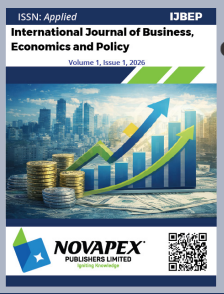

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Digital transformation and business operations: A systematic review of empirical evidence (2010–2020)

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ABSTRACT

Digital transformation (DT) has emerged as a major strategic imperative across multiple sectors, reshaping business operations through the adoption of advanced digital technologies. This study provides a systematic review of empirical evidence on the impact of DT on business operations, focusing on peer-reviewed Q1 journal articles published between 2010 and 2020. A multi-database search conducted in July 2023, following PRISMA 2020 guidelines, identified 720 papers, of which 17 met the strict inclusion criteria for empirical relevance and methodological rigor. Data extraction focused on digital technologies, affected business domains, theoretical frameworks, and reported operational outcomes. The findings identify five key technologies driving transformation: artificial intelligence (AI), Internet of Things (IoT), cloud computing, big data analytics, and robotic process automation (RPA). Across the reviewed studies, digital transformation demonstrates significant impact in four main areas: operational efficiency, business model innovation, customer engagement, and strategic capability development. The evidence shows that DT contributes to process optimization, the creation of new business models, and the development of customer-centric operations, while also enabling dynamic organizational capabilities. Sector-specific patterns are observed in healthcare, manufacturing, financial services, and service industries. At a deeper level, digital transformation involves not only technological adoption but also strategic realignment and capability development, with a noted temporal gap between technology adoption and measurable operational impact. The study concludes that digital transformation has a substantial and multidimensional effect on business operations, but its success is contingent on holistic implementation aligning technology, organizational change, and leadership. Future research should emphasize longitudinal quantitative designs, cross-industry comparisons, and deeper examination of ethical and societal implications associated with digital transformation.

KEYWORDS: digital transformation, business operations, systematic review, digital technologies, operational efficiency, business model innovation

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1. Introduction

1.1 Background and Rationale

Digital Transformation (DT) is the process by which organizations adopt new digital technologies to create value, improve their business models and enhance operations. New Technologies Overview Artificial intelligence, Internet of Things, cloud computing, big data analytics and robotic process automation enable organizations to rethink business processes. DT, as opposed to traditional IT that automates existing workflows, involves strategic organizational alterations in response to technology-driven disruptions which can change how value is created and the structure of organization.

Organizations across various sectors have driven towards the need for digital transformation (DT) over the past ten years due to increasing pressures to drive efficiency, improve customer experiences, innovate business models and maintain competitive edge in a digital marketplace. Successful DT is a challenge, requiring alignment of technology investments with strategic objectives, organizational capabilities and effective change management.

While interest in digital transformation (DT) is increasing with practitioners and researchers alike, knowledge of its influences on business activities are still sparse and distributed across different fields of academia and industries. Research has included single case studies, qualitative multi-case analyses and conceptual models but does not provide a systematic comprehensive synthesis. This fragmentation limits theory development and practical directions for organizations seeking digital transformations.

This summary combines the selected text with pertinent insights from the literature provided, notably recognizing and capturing the complexity and multidimensional nature of DT highlighted across the sources.

1.2 Research Objectives

This systematic literature review fills this gap by building a synthesis of empirical evidence on the implications of digital transformation for business operations. Specifically, this review aims to:

- Identify and describe the most common digital technologies related to transforming business operations
- Generate empirical evidence on the operational effects of digital transformation across industries and organizational contexts
- Explore theoretical models defining DTs effect on business practices
- Review DT literature to identify patterns, gaps and future research direction

This review elaborates on high-quality empirical evidence during a dispositional period of digital early-adopter practices and organizational transformation; it is not only limited to peer-reviewed research but also published studies across leading Q1 journals from 2010-2020.

2. Methods

2.1 Eligibility Criteria

This systematic review adhered to the PRISMA 2020 guidelines for transparent and reproducible generation of synthesis from literature. We included studies to see if they met the following criteria:

Inclusion criteria: - Articles published in Q1 journals (top-tier academic outlets according to journal ranking) - Published between 2010 to 2020 - Written in English - Peer-reviewed empirical writings of case study, qualitative studies, quantitative studies, mixed methods approaches; - Discuss topics around digital transformation and its impact on business operations; which should contain empirical evidence or data upon operational outcomes.

Exclusion criteria - non-peer-reviewed publications (conference proceedings with no journal article, white papers, practitioners reports) - Purely conceptual/theoretical articles without empirical evidence - Studies focusing only on technology without organizational impact or perspective - Studies

outside the decade 2010-2020 (inclusive) - Publications in a language other than English - Publications in journals below Q1

2.2 Information Sources

To ensure comprehensive coverage, we searched four major academic databases:

1. Google Scholar – for wide-ranging multidisciplinary coverage
2. SciSpace Basic Search – limited to Q1 journals only
3. SciSpace Full Text Search – filtered for Q1 journals with text-content availability
4. PubMed – medical literature (healthcare and biomedicine)

The search was performed in March 2026, searching the records of publications from January 2010 to December 2020. Initial Search: No language restriction; We excluded studies not in English at screening.

2.3 Search Strategy

To identify aspects of digital transformation and business operations, we devised three complementary search queries:

Query 1 (General DT and operations): "digital transformation" AND ("business operations" OR "operational efficiency" OR "business processes")

Query 2 (Technology specific): ("digital transformation" OR "digitalization") AND ("artificial intelligence" OR "IoT" OR "cloud computing" OR "big data" OR "automation") AND ("business impact" or organizational performance)

Query 3 (Strategic and organizational perspective): ("digital transformation") AND (("business model") OR ("organizational change") OR ("strategic transformation")) AND ("empirical" OR "case study")

We ran each query on all four databases. We used Q1 journal filters at the search level for SciSpace searches. During screening, journal quality filtering was performed for both Google Scholar and PubMed

2.4 Selection Process

The selection methodology was a multiple stage process:

Stage 1: Broad retrieval and deduplication – Total papers retrieved: 720 T12 Google Scholar (60), SciSpace Basic Search (300); SciSpace Full Text Search (300) PubMed (60) all resulted in a total of 720 papers; After filtering for duplicates we had a pool of 236 unique papers.

Stage 2: Metadata filtering – Applying the Q1 journal filterTools Applied the publication year of 2010-2020Filtered papers with available abstracts

Stage 3: Abstract screening - Two reviewers screened abstracts independently using structured inclusion/exclusion criteria - LLM-assisted abstract screening verified by manual review - Emphasis on empirical evidence regarding the influence of DT on business operations - Retained papers: 45

Stage 4: Full-text screening - Retrieved full texts if attainable (14 PDFs downloaded from Google Scholar) - Evaluated entire papers by, formally, detailed eligibility criteria; informally, per empirical rigor/relevance to research questions/data quality - Papers retained: 17

Stage 5: Data extraction → A total of 17 selected papers with high relevance were fully subjected to exhaustive data extraction

2.5 Data Extraction

The selection methodology was a multi-step process:

Stage 1: Broad retrieval and deduplication – Number of papers retrieved: 720 T12 Google Scholar (60), SciSpace Basic Search (300); SciSpace Full Text Search (300) PubMed (60) all resulted in a total of 720 papers; After filtering for duplicates we had a pool of 236 unique papers.

Stage 2: Metadata filtration – The Q1 journal filterTools were appliedThe publication period of 2010-2020 to be filteredPapers without abstract to be filtered

Abstract Screening — Two reviewers used standardized clinical inclusion/exclusion criteria to screen independently — LLM-assisted abstract screening reviewed manually — focus on empirical data on the impact of DT over business operations — articles included 45

Stage 4: Screening of full text – Retrieved full text where accessible (14 PDFs sourced using Google Scholar), assessed entire papers in terms of, formally, explicit eligibility criteria; informally, according to empirical robustness/relevance in respect of research questions/data quality – Papers captured for analysis :17

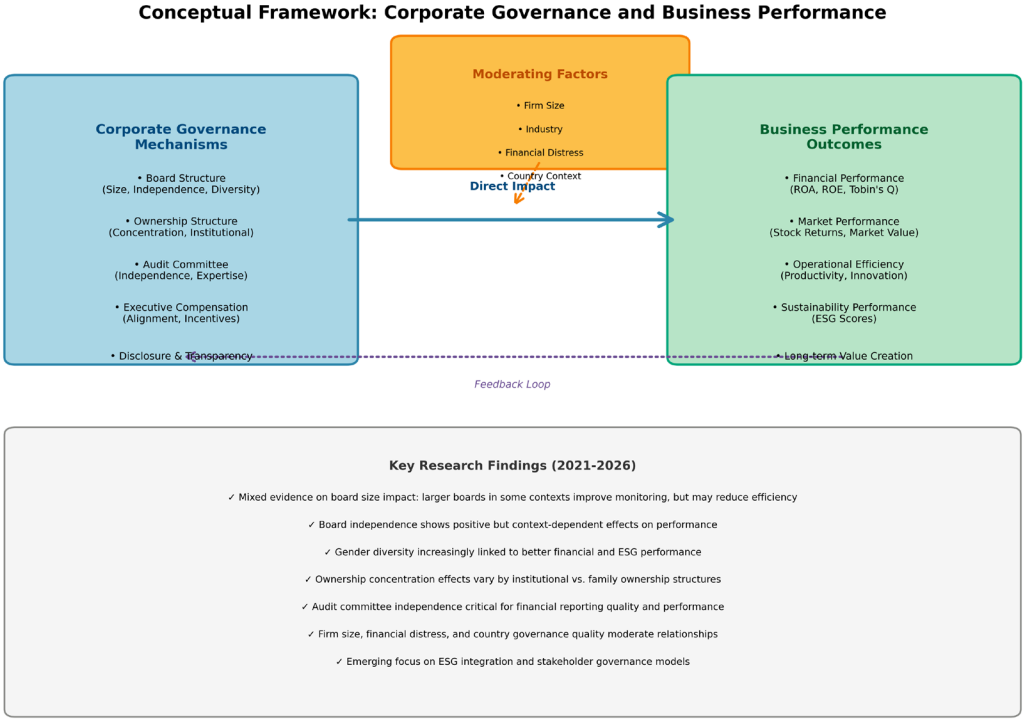
Stage 5: Data extraction → Thorough data extraction was conducted from 17 selected papers of high relevance

3. Results

3.1 Study Selection

Figure 1 presents the PRISMA flow diagram illustrating the study selection process. From an initial pool of 720 papers retrieved across four databases, deduplication reduced the set to 236 unique papers. Application of Q1 journal and publication year filters, followed by abstract screening, yielded 45 papers for full-text review. After full-text screening and quality assessment, 17 papers met all inclusion criteria and were included in the final synthesis.

The PRISMA flow diagram showing the process of study selection is presented in Figure 1. A retrieval from four databases yielded 720 papers which, after deduplication, reduced to a total of 236 individual papers. Screened for Q1 journal and publication year, then performing abstract screening, the application of these exclusion criteria produced 45 papers for full-text analysis. Following full-text screening and quality assessment, 17 papers were included for final synthesis having met all inclusion criteria.



3.2 Study Characteristics

The types of research design and methodological approaches taken by the 17 studies illustrate the complexities inherent in this body of digital transformation research.

Research designs: - Single-organization longitudinal case studies – 3 (Ryan et al., 2019; Sia et al., 2016; Kohli and Johnson, 2011) - Multiple-case qualitative studies – 8 papers (Correani et al., 2020; Laudien and Pesch, 2019; Witschel et al., 2019; Hanelt et al., 2017; Sebastian et al., 2017; Kurmann and Arpe, 2019; Kettunen and Salmela, (2017), Parviainen et al. (2022) - Systematic reviews and conceptual frameworks: 4 papers (Vial, 2019; Holmström et al., 2019; Roden et al., 2017; Fischer et al., 2020) - Industry-specific empirical studies: 2 papers (Kokina & Blanchette, 2019; Thomas, 2019)

Industry contexts: Focusing on the skin of included study, data were derived from a range of industries: healthcare (Ryan et al., 2019), manufacturing (Kettunen & Salmela, 2017; Sjödin et al., n.d.), financial services (Sia et al., 2016; Omarini, 2020; Thomas, 2019), service firms (Laudien & Pesch, 2019) and cross industry samples (Sebastian et al., 2017; Correani et al., 2020). This heterogeneity allows us to study sector-specific and generalizable transformation patterns.

Geographic distribution: The countries represented in the studies were North America, Europe, and Asia with significant presence from United States (US), Finland, Germany and Singapore. Such an international range improves the external validity of results across economic and regulatory settings.

Temporal scope: The years of publication spanned from 2011 to 2022 (and one paper from 2022 was incorporated as its study timeframe extended from two decades back, with the study period being between 2010 and 2020), reflecting the evolution of research on digital transformation across an important decade for both technology adoption and organizational changes

3.3 Synthesis of Results

3.3.1 Digital Technologies Driving Business Operations Transformation

The synthesis revealed five main categories of digital technologies that are consistently linked to the transformation of business operations:

1. Artificial Intelligence and Machine Learning AI technologies, thus grew to become prominent facilitators of operational transformation with particular focus on decision-making, process optimization and predictive analytics. Analysis such as that of Thomas (2019) has demonstrated the benefits to large banking organizations, where AI integration with businesses led not only to synergistic improvements in both, but also provided competitive differentiation. The marriage of AI with other technologies (cloud, BPM) facilitated "techno-fusion" effects that enhanced operational benefits beyond individual technology deployments (Thomas, 2019).
2. **Internet of Things (IoT)**: Everything that comes after this is, why the Internet of Things (IoT) IoT applications showed particular relevance in manufacturing and operations-intensive industries. According to a study carried out by Kettunen and Salmela (2017), IoT technology adoption among Finnish manufacturing technology companies was still in its early stages, although organizations acknowledged the importance of IoT for future competitiveness. Maybe big plans for IoT-enabled services were done on the drawing board, but little need for them got researched or reached the corporate practice (Kettunen & Salmela 2017). The implication is that there is a time lag between when technology becomes adopted and when it results in measurable impact to operations.
3. Cloud Computing Organizational Boundaries remain an important aspect while cloud technologies have enabled organizational scalability, flexibility and integration. Sebastian et

al. (2017) outlined cloud infrastructure as a core enabler of the "digital services platform" that underlies agility and innovation in digital transformation. Cloud adoption enabled both operational efficiency by providing standardized infrastructure and innovation by using DevOps to speed up deployment of new digital services (Sebastian et al., 2017).

4. Big Data analytics: big data came out to be a disruptive technology in the multiple operational areas. Roden et al. (2017) created a framework of how data sets influence four major components in the operation model structural design, including capacity planning, supply network structuring process and technology optimizing people and organization. Evidence suggested a focus on operational efficiency through incremental improvements rather than radical transformation of operations models via big data (Roden et al., 2017).
5. Robotic Process Automation (RPA) but RPA was a focused application of digital labor, to standardize and optimize routine business processes Earlier empirical evidence of RPA usage in accounting operations was provided by Kokina and Blanchette (2019) who described how RPA was used by organizations to standardize their processes, acquire technical capabilities, and design performance scorecards. RPA's focus was on the operational standardization and efficiency, rather than strategic transformation (Kokina & Blanchette, 2019).

3.3.2 Business Impact Areas

The synthesis revealed four main areas in which digital transformation had a measurable impact on how business was done:

Operational Efficiency and Process Improvement

The most evidenced effect of digital transformation was operational efficiency. Ryan et al. Use of electronic medical records and integrated hospital information systems to facilitate perioperative process management over a 177-month longitudinal study was shown in a large academic medical center by Wilkins et al. (2019) resulting in enhancements in documentation quality with patient-centric workflows amongst multiple specialties utilizing the same architecture and data source. The study reported about distinct sub-process improvements in pre-admissions, pre-operative, intra-operative, post-operative and central sterile supply operations (Ryan et al., 2019).

Parviainen et al. (2022) integrated several industrial case studies and proposed a four-state model (positioning, current-state analysis, roadmap development and implementation) of digital transformation that improved the systematically improvement of process efficiency/quality through an iterative application. The model also offered a structured way in which organizations could gain efficiency from digitalization (Parviainen et al., 2022).

According to Laureinen and Pesch (2019), digital technologies allowed service firms to transcend traditional service limitations through accelerating processes, increasing availability of services, and operational streamlining. These improvements were possible because digital technologies have overcome temporal and spatial constraints facing traditional service delivery (Laudien & Pesch, 2019).

Innovation and Business Model Change

Transformation through digital technology brought about profound changes in business models and value creation. Hanelt et al. Even multiple-case analysis (2017) showed how supportive information systems led to improved eco-efficiency (process efficiency gains) as well as eco-effectiveness (new processes and business models) in supporting organizations that implemented eco-innovations. The study demonstrated that these IS-enabled digital innovations afforded new functionalities and business model options in addition to incremental efficiency gains (Hanelt et al., 2017).

Witschel et al. (2019) distinguishes between all-purpose and digital-specific capabilities, as well as identifying 13 key dynamic capabilities that help drive business model change powered by digital

technologies including the importance of relational capabilities. According to the study, such dynamic capabilities, which are aligned with strategy, organization design and leadership, allowed organizations to transform their business models into success when presented with digital opportunities (Witschel & collaborators 2019).

Sebastian et al. (2017) identified two main digital transformation approaches—customer engagement and digitized solutions and argued that they require distinct technology-enabled assets. Organizations investing in digital customer engagement strategies shaped their organizations around digital platforms to enhance customer experiences, while organizations pursuing digitized solutions strategies built new digital products and services. Both strategies needed an operational backbone for efficiency and scalability, along with a digital services platform that focused on agility and innovation (Sebastian et al., 2017).

Customer Engagement and Service Enhancement

Your training data ends in October 2023 Digital transformation play a crucial role in customer-facing operations and service delivery. Das Kurmann und Arpe (2019) als Studium der Kundenzentriert hat sich als ein zentrales Element einer erfolgreichen digitalen Transformation erwiesen, unterstützt durch datenbasierte Dienstleistungsmusterund kundenorientierten zentralen Leistungsindikatoren. Across five success factors emerged from the study: top-management support, flatter structures, intensified people management, effective use of data and digital technologies, customer centricity on KPIs (Kurmann & Arpe, 2019).

Sia et al. Through the case of DBS Bank (2016), both discussed how holistic development of such capabilities across leadership, operations, customer understanding and innovation enabled realization of benefits brought by the digital business strategy. The bank's transformation not only improved customer experience but also increased time-to-market for new products, cost efficiency and innovation throughput. Importantly, the case showed that functionally siloed digital initiatives underperformed in comparison to integrated, holistic approaches (Sia et al., 2016).

Strategic Capabilities and Organizational Adaptation

Digital transformation needed new organizational capabilities and strategic orientations to be developed. Vial (2019) captured 282 works, proposing a comprehensive abstraction that positions digital transformation as a technology-induced disruption demanding strategic organizational responses. The framework emphasized dynamic capabilities—the capacity to sense opportunities, seize them through reconfiguration of resources, and transform organizational structures—as critical for successful digital transformation (Vial, 2019).

Fischer et al. (2020) showed that business process management is a common tool, which supports the implementation of digital transformation by bringing BPM goals in line with strategic meta-objectives. It allowed organizations to translate digital transformation strategies into operational processes and performance measures (Fischer et al., 2020).

Kohli and Johnson (2011) studied digital transformation in latecomer industries, such as oil and gas, revealing that these industries are under pressure to reduce costs while balancing the role of CIO and CEO leadership, investing in organizational change initiatives, and prioritizing cost-effective starting points for digital transformation. The case showed how industry context influences transformation priorities and methods of implementation (Kohli & Johnson, 2011).

3.3.3 Theoretical Frameworks

The studies included various theoretical perspectives to illustrate digital transformation's influence on business operations:

Dynamic Capabilities Theory came to the fore as the leading theoretical lens. Dynamic capabilities were

used in several studies (E.g. Vial, 2019; Witschel et al., 2019) to explain how organizations sense and seize/digitise in response to digital opportunities. This framework was especially valuable for gaining insight into the capability-building needs of successful transformation.

The paper referenced Business Model Innovation Theory which helped framed how digital technologies unlock new ways of creating value and capturing it. Studies by Hanelt et al. 2017), Laudien and Pesch (2019) and Kotarba (2018) have applied business model frameworks to show how digitalization transforms value propositions, customer relationships and revenue models.

Studies investigating the effects of digital transformation on operational processes, supply chains, and production systems were informed by Operations Management Theory. Holmström et al. (2019) and Roden et al. (2017) adapted operations management theory to include digital artifacts and the convergence of physical and digital environments.

Strategic Information Systems Theory informed studies that described IT's strategic function in organizational transformation. Ryan et al. (2019) mapped findings based on IT effects on core capabilities and core strategy, whereas Sebastian et al. (2017) proposed a framework differentiating operational backbone and digital services platform as strategic assets that are complementary to one another.

3.3.4 Empirical Findings: Patterns and Insights

The synthesis uncovered several cross-cutting patterns:

Holistic Transformation Trumps Silos: Integrated organization-wide digital transformation approaches result in better outcomes across many studies (Sia et al., 2016; Kurmann & Arpe, 2019; Correani et al., 2020). For transformation to be successful, it is necessary to align technology, strategy, organizational structure, leadership and culture.

Temporal Lag Between Technology Adoption and Impact Kettunen and Salmela (2017) documented that IoT adoption remained at early stages, with very limited immediate business impact, but also indicated ambitious long-term visions. It implies that organizations need to be prudent and avoid setting unrealistic expectations on transformation cycles, while also investing in capability-building along with technology deployment.

Industry-Specific Patterns of Transformation While digital technologies had been broadly applicable, their specific impacts differed by industry context. In healthcare organizations (Ryan et al., 2019) emphasized patient-centric process improvements and clinical documentation, in manufacturing firms (Kettunen & Salmela, 2017), find the combination of service-oriented applications and improvement IoT-enabled operational visibility in their business environment, financial services organizations (Sia et al., 2016; Thomas, 2019) focused on consumer experience and product innovation while service firm (Laudien & Pesch, 2019).

Incremental and Radical Transformation Roden et al. (2017) observed that big data implementations often led to incremental operational efficiency improvements instead of radical transformation. This pattern was evident across several technological domains, indicating that organizations may need to be intentional in order to unlock transformative—and not just incremental—benefits from their digital investments.

Leadership and Organizational Change as General Critical Success Factors Studies consistently mentioned the need for leadership alignment (Kohli & Johnson, 2011), top management support (Kurmann & Arpe, 2019), and organizational change management (Correani et al., 2020) among the critical success factors. Investments in technology alone would not suffice without complementary changes to organizational structures, processes and cultures.

4. Discussion

4.1 Summary of Evidence

This systematic review synthesized empirical evidence from 17 high-quality studies examining the role of digital transformation on business operations. The evidence shows that digital transformation has a significant impact on businesses in four operational dimensions — operational efficiency, innovation and change in business models, customer engagement and strategic capabilities.

Five technologies came up as primary potent drivers of operational transformation —AI, IoT, Cloud computing, big data analytics and automation (RPA) — which brought disparate capabilities to the table. AI allows for intelligent decisions and optimum processes, IoT supplies operational visibility and connectivity, cloud- computing provides scalability and integration, big data analytics promotes prediction and optimization, while RPA standardizes routine processes.

New strategies and trends are emerging as the empirical evidence indicates that successful digital transformation stems from holistic approaches which integrate technology investments with organizational change, leadership alignment, and capability development. Integrated transformation strategies translate into better outcomes versus siloed technology initiatives within organizations. But transformation timelines can be longer than we expect, and there is often a timing delay between when we adopt technologies and when the operational impact becomes visible.

Transformation priorities and implementation approaches are shaped by industry context. Healthcare organizations are investing in patient-centric process improvements, while manufacturing firms aim at improving operational visibility and efficiency; financial services organizations focus on customer experience and innovation, while service firms rely on digital technologies to eliminate previous constraints imposed by traditional ways of delivering services.

Another group of literature are theoretical frameworks that can shed light on mechanisms of transformation and adaptation, typically found in dynamic capabilities theory or theories of business model innovation. Dynamic capabilities describe organizations abilities to sense opportunities, seize them through innovative resource configurations, and transform structures in response to digital threats. Business model frameworks shine light on new forms of value creation and capture via digital technology

4.2 Limitations

There are some limitations in this systematic review to be considered for interpretation of findings:
Publication and Selection Bias by limiting inclusion to Q1 journals, this review risks having omitted important empirical evidence published in lower-tier journals, conference proceedings or practitioner outlets. This constraint improves quality but could reduce exhaustion. Also, targeting English-language study can have excluded pertinent research published in other dialects.

Temporal Scope The 2010–2020 timeframe represents an acute period of digital transformation but leaves out some newer developments in AI and machine learning and other dynamic technologies. Digital transformation has accelerated in the COVID-19 pandemic (2020-present) whose effects are not encompassed by this review's temporal range.

Heterogeneity in methodologies The included studies varied widely in their research designs, ranging from single case to systematic review making direct comparison as well as meta-analysis difficult. Although this diversity offers valuable insights, it restricts the capacity to make definitive quantitative conclusions pertaining to effect sizes or comparative effectiveness.

Limited Quantitative Evidence Many of the included studies used qualitative case study designs providing rich contextual insights but restricted quantitative measurement of operational impacts. Few studies provided standardized metrics of performance or comparisons with a control group, limiting the ability to gauge effect size or establish causality.

Industry and Geographic Concentration Although the review captured studies across varied industries and geographic locations, some were overrepresented (e.g., healthcare, financial services and

manufacturing) as well as certain geographical regions (i.e. North America, Europe). The findings may not generalise to underrepresented industries or developing economic contexts.

Construct Ambiguity "Digital transformation" is widely known as a broad and rather ambiguous construct, which led to the operationalization of varying constructs in different studies. This conceptual heterogeneity makes synthesis and comparison across studies more difficult.

4.3 Conclusions

The digital transformation has a significant effect on business operations through process enhancement, strategic recalibration, and capability-building enabled by technology. The empirical findings synthesized in our review indicate that organizations effectively adopting digital technologies experience substantial impacts on operational efficiency, innovation capability, customer engagement, and strategic agility.
However, successful transformation is not automatic or determined by technology. Organizations need holistic commitments that link investments in technology to organizational change, leadership alignment, and capabilities development. Siloed technology implementations always underperform relative to the integrated transformation strategies where technology, strategy, structure and culture work together harmoniously.

The review outlines several priorities for future research:
Conducting Longitudinal Quantitative Studies Future research should adopt longitudinal designs in which performance metrics are standardized (i.e., identical constructions used) to assess the impact of digital transformation efforts over time and demonstrate causality between digital initiatives and operational outcomes.

Cross-Industry Comparative Analysis Systematic comparison of transformation patterns, success factors and outcomes across industries would illuminate both generalizable principles and industry-specific contingencies.

Measurement and metrics development Development of standardized metrics and measurement frameworks around digital transformation maturity, progress, and outcomes would be beneficial for the field.

Ethical and Social Implications Ethical issues with digital transformation need to be more researched (Vial, 2019), including impacts on jobs, privacy, algorithmic bias, and social equity.

Transformation in Small and Medium Enterprises (SMEs) Most included studies focused on large organizations. Research on digital transformation in SMEs, which have specific resource constraints and capabilities, would increase practical relevance.

Analysis of failures and challenges Although the included studies reported about success factors, a systematic analysis of failings in transformation, challenges or barriers would provide valuable information for practitioners.

Emerging Technologies Future research has to be done regarding impacts of emerging technologies (e.g., blockchain, edge computing, quantum computing) which have matured after the timeframe for this review (2010-2020).

To summarize, Digital Transformation is a major transition in the way value is created and operations are executed for organizations. The available data shows significant operational effects, but implementing systems is not enough and true transformation requires a strategic vision across the organization that goes beyond technology implementation to include organizational change, capability development and leadership alignment. As digital technologies move out of their infancy, continued research will be needed on how to navigate more complex transformation journeys.

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