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SYSTEMATIC REVIEW ON THE IMPACTS OF DIGITAL TRANSFORMATION ON CORPORATE INNOVATION PERFORMANCE

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ABSTRACT

The influence of digital change on company innovation performance is meticulously reviewed in this study. An approach of shift in organizations known as "digital transformation," makes use of digital technologies to boost productivity. The study examined 107 journal papers released between 2020 and 2025 using a critical review approach. The study's findings demonstrate that enterprise success in innovation is significantly impacted by digital evolution, both positively and negatively. Increasing output, effectiveness, and competitiveness in the organization are indicators of that achievement improvement. The efficiency of organizations is not usually directly impacted by digital transformation. Organization size, industry, organizational culture, competitive edge, innovation in technology, and the capacity of organizations to manage the digital change are some of the variables that might affect the extent of digital transformation. As a result, the research advised firms to comprehend the variables that may affect the effects of the digital revolution and to exploit it to its fullest potential in order to boost efficiency.

Keywords: Digital Transformation, Organizational, Impact, Innovation, Performance

INTRODUCTION

Organizations today are not only striving to sustain themselves but also to achieve growth by enhancing their overall performance (Mudany et al., 2021). To remain competitive in rapidly evolving markets, continuous improvement and innovation have become indispensable (Zareie et al., 2024). Emphasizing the need for constant innovation allows businesses to maintain their market relevance and introduce new products and services that meet changing consumer demands (Ismanu & Kusmintarti, 2019, Uwazie et al, 2020). Attaining a sustainable in having unique assets and competencies that are widely valued, uncommon, and difficult for competitors to imitate (Broccardo et al., 2023). In the current fast-paced global enterprise geographical area, digital transformation stands out as a crucial factor that enables organizations to strengthen their competitive positioning (Zareie et al., 2024; Xu et al., 2023).

The arrival of digital technology has drastically reshaped the business landscape, transitioning enterprises from traditional models to digitally driven platforms (Raharjo, 2024). This transformation has profoundly influenced marketing strategies, operational processes, and customer relationship dynamics. The digital era has unlocked new opportunities for business expansion through technologies. This includes social networking, machine learning, data analysis, and online purchasing (Sudewa et al., 2023). Fundamentally, digital transformation is redefining how organizations operate by altering business methodologies, strategies, and models—thereby influencing corporate culture, technological adoption, and how firms engage with customers (Soto-Acosta, 2020).

Global corporate leaders increasingly view digital transformation as essential for growth and cost efficiency (PwC, 2017). Many CEOs regard digital advancements as the cornerstone of revenue expansion and value creation (Gartner, 2017). Businesses seek to stimulate inventiveness, satisfy client demands, and maintain resilience in the face of volatile markets by utilizing innovations like deep learning, big data, and the internet of things (Zareie et al., 2024). Consequently, academic and industry researchers have intensified their exploration of the economic impact of analogue change across various sectors.

Experimental attest from China demonstrates that digital transformation positively influences numerous organizational events, include bigger investments in economy (Xu et al., 2023), better sustainability metrics (Zhao & Cai, 2023), better business outcomes (Li et al., 2023b), and greater worker productivity (Guo et al., 2023; Zhang & Liu, 2023). Additional research has linked digitization to decreased financial distress (Cui & Wang, 2023) and increased liquidity in securities (Liu & Wang, 2023). Additionally, it has also been demonstrated to reduce the harm to the environment (Lu et al., 2023; Li & Pan, 2022; Daud et al., 2022), risk of default (Cui et al., 2023), cost rigidity (Chen & Xu, 2023), and fluctuations in stock prices (Wu et al., 2022).

Notwithstanding these advantages, research on the connection connecting business success and digital growth is still inconclusive. Although extensive research has been conducted in developed economies particularly in China there remains a considerable knowledge gap regarding the economic effect of analogue modification in underdeveloped matter such as Nigeria. While evidence suggests that digital transformation enhances firm performance (Chen & Srinivasan, 2023), many organizations still encounter difficulties in its successful execution, and some even experience adverse outcomes (Zareie et al., 2024). Prior studies indicate that a substantial proportion of digital transformation initiatives fail to meet their intended goals (Rogers, 2016; McKinsey & Company, 2019; Marx et al., 2023), with certain cases showing that it may inadvertently increase operational costs and reduce efficiency (Guo et al., 2023).

This raises an important question: how can firms effectively leverage digital transformation to foster innovation and generate sustainable value? Although scholars have attempted to explore this issue, the underlying mechanisms through which digital transformation enhances innovation performance remain insufficiently understood. Therefore, this study seeks to present a systematic review of existing

literature to analyze the synergy between digital shift and corporate innovation performance.

Digital transmutation is a broad and multifaceted concept that has been interpreted and classified in numerous ways by different scholars. In order to highlight its impact on the user experience, internal procedures, and companies, Reis et al. (2018) divided the subject into three main categories: scientific, corporate, and psycho-social. The deliberate adoption of digital technology to improve organizational productivity and effectiveness is referred to in the present investigation as "digital change".

Literature Review

Innovation has long been intertwined with economic ideology, driving nations to leverage it as a means to boost global competitiveness and address economic hurdles (Drejer, 2004). At its core, innovation encompasses a broad range of aspects, including product and process innovations, technological advancements, and novel types of business (Tellis et al., 2012). Creativity execution, which is described as the attainment of higher inventive business results or consumer adoption due to the creation and spread of breakthroughs (Edquist et al., 2018), is frequently used to gauge the viability of creative thinking (Gbemisola et al., 2025). This achievement includes the outcomes of innovative efforts and is impacted by several elements (Chen & Huang, 2009). Commercial success results from the effective transformation of innovative assets and capacities into observable results (Abdulai, 2019; Edquist et al., 2018).

Thereby, throughout the purposes of the present research, innovation efficacy refers to the company's capacity to effectively convert its inventive ideas and activities into observable results that meet its goals. The examiner provides a brief overview of the resource-based view (RBV) theory in order to lay a solid conceptual foundation for this investigation, which serves as the core underpinning framework for the research.

The Resource-Based View (RBV) is a administration theory that explains how success can gain and sustain a competitive advantage through the effective use of their internal resources and capabilities (Barney, 1991; Peteraf, 1993; Barney, 2001; Newbert, 2007; Newbert, 2008; Davis & DeWitt, 2021; Kellermanns et al., 2016). Resources refer to the assets a firm owns or controls, while capabilities represent the firm's ability to deploy those resources efficiently (Amit & Schoemaker, 1993). Tangible resources include physical assets, whereas intangible resources comprise non-physical elements such as intellectual property, brand equity, and organizational culture (Barney, 1991). For a resource to generate a sustained competitive advantage, it must possess four key attributes: it should be valuable, rare, inimitable, and non-substitutable (Barney, 1991).

Although innovation and technology hold great potential, their adoption remains relatively low in less digitally advanced economies (Davis & DeWitt, 2021; Zahra, 2021, Uwazie *et al.,* 2020). This study adopts the RBV perspective to emphasize that identifying and addressing the barriers to digital technology adoption is essential for successful integration within firms in developing countries. It underscores that access to and efficient use of digital resources are key determinants of competitiveness, performance, and sustainability.

MATERIALS AND METHODS

This study employed a systematic literature review design, guided by the frameworks of Paul and Criado (2020) and Tranfield et al. (2003). Among the various systematic review methods such as framework-based, bibliometric, meta-analysis, and structured reviews this study adopted the structured review approach. This choice was made for several reasons: conceptual clarity, trend identification, gap analysis, theoretical mapping. The data sample process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) road map, which offer a standardized, evidence-based framework for conducting and presenting systematic reviews. The subsequent subsections outline the systematic procedures adopted for identifying, screening, and selecting relevant literature for this study. This study utilized two complementary analytical techniques to achieve the research objectives: descriptive analysis and thematic content analysis.

RESULTS AND DISCUSSION

The article selection process is illustrated in Figure 1:

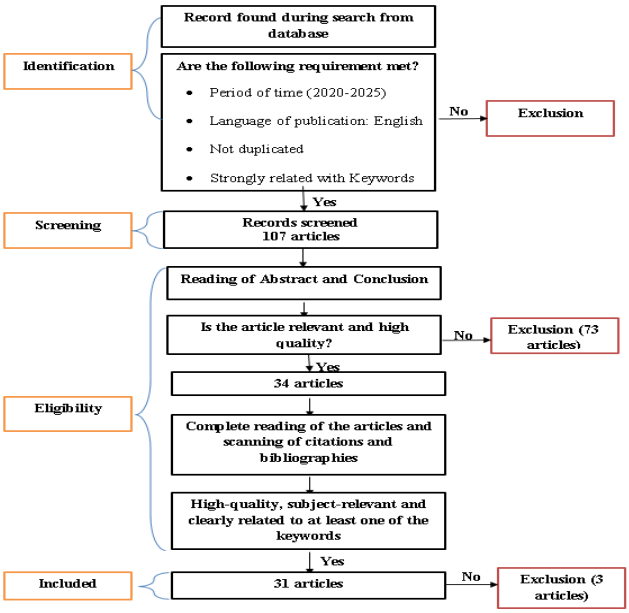

Figure 1: Process of Article Selection (Source: Adopted with Minor Modification from PRISMA Checklist, 2020)

Other quantitative studies, including Chen and Xu (2023); Cui et al. (2023); Lu et al. (2023); Marx et al. (2023); Wu et al. (2022); McKinsey and Company (2019); and Rogers (2016), report empirical evidence demonstrating a negative relationship between analogue transmutation and corporate innovation performance.

Qualitative studies, such as Kim and Toh (2019) and Roos et al. (2015), provide deeper, contextualized insights into how digital transformation influences corporate innovation performance, highlighting nuanced mechanisms and organizational dynamics.

Literature Reviews and Conceptual Papers

Conceptual studies, including Peng and Tao (2022); Ion Ionescu et al. (2022); Wang and Yan (2023); and Zareie et al. (2024), provide theoretical discussions highlighting the influence of digital transformation on innovation performance and organizational outcomes. However, the absence of empirical validation limits the generalizability of their conclusions.

Review papers, such as Li (2023b); Ramadania et al. (2024); and Suhari et al. (2024), offer systematic syntheses of existing research, identifying knowledge gaps and providing insights into the conceptual, theoretical, and empirical landscape. Despite their contributions, these reviews do not offer primary empirical evidence.

Publications per Year

The analysis indicates that the number of publications has steadily increased since 2019, with the highest concentration of studies appearing between 2020 and 2025. This trend likely reflects the growing scholarly interest in exploring contemporary organizational practices and innovations, which has driven increased research activity in the field.

Analysis of Studies by Theme

The selected articles are analyzed in this section according to the study's thematic framework. Following a systematic review, the research categorized the findings into three primary themes: positive relationships between digital transformation and corporate innovation performance, negative relationships, and insignificant or contingent relationships. These themes were derived through a careful and methodical examination of recurring concepts and focal points across the literature, rather than being arbitrarily assigned. This approach ensured that the categorization reflects the collective insights of the reviewed studies and provides a coherent structure for presenting diverse findings. Organizing the literature in this manner facilitates a deeper understanding of the complex interactions between digital transformation and corporate innovation performance, offering a clear framework for readers to navigate the various ways in which digital transformation impacts innovation outcomes.

Discussions

The systematic review of literature published between 2020 and 2025 provides a nuanced comprehension of the connection between innovative business productivity and digital shifts.

The discussion is organized around the key research questions and themes, integrating empirical evidence with theoretical insights, particularly from the Resource-Based View (RBV).

The Evolving Concepts of Digital Change and Innovation Performance

The first research question explored the definitions and conceptualizations of digital change and design performance. The review confirms that both constructs are multidimensional and have evolved significantly in the digital era.

Conceptualizing Digital Transformation

The literature highlights that digital transformation extends beyond mere technological upgrades; it represents a comprehensive organizational change process. It is defined as "the use of digital technologies to enhance process efficiency and effectiveness, involving the analysis and development of digital business models that generate greater organizational value" (Matarazzo et al., 2021; Nour Han, 2022). This aligns with broader literature emphasizing digital transformation as a process reshaping operations, customer interactions, and organizational culture through technology integration (Andriole, 2020; Soto-Acosta, 2020).

Key dimensions include leadership, infrastructure, security, business development, and technological, organizational, and social perspectives (Reis et al., 2018, Ohaka et al., 2025). Distinctions among digitization (analog-to-digital conversion), digitalization (use of digital tools to alter business models), and digital transformation (comprehensive business change) are critical (Verhoef et al., 2021). Firms often engage in digitization or digitalization without achieving true transformation, contributing to inconsistent performance outcomes. Barriers such as limited competencies, budget constraints, and security concerns further complicate implementation (Kraus et al., 2021).

Conceptualizing Innovation Performance in the Digital Era

Innovation performance has also broadened in scope. While traditionally measured through tangible outputs such as patents or products, the digital era emphasizes holistic metrics including process innovation, business model innovation, and organizational transformation (Wang & Zhang, 2024). This study defines innovation performance as "an organization's ability to generate and implement new ideas, products, or processes that enhance productivity, competitiveness, and sustainability."

Non-financial indicators such as customer satisfaction, market share, and technological leadership have become as important as financial metrics (Qiao et al., 2024), consistent with distinctions discussed in section 2 (Cho & Pucik, 2005; Zaman, 2004). Digitalization requires agility, making process and business model innovations critical for survival and growth.

The Relationship between Digital Transformation and Innovation Performance: A Complex Landscape

The synthesis of 31 selected studies show a nuanced and sometimes contradictory relation between analogue modification and creativity presentation. Thematic analysis categorized findings into three groups: positive, negative, and insignificant relationships.

Predominantly Positive Effects

A number of research shows a positive association. Empirical study from Zareie et al. (2024), Guo et al. (2023), and Li et al. (2023b) supports this. The mechanisms include:

Enhanced Management Efficiency and Reduced Information Asymmetry: Digital tools improve internal information flows, break down silos, and facilitate faster, informed decision-making (Coco et al., 2024; Qiao et al., 2024). Flatter

organizational structures further accelerate innovation (Qi & Xiao, 2020). Precision Marketing and Real-Time Customer Insights: Big data analytics and AI enable real-time tracking of market trends and customer needs, supporting user-driven innovation and faster commercialization of ideas (Qiao et al., 2024; Wang & Zhang, 2024).
Augmented R&D and Innovation Capabilities: Digital tools support agile development and enhance knowledge integration, boosting technological innovation (Coco et al., 2024; Malodia et al., 2023). From an RBV perspective, digital technologies and capabilities like data analytics and digital literacy constitute rare, valuable, and difficult-to-imitate resources, enabling firms to sense and seize opportunities and achieve sustained competitive advantage (Bharadwaj et al., 2013).

Negative and Unintended Effects

Some studies report negative or mixed outcomes. Chen & Xu (2023), Cui et al. (2023), and McKinsey & Company (2019) highlight high failure rates in digital transformation initiatives due to:
High Costs and Complexity: Substantial investments in technology (Ohaka *et al,* 2025) can increase operational costs and complexity if not managed well, hindering innovation (Guo et al., 2023).
Resistance and Skill Gaps: Transformation requires cultural
The RBV emphasizes that possessing digital resources alone is insufficient; effective deployment capabilities are essential (Amit & Schoemaker, 1993). Without proper culture, leadership, and human capital, digital investments may fail to deliver innovation outcomes (Temitope *et al, 2025*).

Contextual and Mediating Factors

The relationship is mediated and moderated by factors such as firm size, industry, culture, competitiveness, and technological dynamism. For instance, challenges differ between a large manufacturing firm in a developing economy and a tech startup in Silicon Valley.
Mediating mechanisms include innovation itself (Lyu, 2024) and human capital investments. Firms with digitally literate workforces, supported by recruitment and training, can better leverage digital resources to drive innovation (Sun et al., 2020; Yang & Jiang, 2021). This human element acts as a critical enabler of digital resource utilization (Pavlou & El Sawy, 2010).

CONCLUSION

This paper concludes that while digital transformation has substantial potential to enhance corporate innovation performance, its realization is a complex strategic endeavor. The journey from digital investment to innovation outcomes is influenced by organizational and contextual factors. The findings provide a comprehensive overview a thorough analysis of the state of the field, highlighting both important areas that need additionally study alongside reliable findings. Because the results indicate that business innovation success is not always directly impacted by the adoption of digital technologies. In order to enhance creativity, it is advised that firms comprehend the variables that may affect the consequence of technological change in order to make the best decisions about it.

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