraints - Project Management & Adaptability - Ineffective Communication & Collaboration
38	Mittal et al.	2024	Evaluation of organizational variables of quality 4.0 in digital transformation: The study of an Indian manufacturing company	EBSCO	B	Manufacturing	Organisational Leadership & Strategy	- Top Management Support	- Strategic Misalignment - Resource Constraints - Skill Gaps & Training Deficiencies - Employee Engagement
							Organisational Structure	- Interdepartmental Collaboration	- Ineffective Communication & Collaboration - Employee Engagement - Resistance to Change

							Organisational Culture	- Shared Values	- Resistance to Change - Project Management & Adaptability - Employee Engagement
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies - Project Management & Adaptability - Resistance to Change
39	Alnoor et al.	2024	Unveiling the determinants of digital strategy from the perspective of entrepreneurial orientation theory: A two-stage SEM-ANN approach	EBSCO	A	Manufacturing	Organisational Culture	- Data-Driven Innovation & Agility	- Project Management & Adaptability - Strategic Misalignment
							Organisational Structure	- Interdepartmental Collaboration	- Strategic Misalignment - Ineffective Communication & Collaboration
							Organisational Leadership & Strategy	- Clear Vision & Strategy	- Data & Technological Capabilities - Strategic Misalignment
40	Hautala-Kankaanpä ä	2022	The impact of digitalization on firm performance: Examining the role of digital culture and the effect of supply chain capability	EBSCO	B	Manufacturing	Organisational Culture	- Data-Driven Innovation & Agility - Shared Values	- Resistance to Change
41	Kala Kamdjoug	2024	Change management and digital transformation project success in SMEs located in the Democratic Republic of the Congo	EBSCO	A	SMEs	Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies - Resistance to Change
							Organisational Leadership & Strategy	- Clear Vision & Strategy	- Strategic Misalignment - Data & Technological Capabilities - Resource Constraints
								- Top Management Support	- Strategic Misalignment
42	Monaco et al.	2024	Digitalization of power distribution grids: Barrier analysis, ranking	EBSCO	A	Electricity	Organisational Structure	- Interdepartmental Collaboration	- Ineffective Communication & Collaboration - Data & Technological Capabilities

			and policy recommendations						- Strategic Misalignment
							Organisational Leadership & Strategy	- Top Management Support	- Resistance to Change - Employee Engagement - Project Management & Adaptability
							Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities - Ineffective Communication & Collaboration
								- Roles & Skills	- Skill Gaps & Training Deficiencies
							Organisational Culture	- Data-Driven Innovation & Agility	- Strategic Misalignment - Resistance to Change - Ineffective Communication & Collaboration
43	Ghafoori et al.	2024	Toward the role of organizational culture in data-driven digital transformation	EBSCO	A	Manufacturing	Organisational Culture	- Shared Values	- Ineffective Communication & Collaboration - Resistance to Change
								- Data-Driven Innovation & Agility	- Resistance to Change - Strategic Misalignment
							Organisational Leadership & Strategy	- Top Management Support	- Strategic Misalignment - Resistance to Change - Skill Gaps & Training Deficiencies
								- Clear Vision & Strategy	- Project Management & Adaptability
							Organisational Structure	- Structural Design	- Ineffective Communication & Collaboration
44	McTaggart & Loonam	2024	Exploring top management support for digital transformation: A case study of a European financial services organization	IEEE	A	Finance	Organisational Leadership & Strategy	- Top Management Support	- Resistance to Change - Ineffective Communication & Collaboration
								- Clear Vision & Strategy	- Strategic Misalignment - Employee Engagement
							Organisational Culture	- Data-Driven Innovation & Agility	- Strategic Misalignment - Skill Gaps & Training Deficiencies - Employee Engagement

							Organisational Structure	- Structural Design	- Project Management & Adaptability - Strategic Misalignment - Ineffective Communication & Collaboration
45	Gaurav & Kongar	2021	Value creation via accelerated digital transformation	IEEE	A	Finance	Organisational Culture	- Data-Driven Innovation & Agility	- Skill Gaps & Training Deficiencies - Employee Engagement
								- Shared Values	- Resistance to Change - Skill Gaps & Training Deficiencies
							Organisational Structure	- Structural Design	- Ineffective Communication & Collaboration - Project Management & Adaptability
							Organisational Leadership & Strategy	- Top Management Support - Clear Vision & Strategy	- Strategic Misalignment - Skill Gaps & Training Deficiencies - Strategic Misalignment
46	Kutnjak	2021	Covid-19 accelerates digital transformation in industries: Challenges, issues, barriers and problems in transformation	IEEE	A	Multiple		Organisational Resources & Capabilities	- Roles & Skills
							Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change - Data & Technological Capabilities
							Organisational Leadership & Strategy	- Clear Vision & Strategy - Top Management Support	- Resource Constraints - Strategic Misalignment
47	Saihi et al.	2024	Advancing maintenance digital transformation: A conceptual framework to guide its effective implementation	IEEE	A	Multiple	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Project Management & Adaptability - Strategic Misalignment - Ineffective Communication & Collaboration
								Organisational Resources & Capabilities	- Roles & Skills

								- Resource Foundation	- Data & Technological Capabilities
							Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change - Ineffective Communication & Collaboration - Skill Gaps & Training Deficiencies
48	Li et al.	2024	Digitalization and firm performance: The moderating role of top management team attributes	IEEE	A	Multiple	Organisational Leadership & Strategy	- Clear Vision & Strategy	- Ineffective Communication & Collaboration
							Organisational Structure	- Interdepartmental Collaboration	- Ineffective Communication & Collaboration
49	Martins et al.	2024	Business intelligence system adoption and the leveraging of reporting process capabilities	Scopus	B	Engineering	Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change - Ineffective Communication & Collaboration - Project Management & Adaptability
							Organisational Resources & Capabilities	- Resource Foundation	- Project Management & Adaptability - Resource Constraints - Skill Gaps & Training Deficiencies
							Organisational Structure	- Structural Design	- Skill Gaps & Training Deficiencies - Project Management & Adaptability
							Organisational Leadership & Strategy	- Data-Driven Innovation & Agility	- Resource Constraints - Skill Gaps & Training Deficiencies - Strategic Misalignment
50	Yoo et al.	2022	Examining the adoption and implementation of behavioral electronic health records by healthcare professionals based on	Springer	B	Healthcare	Organisational Leadership & Strategy	- Top Management Support	- Skill Gaps & Training Deficiencies - Employee Engagement - Resource Constraints
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies

			the clinical adoption framework						
51	Goede	2021	Sustainable business intelligence systems: Modelling for the future	Scopus	A	Not specified	Organisational Leadership & Strategy	- Clear Vision & Strategy	- Resistance to Change - Ineffective Communication & Collaboration - Project Management & Adaptability
								- Top Management Support	- Strategic Misalignment - Resistance to Change - Ineffective Communication & Collaboration
							Organisational Culture	- Shared Values	- Resistance to Change - Strategic Misalignment - Employee Engagement - Project Management & Adaptability
							Organisational Resources & Capabilities	- Resource Foundation	- Data & Technological Capabilities - Skill Gaps & Training Deficiencies
								- Roles & Skills	- Skill Gaps & Training Deficiencies - Resource Constraints
52	Kao et al.	2016	Design and evaluation of hospital-based business intelligence system (HBIS): A foundation for design science research methodology	Scopus	A	Healthcare	Organisational Leadership & Strategy	- Top Management Support	- Resource Constraints - Strategic Misalignment - Resistance to Change - Employee Engagement
								Organisational Culture	- Shared Values
									- Data-Driven Innovation & Agility
							Organisational Structure	- Interdepartmental Collaboration	- Ineffective Communication & Collaboration

									- Skill Gaps & Training Deficiencies
53	Hess et al.	2016	Options for formulating a digital transformation strategy	Google Scholar	A	Media	Organisational Leadership & Strategy	- Top Management Support	- Strategic Misalignment - Project Management & Adaptability - Resistance to Change
								- Clear Vision & Strategy	- Project Management & Adaptability - Resource Constraints - Ineffective Communication & Collaboration - Skill Gaps & Training Deficiencies - Resistance to Change
							Organisational Structure	- Structural Design - Interdepartmental Collaboration	- Resistance to Change - Ineffective Communication & Collaboration
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies - Project Management & Adaptability
54	Heavin & Power	2018	Challenges for digital transformation – Towards a conceptual decision support guide for managers	Google Scholar	B	Multiple	Organisational Leadership & Strategy	- Top Management Support	- Employee Engagement - Strategic Misalignment - Resistance to Change - Resource Constraints
								- Clear Vision & Strategy	- Employee Engagement - Resistance to Change - Strategic Misalignment
							Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change - Employee Engagement - Ineffective Communication & Collaboration
							Organisational Resources & Capabilities	- Roles & Skills	- Skill Gaps & Training Deficiencies - Resistance to Change
55	Rueckel et al.	2020		AIS Library	B	Multiple	Organisational Culture	- Data-Driven Innovation & Agility	- Resistance to Change

			An updated framework of factors enabling digital transformation					<ul style="list-style-type: none"> - Skill Gaps & Training Deficiencies - Project Management & Adaptability 	
							- Shared Values	<ul style="list-style-type: none"> - Skill Gaps & Training Deficiencies - Employee Engagement 	
						Organisational Structure	- Interdepartmental Collaboration	<ul style="list-style-type: none"> - Strategic Misalignment - Data & Technological Capabilities - Ineffective Communication & Collaboration 	
						Organisational Leadership & Strategy	- Clear Vision & Strategy	<ul style="list-style-type: none"> - Resource Constraints - Strategic Misalignment - Project Management & Adaptability 	
							- Top Management Support	<ul style="list-style-type: none"> - Resistance to Change - Employee Engagement 	
						Organisational Resources & Capabilities	- Resource Foundation	<ul style="list-style-type: none"> - Project Management & Adaptability - Data & Technological Capabilities - Resource Constraints - Skill Gaps & Training Deficiencies 	
							- Roles & Skills	<ul style="list-style-type: none"> - Skill Gaps & Training Deficiencies - Data & Technological Capabilities - Strategic Misalignment 	
56	Kane	2019	The technology fallacy: People are the real key to digital transformation	Google Scholar	A	Multiple	Organisational Culture	- Data-Driven Innovation & Agility	<ul style="list-style-type: none"> - Project Management & Adaptability - Resistance to Change
							Organisational Structure	- Interdepartmental Collaboration	<ul style="list-style-type: none"> - Strategic Misalignment - Ineffective Communication & Collaboration

							Organisational Leadership & Strategy	- Top Management Support	- Employee Engagement - Project Management & Adaptability
57	Saarikko et al.	2020	Digital transformation: Five recommendations for the digitally conscious firm	Google Scholar	B	Multiple	Organisational Culture	- Shared Values	- Resistance to Change - Employee Engagement - Ineffective Communication & Collaboration
							Organisational Leadership & Strategy	- Clear Vision & Strategy	- Strategic Misalignment - Resistance to Change - Project Management & Adaptability - Resource Constraints

Appendix B: Thematic Analysis of Case Study Dataset.

Data Sources ※	Summary of Observations	Theme – Organisational Factor	Sub-Theme – Organisational Factors	Theme – Challenges Identified
Structure Chart	- Inclusion of leadership team throughout the project.	Organisational Leadership & Strategy	Top Management Support	- Resource Constraints - Strategic Misalignment - Employee Engagement
	- Internal capability – technical & non-technical skill roles available within the company.	Organisational Resources & Capabilities	Roles & Skills	- Data & Technological Capabilities - Resource Constraints
	- Dedicated team to focus on project.	Organisational Structure	Structural Design	- Skill Gaps & Training Deficiencies - Project Management & Adaptability
	- Project team consists of Leadership, Transformation, IT staff. End-product for Customer Engagement & Product-Air team users (Consultants).		Interdepartmental Collaboration	- Ineffective Communication & Collaboration - Employee Engagement Resistance to Change
Project Proposal - Outline	- List of stakeholders with clear responsibilities defined. No reliance on external resources.	Organisational Resources & Capabilities	Roles & Skills	- Resistance to Change - Skill Gaps & Training Deficiencies - Data & Technological Capabilities
	- Stakeholders from Leadership, Transformation, IT, Customer Engagement, and Product-Air team staff.	Organisational Structure	Interdepartmental Collaboration	- Ineffective Communication & Collaboration - Project Management & Adaptability
	- Clear objective – problem identified & why solution is required.	Organisational Leadership & Strategy	Clear Vision & Strategy	- Strategic Misalignment - Employee Engagement
	- Involvement of Product Owners.			- Strategic Misalignment - Project Management & Adaptability

	- Active commitment from the IT Governance Board.		Top Management Support	- Resource Constraints - Strategic Misalignment - Employee Engagement - Resistance to Change
	- Shared understanding of project values facilitated through Product Owners.	Organisational Culture	Shared Values	- Employee Engagement - Ineffective Communication & Collaboration - Project Management & Adaptability - Resistance to Change
Project Proposal - Outline, Operations Manual	- The scope and purpose clearly documented.	Organisational Leadership & Strategy	Clear Vision & Strategy	- Strategic Misalignment - Project Management & Adaptability
Meeting Schedule	- Daily standups involving project delivery team.	Organisational Structure	Interdepartmental Collaboration	- Ineffective Communication & Collaboration - Project Management & Adaptability - Employee Engagement
	- Fortnightly sprint planning – involving all stakeholders to align on priorities.	Organisational Culture	Data-Driven Innovation & Agility	- Strategic Misalignment - Ineffective Communication & Collaboration - Resistance to Change
	- Fortnightly governance sessions – involving all stakeholders to share project updates.	Organisational Leadership & Strategy	Top Management Support	- Resource Constraints - Strategic Misalignment - Employee Engagement
Project Management Plan	- Agile methodology – Kanban boards and user stories used for projects under 6 months.	Organisational Culture	Data-Driven Innovation & Agility	- Strategic Misalignment - Ineffective Communication & Collaboration - Employee Engagement
Project Roadmap	- Milestones – Incremental delivery and timely execution Objectives aligned with the business’s strategic goals.	Organisational Leadership & Strategy	Clear Vision & Strategy	- Strategic Misalignment - Project Management & Adaptability
	- Organisation values clear, measurable progress and aims to provide tangible results throughout the project. - Automation and Efficiency Focus for process automation.	Organisational Culture	Shared Values	- Employee Engagement - Ineffective Communication & Collaboration - Resistance to Change

	<ul style="list-style-type: none"> - Continuous improvement with data-driven innovation mindset – subsequent extension of the solution to other channels. 		Data-Driven Innovation & Agility	- Strategic Misalignment
	<ul style="list-style-type: none"> - Scalable Implementation – roll out to internal operations first then, success extended to online and retails through separate projects. 	Organisational Resources & Capabilities	Resource Foundation	<ul style="list-style-type: none"> - Data & Technological Capabilities - Skill Gaps & Training Deficiencies
Project Overview presentation slides	<ul style="list-style-type: none"> - Detailed explanation of the new system with examples. 	Organisational Resources & Capabilities	Roles & Skills	<ul style="list-style-type: none"> - Skill Gaps & Training Deficiencies - Resistance to Change - Ineffective Communication & Collaboration
	<ul style="list-style-type: none"> - Open communication about project, sharing the progress. - Changes/updates performed to meet user demands. 	Organisational Structure	Interdepartmental Collaboration	<ul style="list-style-type: none"> - Ineffective Communication & Collaboration - Resistance to Change - Employee Engagement
	<ul style="list-style-type: none"> - Foster continuous learning through knowledge sharing. 	Organisational Culture	Data-Driven Innovation & Agility	<ul style="list-style-type: none"> - Strategic Misalignment - Ineffective Communication & Collaboration - Resistance to Change
Implementation Documentations	<ul style="list-style-type: none"> - Change management – documenting changes clearly. - Promote knowledge sharing between employees. 	Organisational Structure	Interdepartmental Collaboration	<ul style="list-style-type: none"> - Ineffective Communication & Collaboration - Resistance to Change
	<ul style="list-style-type: none"> - Internal capability – able to troubleshoot issues. 	Organisational Resources & Capabilities	Roles & Skills	<ul style="list-style-type: none"> - Skill Gaps & Training Deficiencies
UAT Instructions	<ul style="list-style-type: none"> - Step-by-step instructions for performing UAT provided to users involved in testing. - Continuous user support throughout the project. 	Organisational Resources & Capabilities	Roles & Skills	<ul style="list-style-type: none"> - Employee Engagement - Resistance to Change - Skill Gaps & Training Deficiencies
Implementation document, Testing Application with mock Service	<ul style="list-style-type: none"> - Knowledge sharing – codes of new system documented in detail. 	Organisational Resources & Capabilities	Roles & Skills	<ul style="list-style-type: none"> - Skill Gaps & Training Deficiencies - Resistance to Change - Ineffective Communication & Collaboration

	- Mock web service developed for testing how system behaves for different responses.	Organisational Culture	Data-Driven Innovation & Agility	- Ineffective Communication & Collaboration - Strategic Misalignment
Project Outline - Training, Operations Manual	- Demonstrations of how the new system works.	Organisational Resources & Capabilities	Roles & Skills	- Skill Gaps & Training Deficiencies - Resistance to Change
	- Manual created for knowledge sharing, record modifications. - Provides an in-depth explanation of the schedule change workflow, expanding on the functional specification.	Organisational Structure	Interdepartmental Collaboration	- Ineffective Communication & Collaboration - Resistance to Change
	- Operational Support Focus: Includes technical and customer support documentation tailored for operational support needs.	Organisational Leadership & Strategy	Clear Vision & Strategy	- Strategic Misalignment - Project Management & Adaptability - Resistance to Change
Time zone errors troubleshooting guide, Enhancement Communication	- Communication circulated to address the issue along with instructions on how to resolve. - Communication document shared to update the changes done to fix the issue. - Ongoing user support.	Organisational Structure	Interdepartmental Collaboration	- Ineffective Communication & Collaboration - Resistance to Change - Skill Gaps & Training Deficiencies
	- Issues encountered during implementation quickly resolved by internal team. - Responsive to issues and able to troubleshoot.	Organisational Resources & Capabilities	Roles & Skills	- Skill Gaps & Training Deficiencies - Resistance to Change - Ineffective Communication & Collaboration
Project Evaluation	- Clear objective – minimise manhours + improve customer experience	Organisational Leadership & Strategy	Clear Vision & Strategy	- Strategic Misalignment - Project Management & Adaptability
	- Usage observation & analysis to ensure the system functions as intended and to identify and resolve any issues that arise.	Organisational Culture	Data-Driven Innovation & Agility	- Resistance to Change - Ineffective Communication & Collaboration - Strategic Misalignment
	- Post-Implementation monitoring – observing system usage and performance. - Continuous improvement – gathering feedback to inform further improvements.	Organisational Resources & Capabilities	Roles & Skills	- Skill Gaps & Training Deficiencies - Resistance to Change - Employee Engagement

		Organisational Culture	Data-Driven Innovation & Agility	<ul style="list-style-type: none"> - Ineffective Communication & Collaboration - Strategic Misalignment - Resistance to Change
Company Background	<ul style="list-style-type: none"> - Dedicated for customer focus. - Transparency to customer. 	Organisational Leadership & Strategy	Clear Vision & Strategy	<ul style="list-style-type: none"> - Strategic Misalignment
	<ul style="list-style-type: none"> - Hands on account management service delivery approach – ensures adequate resource allocation. 		Top Management Support	<ul style="list-style-type: none"> - Resource Constraints - Strategic Misalignment - Resistance to Change - Employee Engagement
	<ul style="list-style-type: none"> - Use of technologies for streamlining processes to enhance performance & operational excellence (e.g. online booking tool supported by unique inhouse robotics, expense management system, and Analytics reporting tool Microsoft powered by PowerBI) 		Clear Vision & Strategy	<ul style="list-style-type: none"> - Strategic Misalignment - Project Management & Adaptability
	<ul style="list-style-type: none"> - Business owner & Managing Director active in day-to-day operations & customer relationships. 		Top Management Support	<ul style="list-style-type: none"> - Strategic Misalignment - Employee Engagement - Resistance to Change - Resource Constraints
	<ul style="list-style-type: none"> - Shared understanding of IT values – have dedicated IT business solutions team to support & exemplified through use of other digital technologies. 	Organisational Culture	Shared Values	<ul style="list-style-type: none"> - Employee Engagement - Ineffective Communication & Collaboration - Resistance to Change
Company Background, Structure Chart	<ul style="list-style-type: none"> - Flat organisational structure – unique Owner Operator Model. 	Organisational Structure	Structural Design	<ul style="list-style-type: none"> - Ineffective Communication & Collaboration - Strategic Misalignment - Resistance to Change - Employee Engagement
		Organisational Leadership & Strategy	Top Management Support	<ul style="list-style-type: none"> - Resource Constraints - Strategic Misalignment - Resistance to Change - Employee Engagement

	- Support from onsite IT business solutions team.	Organisational Structure	Structural Design	<ul style="list-style-type: none"> - Ineffective Communication & Collaboration - Project Management & Adaptability - Resistance to Change
		Organisational Resources & Capabilities	Roles & Skills	<ul style="list-style-type: none"> - Skill Gaps & Training Deficiencies - Resistance to Change - Data & Technological Capabilities
<p>※ These data sources consist of internal documents from the case company's intranet, provided through an authorised company representative.</p>				

Appendix C: Identifying Key Organisational Factors & Challenges in the SLR Dataset.

The 'Sub-Theme – Organisational Factors' column in Appendix A was copied to a separate Excel spreadsheet. Using a COUNTIF formula, the number of articles mentioning each organisational factor was calculated (e.g. =COUNTIF(range, 'factor')). Each factor was counted only once per article, regardless of how many times it appeared within the text. This ensured an accurate representation of the number of articles addressing each factor. The results were tabulated for clarity and comparison.

Similarly, the 'Sub-theme – Challenges Identified' column from Appendix A was processed to determine the most frequently occurring challenges (e.g. =COUNTIF(range, 'challenge')). Unlike organisational factors, challenges were counted based on their occurrences across different contexts within each article. For example, if a single article mentioned a particular challenge multiple times in association with different organisational factors, each instance was counted separately. This method allowed for a comprehensive understanding of how challenges were interrelated with various organisational factors.

To capture the interrelationships, a new column was added to the Excel spreadsheet that combined each organisational factor with its associated challenges using the Ampersand symbol (e.g. ='factor'&" " &'challenge'). The combined column was then split into separate Excel spreadsheets, categorised by all, SMEs, single, and multiple industries focus. The 'Industry' column in Appendix A was used for this categorisation. Each research paper selected for the SLR was coded according to its industry focus. Papers that specifically addressed a single industry or sector (e.g., healthcare or retail) were grouped under "Single Industry." Studies highlighting challenges in SMEs were coded accordingly, while papers addressing a broader scope or multiple industries were categorised under "Multiple Industries." Some research papers discussing general BI-driven DT trends without specific industry focus were also included under the "Multiple Industries" classification.

COUNTIF formula (=COUNTIF(range, 'factor-challenge')) was applied to the combined column to identify the frequency of each organisational factor–challenge combination. The results were visualised through heat maps to highlight significant interrelationships and their occurrences. This process was repeated for each of the Excel spreadsheets.

Appendix D: Identifying Key Organisational Factors & Challenges in the Case Study Dataset.

Each piece of project documentation was reviewed and coded for the presence of organisational factors. These were recorded under the 'Sub-Theme – Organisational Factors' column in Appendix B using an Excel spreadsheet. A COUNTIF formula was applied to calculate the number of documents mentioning each organisational factor (e.g. =COUNTIF(range, 'factor')). Each factor was counted only once per document, ensuring an accurate representation of its presence across the dataset.

The dataset was further analysed to identify the challenges associated with each organisational factor. The 'Sub-Theme – Organisational Factors' column in Appendix B was filtered to isolate documents linked to a specific factor, and the corresponding challenges were tallied. This step offered insights into which challenges were most closely connected to each organisational factor. Each occurrence of a challenge under the 'Sub-Theme – Challenges Identified' column in Appendix B was counted (using =COUNTIF(range, 'challenge') formula), even if it appeared multiple times in a single document. This allowed for a nuanced understanding of the frequency and interrelationships between organisational factors and challenges.

The results were tabulated to rank organisational factors and challenges by their frequency and significance within the dataset. To focus the analysis, minimally recurring challenges for each organisational factor were excluded, leaving the top two or three challenges most prominently associated with each factor.