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The Impact of Digital Transformation on Enterprises: A Systematic Literature Review

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ABSTRACT

As digital transformation assumes an increasingly significant role in countries, industries, and companies, academics are growing interest in exploring its economic effects. The focus of this paper is to examine the current state and findings of research on digital transformation concerning enterprise operations, investment, and financing. By conducting a visual and bibliometric analysis of SSCI Q1-Q2 articles published between 2018 and 2022, this paper identified influential articles, countries, words, and topics within this field. Subsequently, through a detailed review and summarisation of each article, it is evident that current research on the economic consequences of digital transformation predominantly centres around the operation of enterprises. However, there is a noticeable gap in research on digital transformation in enterprise financing and investment. This lacuna provides huge and promising areas for future research. This is one of the limited review articles that delves into the study of digital transformation from the above perspectives. This unique approach is poised to contribute to a deeper comprehension of digital transformation within corporate finance. Additionally, this article is a valuable resource for supporting digital transformation and guides the formulation and implementation of policies to stimulate digital transformation. Furthermore, the paper suggests lots of future research directions in digital transformation.

Keywords: Digital transformation; operation; financing; investment

INTRODUCTION

Digital transformation (DT) has become an imperative for every enterprise seeking to remain competitive in today's rapidly evolving economy (Li & Yang 2021). Spurred by macroeconomic shifts (Li et al. 2016; Matt et al. 2015), intensifying competition (Kohli & Melville 2018) and rising customer expectations (Verhoef et al. 2021), enterprises are integrating digital technologies into their core activities to seize new market opportunities and strengthen their strategic position (Amankwah-Amoah et al. 2021). As Wang et al. (2023) argue, DT not only accelerates processes and energizes the workforce but also serves as a catalyst for innovation and high-quality economic growth.

Researchers and policymakers alike have investigated DT's broad impacts on enterprise strategy, business models and organizational change (Okhrimenko et al. 2019; Vu & Hartley 2022). Among the documented benefits are optimized manufacturing and service processes (Earley 2014), novel revenue streams (Kretschmer & Khashabi 2020), and revamped value-creation mechanisms (Rachinger et al. 2018). These shifts lead to better customer fulfilment, enhanced user experiences and higher loyalty (Hansen & Sia 2015; Zaki 2019), spur new business models and faster innovation cycles (Cuevas-Vargas et al. 2022), and improve internal controls and workforce capabilities—collectively boosting productivity (Bhimani 2015; Svahn et al. 2017; Wen et al. 2022a). Prior studies hint at DT's financial benefits—lower debt costs, diversified financing channels, and shifts in R&D and supply-chain investments (Li et al. 2022a; Paunov & Rollo 2016)—but these insights are scattered across disciplines. Mechanistically, DT can reduce information asymmetry (richer transaction-level data, verified digital records), improve monitoring (real-time dashboards, IoT telemetry), and strengthen cash-flow predictability (process standardization), which in turn reduce lenders' expected loss and capital charges (Bollaert et al. 2021; Sun et al. 2022b). Moreover, strategic management research suggests that a firm's digital strategy is closely linked to its resource allocation and financial performance (Hess et al. 2016). Operations, investment, and financing constitute the three fundamental pillars of enterprise activity, reflecting the core logic of resource allocation and value creation within firms (Ross et al. 2010). Existing findings are fragmented across disciplines—operations management, information systems, and corporate finance—often reporting isolated outcomes (e.g., faster throughput, cheaper credit, or higher R&D intensity) without connecting them within a common firm-level logic that links operational transformation to financing conditions and, in turn, to long-term capital allocation (Li 2020). This fragmentation motivates an enterprise-centric synthesis.

We conceptualize three firm-level dimensions. Operations refers to the processes and systems by which a firm produces and delivers value—encompassing production, supply-chain coordination, information flows, and customer-facing service delivery. Financing refers to how a firm secures and allocates financial resources—spanning internal funds and external claims (equity, debt, trade credit, platform-based and digital financing)—and the terms under which such funds are obtained (cost, maturity, covenants). Investment denotes the allocation of resources to long-lived assets and capabilities—tangible and intangible capital including R&D, data assets, software, analytics infrastructure, and technology upgrades throughout the supply chain. Framing DT through these three interdependent pillars allows us to trace how digital capabilities developed in operations alter risk, information, and cash-flow profiles that price into financing, and how financing conditions, in turn, enable or constrain the scope, timing, and composition of enterprise

investment.

This study therefore addresses the following overarching question: What are the current state and research findings on the influence of DT on business operations, financing, and investments?

To unpack this, we pose three sub-questions:

1. Operations (Q1): What are the state and findings related to the impact of DT on enterprise operations?
2. Financing (Q2): What are the state and findings related to the impact of DT on enterprise financing?
3. Investment (Q3): What are the state and findings related to the impact of DT on enterprise investments?

By combining quantitative bibliometric techniques with qualitative content analysis, and by examining these three pillars, we can trace the distinct mechanisms through which DT (a) automates and optimizes operational workflows, (b) expands or streamlines financing channels, and (c) redirects investments toward digital-intensive projects.

The significance of the research can be expressed as follows: Firstly, the existing literature on the influence of DT on corporate financial management is quite limited, fragmented, and inconclusive, with a lack of comprehensive studies that integrate these findings (Hess et al. 2016; Li et al. 2021). By investigating how they interact, the study provides a better understanding of how DT influences investment and finance strategies and outcomes, increases the literature on the economic effects of DT, and enriches the existing body of knowledge in corporate finance management (Hausberg et al. 2019). Secondly, this study provides managers with insight into how DT affects corporate financial management. This, in turn, can help with strategic decisions, improve corporate performance, increase competitiveness, and eventually contribute to economic growth and sustainability. These findings can also inform policymakers in establishing supportive policies that encourage enterprise innovation and resilience, especially in the face of rapid technological change (Nwankpa & Merhout 2020). Additionally, this research will lay the groundwork for future studies.

METHODOLOGY

This paper employs a systematic literature review (SLR) methodology, following well-established procedures proposed by Tranfield et al. (2003), Kraus et al. (2020), and the PRISMA framework (Moher et al. 2009), to enhance the study's transparency and replicability. The review process is divided into three key stages: planning, execution, and reporting, with the analytical structure guided by the framework of Kushwaha et al. (2021).

PLANNING THE REVIEW

We began by defining our scope and search strategy in line with SLR best practices (Tranfield et al. 2003; Moher et al. 2009), and used our research objectives to guide the selection criteria.We searched the Web of Science Core Collection for articles published between 2018 and 2022, using the following topic string to capture DT and corporate finance topics in titles, abstracts or keywords:

TS = ("DT" OR digitalisation OR digitisation)

AND TS = (company OR enterprise OR firm OR corporation)

AND TS = (invest* OR operat* OR financ*)

The initial search returned 2,419 records. We then applied sequential filters: (a) document type (articles or reviews), yielding 1,772; (b) subject categories (Management; Business; Economics; Business Finance), 812; (c) language (English), 767; (d) indexing (SSCI), 440; and (e) journal quality (Q1–Q2), 337.

CONDUCTING THE REVIEW

Following PRISMA's screening recommendations (Moher et al. 2009), we independently examined titles, abstracts and keywords of the 337 records, excluding studies that did not explicitly address DT in relation to operations, financing or investment. Full texts of the remaining 58 articles were then retrieved and assessed against our inclusion criteria. Discrepancies were resolved by consensus, resulting in a final set of 37 articles.

Although the search yielded several hundred DT-related studies, only 37 directly engage with at least one of our three dimensions—operations, financing or investment—in sufficient depth. Among these, 25 focus primarily on operation, 5 explore financing channels and cost structures, and 7 investigate digital investment patterns. This focused sample ensures that our analysis remains both manageable and closely aligned with our research questions (Q1–Q3).

A flow diagram of this selection process is presented in Fig. 1, and key characteristics of the 37 studies are summarized in Table 1.

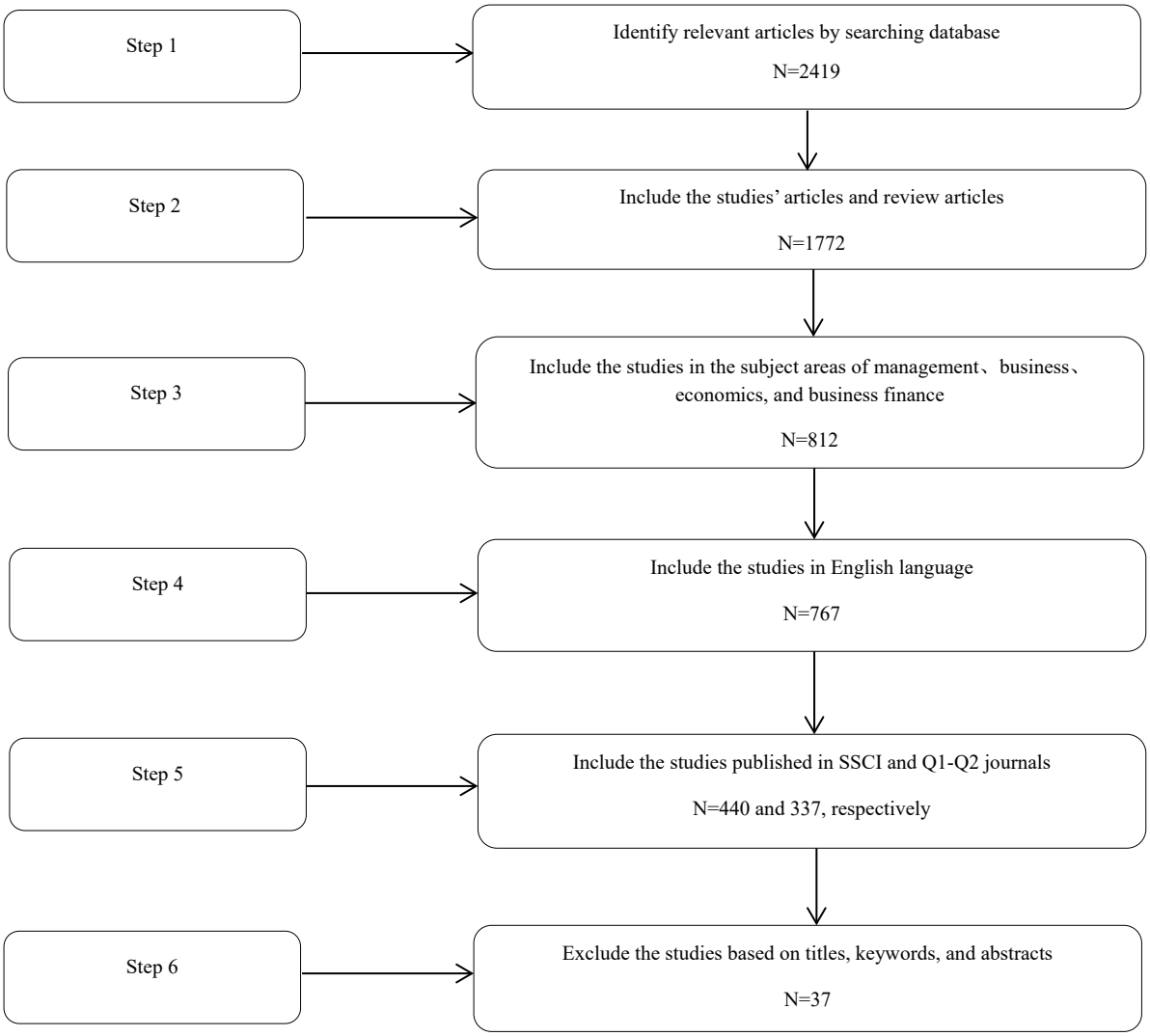

FIGURE 1. The data selection process

ANALYSIS METHOD

To map the intellectual landscape of DT research, we combined quantitative bibliometric techniques with qualitative content analysis, as recommended by Kushwaha et al. (2021) and Sánchez et al. (2017). Specifically:

1. Bibliometric analysis: We calculated annual citation rates, identified the most-cited authors and countries, and examined co-authorship networks to reveal leading contributors and geographic trends.
2. Keyword co-occurrence: Title and keyword data were processed to detect recurring themes and conceptual clusters, following Evans et al. (2013).
3. Qualitative synthesis: Each of the 37 articles was read in full to extract findings relevant to DT's effects on operations, financing and investment. We then organized these insights into thematic tables (Table A), ensuring that all three sub-questions (Q1–Q3) received coverage.

This mixed-methods design combines bibliometric mapping with qualitative content analysis, which enhances rigor and reproducibility by triangulating scalable structure detection with interpretive mechanism analysis (Kushwaha et al.2021). Concretely, we map citations, co-authorship, and keyword co-occurrence to identify influential actors and thematic clusters, then conduct codebook-based full-text coding aligned to Q1–Q3 to explain mechanisms and boundary conditions (Gioia et al. 2013).

RESULTS

DESCRIPTIVE BIBLIOMETRICS OF THE 37 EMPIRICAL STUDIES

Figure 2 shows the annual count of publications and average citations for the 37 studies in our sample. Publications surged in 2022, accounting for 83.3 % of the sample. Citations per study average 42, with eight papers (21.6 %) cited 1–10 times and seven (18.9 %) cited over 50 times. The top ten most-cited papers appear in Table 2. National contributions (Table 3) show China leading (15 articles), followed by France (4), Czech Republic (2), USA (2) and Malaysia (2). Figure 3 maps international co-authorship.

KEYWORD ANALYSIS AND LINKS TO RESEARCH QUESTIONS

Figures 4–5 display the most frequent title terms and author keywords across the 37 studies. Beyond confirming "digital(isation)", "transformation" and "enterprise/firm" as central labels, we observe:

1. "Finance" and "investment" appear prominently, reflecting our Q2 (financing) and Q3 (investment) focus areas.
2. "Innovation", "productivity" and "performance" cluster around Q1 (operations), indicating that much operational research examines how DT drives process efficiency and value creation.
3. "China" and "COVID-19" signal contextual concentrations in emerging markets and pandemic-driven digital shifts.

This breakdown confirms that the selected studies map neatly onto our three sub-questions: operations, financing, and investment,justifying our framework.

TABLE 1. Summary of the search result

Items	Results
Number of articles	37
Period	2018-2022
Author's keywords (DE)	121
Average citations per document	42.04
Authors	80
Authors of single-authored documents	0
Authors of multi-authored documents	80
Authors per document	3.33

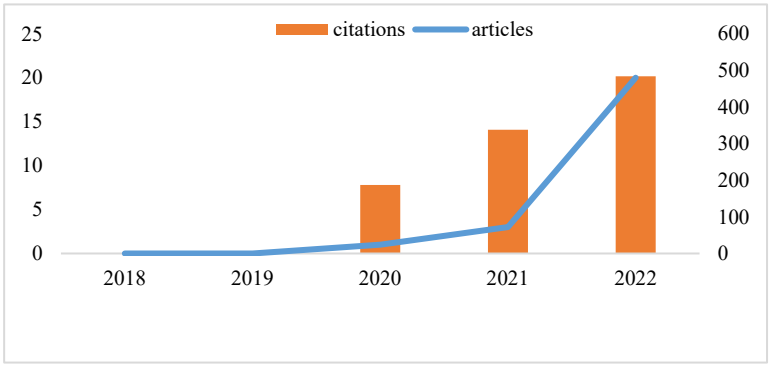

FIGURE 2. The number of articles published and citations per year

TABLE 1. Summary of top journals

Authors	Citations	Online Year
Ghobakhloo, M; Fathi, M	187	2020
Albert, C; Rubio, F; Valero, F	130	2021
Wen, HW; Zhong, QM; Lee, CC	116	2022
Usai, A; Fiano, F; Petruzzelli, AM;	111	2021
Bollaert, H; Lopez-de-Silanes, F; Schwienbacher, A	97	2021
Gaglio, C; Kraemer-Mbula, E; Lorenz, E	56	2022
Tian, GN; Li, B; Cheng, Y	52	2022
Zeng, HX; Ran, HX; Zhou, Q; Jin, YL	34	2022
Lv, PP; Xiong, H	28	2022

TABLE 2. Countries with the most articles

Country	Numbers
China	15
France	4
Czech	2
USA	2
Malaysia	2

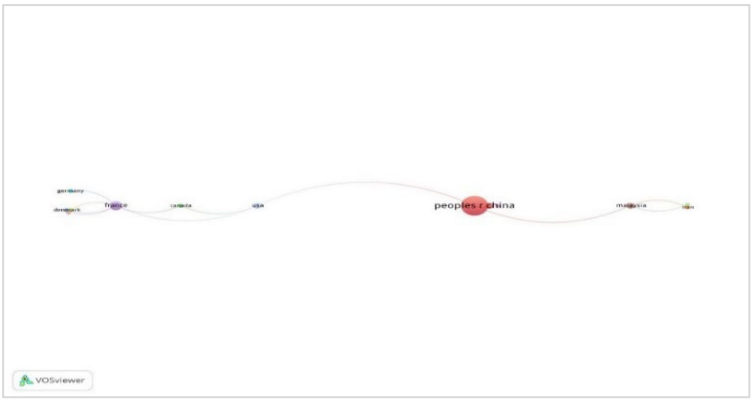

FIGURE 1. Inter-state relations

FIGURE 4. Word cloud of the titles

FIGURE 5. Word cloud of the keywords

THE IMPACT OF DT ON ENTERPRISE OPERATIONS

DT AND FIRM PERFORANCE

Digital resources resulting from digitalisation play a crucial role in enhancing firm performance (Zeng et al. 2022; Usai et al. 2021). This aligns with the resource-based view (RBV), which posits that "unique, valuable, and inimitable resources," such as digital capabilities, can provide firms with a sustained competitive advantage (Barney 1991). However, merely possessing such resources is insufficient; organisations must also develop dynamic capabilities—the ability to "integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece et al. 1997). This perspective underscores that it is not only the acquisition but also the effective utilisation of digital resources that drives firm performance.

Empirical studies provide further support for these insights. For instance, Suder et al. (2022) examine 110 one- and two-star hotels in Poland and, using PLS-SEM, find that digitalisation significantly improves hotel performance.

Cardinali and De Giovanni (2022) show that digital technologies deliver measurable operational and economic benefits. Jun et al. (2021) report a positive relationship between digital platform capabilities, organisational readiness, and innovation performance. Consistent with these findings, Kindermann et al. (2020) confirm that DT positively impacts firm performance.

BUSINESS MODEL TRANSFORMATION AND VALUE CREATION

According to Li (2020), DT reshapes firms' business models, whereas Rachinger et al. (2018) argued that it reshapes value generation. These changes are consistent with dynamic capabilities theory, which suggest that firms need to "adapt, integrate, and reconfigure internal and external competences" as a reaction to environmental changes (Teece et al. 2007). This is also associated with a firm's learnability and knowledge acquisition capability. But this raises an important question: do all businesses have the absorptive capacity, or simply the "ability to recognise the value of new information, assimilate it, and apply it" (Cohen & Levinthal 1990), necessary to fully benefit from these changes?

A few recent studies illuminate how DT is transforming business contexts. For instance, Stallkamp and Schotter (2020) noted that the proliferation of digital technologies has enabled the rise of platform business models across many domains. In a similar vein, Ho et al. (2022) and other researchers observed that DT was leading to rapid shifts in the operational dynamics of firms, forcing firms to reconsider and adapt their internal systems and capabilities in response.

ORGANISATIONAL AGILITY AND RISK-TAKING

Li et al. (2022a) argue that DT is one of the main contributors to enhance organisational agility, while Tian et al. (2022) argue that it additionally leads to an increase in enterprise risk-taking. For most companies, agility the ability to respond quickly to changing market and environmental requirements has become imperative for staying competitive. But risk-taking might not always pay off. Mismanaged, it can lead to greater exposure of firms to volatility, so good governance frameworks to help balance adaptability with risk control are crucial.

Aside from that, DT has been observed as a feasible instrument for organisational survival that takes place under uncertainty (Ghobakhloo & Fathi 2020). It influences more than just strategy or performance. A case in point, Schneider and Sting (2020) highlight how digitalisation has changed attitudes of employees concerning work and change. Similarly, Reuschl et al. (2022) connect it to enhanced organisational elasticity, while the impact of it on remoulding firms' internal operations is empirically noted by Kretschmer and Khashabi (2020). Additionally, Akhtar et al. (2022) show that digital technologies can enhance supply chain resilience, allowing firms to more effectively withstand disruptions.

DT AND FIRM PRODUCTIVITY

It has received growing attention in the academic literature the relationship between DT and company productivity. As an example, Björkdahl (2020) pointed out that DT supports firms in controlling operating expenditures, allocating resources properly, and detecting changes at the environmental level (which contribute to enhancing productivity performance). Among other factors, these organizational changes can be understood from a transaction cost economics (TCE) perspective, which argues that more efficient information transmission and reduced co-ordination inefficiencies reduce firm and inter-firm transaction costs.

Albert et al. (2021) also reinforced the necessity of having specific DT strategies in manufacturing and related them to enhanced profitability, production, market competitive advantages and customer satisfaction. This view echoes the more general theory of technology investment, according to which firms that strategically replace their old technology with new technology often realize large improvements in productivity. However, these gains are not necessarily distributed evenly over firms. This added complexity highlights the importance of absorptive capacity—defined by Cohen and Levinthal (1990) as a firm's ability to recognise, assimilate, and apply external knowledge—as a key determinant of how effectively a firm can adopt digital technologies.

Further evidence has come from several experimental studies. Wen et al. (2022a) and Szalavetz (2022) for instance have focused on the relationship between DT and total factor productivity, whereas Gaglio et al. (2022) posit that DT helps resolving bottlenecks of innovation, since it not only enhances the quality of innovation, but it also enhances the firms' ability to internalize and exploit new ideas. Additionally, DT appears to generate increasing returns to scale: larger firms that integrate digital tools more extensively tend to realise higher marginal productivity gains, which reflects classic economies of scale. This observation is in line with the dynamic capabilities framework (Teece et al. 1997), which underscores the importance of continuous adaptation and resource reconfiguration in rapidly evolving environments. Findings from Lv and Xiong (2022) demonstrate that DT can also enhance the investment efficiency of listed enterprises, reinforcing the view that DT is not merely a technical upgrade but a strategic lever for sustained organisational advancement.

DT AND DISRUPTIVE EFFECTS

But some experts have noted that DT can also be a disrupter. Although DT is often correlated with favorable results,

attention should be paid to the undesired parameters. For instance, Li and Jia (2018) found that the adoption of the information technology did not positively affect performance of businesses. Logg et al. (2019) that digital only decisions, that discount the emotional or intuitive judgments, are not always trustworthy. Their critique is rooted in behavioral decision theory, which posits that people make decisions through a combination of rational analysis and emotional responses (Kahneman & Tversky 1979). Without connections to personal, real-world scenarios, the decisions we come to will lack aspects of humanity, such as empathy, ethical nuance, and context – which may consequently lead to less successful or fulfilling decisions in the long term if systems are too data-incentivised.

THE IMPACT OF DT ON ENTERPRISE FINANCING

During the past few years, researchers have focused on the impact of DT on enterprise financing and investment behaviors. It is in the following three aspects that the previous research results on the effect of DT on enterprise financing are embodied:

DT & FINANCING ACCESS AND CONSTRAINTS

Bollaert et al. (2021) indicate that DT enhances the financing availability of firms, as it furthers the number of investment projects and the number of investors. One explanation for this finding can be found in the financial intermediation theory, which states that improved information availability and reduced transaction costs due to digital technologies lead to an efficient financial market and better access to capital (Fama 1980). The analysis also reiterated that DT reduces funding obstacles and enables companies to access a broader range of financial sources and tools.

Liu et al. (2022) highlights the fact that DT facilitates firm growth by easing access to outside financing and by lowering business risk. This is consistent with the the prediction of growth theory that access to capital is a key driver of enterprise growth and innovation (Harrison et al. 1999). Liu et al. (2022) provide evidence suggesting that a range of digital finance technologies enable firms to access financial services and grow businesses in developing and emerging market contexts.

Based on a sample data comprising data from the 2007 to 2019 Chinese listed companies, Niu et al. (2022) examined the effects of DT on financial constraints and enterprise governance. They found that DT can alleviate, financing constraints and enhance governance system to overcome institutional barriers for innovation. These findings are consistent with enterprise governance theory that argues the significance of good governance for managing risk and improving performance (Shleifer & Vishny 1997). Authors also laid out that through digital tools, governance structures can be made stronger which would foster an eco-system which will allow innovation to flow freely by shielding them from financial tightropes.

DT & DEBT FINANCING COST

Sun et al. (2022b) concluded that DT helps firms in lowering the cost of debt financing. Their study of the mechanism shows that such cost reduction is achieved by preventing agency problem and reducing information asymmetry. These results are consistent with those in agency theory, which highlights the conflicts of interest between managers and shareholders and the effect of such conflicts (Jensen & Meckling 1976). In addition, prior literature indicates that the impact of DT on borrowing costs is condition upon situational aspects such as the levels of market competition, the level of the firm's technological capability or the credibility of its auditors (Sun et al. 2022b). These findings indicate that the financial benefits associated with digitalisation are not blanket but contingent upon the individual characteristics of firms.

DT & FINANCING POLICY

Sun et al. (2022a) examined the effects of DT on enterprise financing decisions and identified a significant negative effect on cash holdings of firms. This finding is consistent with the trade-off theory that firms consider the benefits and costs of holding cash when determining an optimal level (Kraus & Litzenberger 1973). More revealingly, this decline in cash primarily occurs in non-SOEs in high-tech sectors. The results suggest that DT improves liquidity management of such firms in order to decrease opportunity cost of holding excess cash.

DT & TRADE CREDIT FINANCING

Trade credit, defined as the period of time over which one firm allows another in a business-to-business transaction to settle up after a good or service is sold, is an essential feature of business-to-business transactions. Liu and Wang (2022) studied the effect of DT on trade credit in a sample of Chinese public firms during the period 2012–2019. Their study founds that DT has a positive impact on the enhancement of trade credit availability. In a similar study, Tian et al. (2022) argued that DT prompts firms to take on risky activities, since it enhances their degree of operational flexibility and their access to financial resources. This phenomenon is particularly significant for non-SOEs and in more economically developed regions. These findings are consistent with the risk management theory, which suggests that having more

access to capital and flexibility help mitigate perceived risks of innovative or uncertain activities (Froot et al. 1993). According to Tian et al. (2022), DT strengthens a firm's capacity to embrace risk, offering advantages to enterprises operating in competitive and mature markets.

THE IMPACT OF DT ON ENTERPRISE INVESTMENTS

DT & R&D INVESTMENT AND INNOVATION INVESTMENT

DT encourages companies to invest more in R&D and enhance their core technology capability to meet market requirements (Li et al. 2022b). One of these explanations can be found in the resource-based view, which holds that resources of rare, valuable, and difficult to imitate nature, where firms have developed and invested on, such as advanced technologies and R&D capacities (Barney 1991), are responsible for firms achieving a competitive advantage that lasts.

Wen et al. (2022b) explored the relationship between the degree of digitalisation in the manufacturing industry and innovation-related investment based on data from Chinese manufacturing companies listed on the A-share market. Empirical results show that innovation expenditure significantly increases while companies experience DT. This finding is in line with the theory of diffusion of innovation which theorises that the uptake of new technologies encourages innovation at the industry level (Dibra 2015). The research concluded that DT is a major enabler of innovation investment which allows manufacturers to remain competitive in an age of rapid technological advancements.

In addition, Wen et al. (2022b) observed that DT enhances the total factor productivity in the manufacturing industry. This improvement was due to a lower transactional cost, ease of implementation of servitisation strategies, and a stronger commitment to innovation activities. These results are consistent with the predictions of the transaction cost economics literature that reducing transaction frictions may dramatically enhance a firm's overall productive efficiency (Williamson 1981).

DT & ENTERPRISE GREEN INVESTMENT

Based on the 2011-2020 panel data of high-polluting industries in China, Ding et al. (2022) discussed how the DT influences firms' green investment. Their findings suggest that digital technologies are significantly correlated with green investments.

Theoretical and practical implications from the theoretical point of view, these results might be explained in the perspective of sustainability and corporate social responsibility (CSR). From this angle, DT does not only serve as an enabler to companies to meet their ecological duties, but also help them to be inventive and future-oriented (Elkington 1997). Reinforcing this conclusion, Cao et al. (2022) also observed that DT has a positive effect on firms' willingness to invest in environmentally sustainable practices.

DT & SUPPLY CHAIN INVESTMENT

The digital economy has a close connection between consumption and production. As a result, businesses can utilise resources from their customers (Matarazzo et al. 2021). This development compels them to accelerate their investment in supply chain advancement (Matarazzo et al. 2021; Mashalah et al. 2022). While these developments offer significant opportunities, they also present potential risks.

In summary, the existing studies on DT mainly concentrate on the economic consequences of DT on firm operations, such as how it is defined and described, as well as how it affects business models, organisational structures, and management styles of businesses. Concerning the impact of DT on enterprise financing, it is reflected in the following aspects: Sun et al. (2022b) believed that DT lowers debt financing costs significantly; a study by Sun et al. (2022a) explored the effect of DT on enterprise financial policies and revealed that DT can drastically reduce enterprise cash holdings. Additionally, concerning the impact of DT on enterprise investment, the research results mainly focus on R&D investments (Li et al. 2022b) and investments in the supply chain (Matarazzo et al. 2021). As a crucial business strategy, DT has an undeniable effect on allocating a firm's resources. Thus, understanding the effects and mechanisms of DT on financing and investments would significantly contribute to enhancing the research into the economic consequences of DT.

DISCUSSION

Taken together, these findings align well with the three-dimensional framework we proposed in the introduction—operations, financing, and investment—and help address the corresponding research questions. On operations, the evidence consistently shows that DT enhances firm performance, agility, productivity and business-model innovation (Kindermann et al. 2020; Zeng et al. 2022; Suder et al. 2022), but the studies also reveal that such benefits are not automatic and depend on boundary conditions such as absorptive capacity, firm size, and governance quality (Cohen & Levinthal 1990; Gaglio et al. 2022). In financing, results confirm that DT lowers debt costs, eases financial constraints and improves access to credit (Sun et al. 2022b; Bollaert et al. 2021; Liu et al. 2022), yet the limited exploration of equity

financing and capital structure dynamics highlights a critical gap (Sun et al. 2022a). In investment, the literature documents DT's role in boosting R&D, green and supply-chain projects (Wen et al. 2022b; Ding et al. 2022; Matarazzo et al. 2021), but systematic tools to measure efficiency and long-term portfolio effects remain underdeveloped. Critically, while the reviewed studies largely affirm DT's positive influence, they often overlook trade-offs, risks and contextual contingencies (Li & Jia, 2018; Logg et al. 2019). Thus, our framework not only helps organize these findings into coherent dimensions but also underscores where existing evidence falls short, paving the way for future research to move from documenting benefits to theorizing conditional mechanisms and systemic impacts.

CONCLUSION

This review systematically examined 37 SSCI Q1–Q2 articles on digital transformation (DT) from 2018 to 2022. By mapping leading works, countries, keywords and thematic clusters, we synthesized findings across operations, financing and investment. Prior studies highlight productivity gains and business-model innovation but understate constraints such as firm size, asset-liability structures and employee adoption barriers. Financing research shows DT reduces debt costs and eases access to credit (Sun et al. 2022b; Bollaert et al. 2021), yet effects on equity financing, capital structure shifts and risk–return trade-offs remain limited. Investment work confirms DT's role in R&D and supply-chain upgrading (Wen et al. 2022b), though robust methods to measure digital-capex efficiency and compare green versus traditional investments are underdeveloped.

THEORETICAL CONTRIBUTIONS

Our review advances theory in three ways. First, it integrates operations, financing and investment into a unified DT–corporate finance framework, connecting dynamic capabilities with agency, pecking order and resource-based views. Second, it clarifies boundary conditions—such as absorptive capacity, market competitiveness, audit quality and ownership type—that determine when DT delivers value. Third, it extends resource allocation theory by showing how DT reallocates capital toward R&D, green and supply-chain investments, thus reshaping long-term portfolios. Together these contributions move the field beyond fragmented accounts to a more comprehensive, theory-driven explanation of DT's economic consequences.

IMPLICATIONS TO PRACTICE

For managers, the findings highlight three priorities. First, digital initiatives must be strategically aligned with risk governance to ensure agility does not increase exposure. Second, digital finance tools—such as blockchain trade finance or real-time credit scoring—should be leveraged to optimize capital structures and reduce reliance on traditional lending. Third, investment portfolios should be rebalanced toward digital and sustainable assets, with budgets redirected from traditional capex to analytics, AI forecasting and green technologies. Policymakers can further enable this shift by incentivizing SME adoption of digital finance and supporting training programs that build absorptive capacity.

FUTURE RESEARCH

Future research should address several gaps. Studies are needed on the heterogeneous impacts of DT across firm size, leverage ratios and workforce digital skills. Research must also extend to equity financing and capital structure optimization, exploring how digital reporting and analytics alter financing costs and trade-offs. Developing standardized ROI frameworks will improve evaluation of DT-related investments, especially in green and supply-chain projects. Comparative analyses across ownership types and institutional contexts will clarify boundary conditions, while longitudinal and system-level studies can trace adoption trajectories and capture sectoral or macroeconomic spillovers. By addressing these areas, future work can move from documenting benefits to explaining the conditional mechanisms by which DT creates and sustains enterprise value.

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APPENDIX A. Summary of the 37 empirical studies by DT impact dimension

Author (Year)	Dimension	Main Finding
(Ghobakhloo & Fathi, 2020)	Operations	DT is a feasible strategy for corporate survival.
(Reuschl et al. 2022)	Operations	DT impacts organizational elasticity.
(Suder et al. 2022)	Operations	Digitalization has a significantly positive impact on hotel performance.
(Gaglio et al. 2022)	Operations	Digitalization has a positive relationship with innovation and productivity.
(Li et al. 2022)	Operations	Digitalization generates positive impacts on firm performance.
(Usai et al. 2021)	Operations	Digital technologies improve the innovation performance of firms.
(Schneider & Sting, 2020)	Operations	Digitalization induces changes in employees' perspectives.
(Kretschmer & Khashabi, 2020)	Operations	Digitalization affects many organizations' internal operations and processes.
(Szalavetz, 2022)	Operations	Digital technologies shape the nature and routine intensity of shopfloor work.
(Cardinali & De Giovanni, 2022)	Operations	Digital technologies provide documented operational and economic benefits.
(Jun et al. 2021)	Operations	The capabilities of digital platforms and organizational readiness are positively related to innovation performance.
(Kindermann et al. 2020)	Operations	DT promotes firm performance.
(Stallkamp & Schotter, 2020)	Operations	Digitalization has enabled firms with platform-based business models to emerge across various sectors.
(Ho et al. 2022)	Operations	Digitalization has triggered rapid changes in the operational landscape.
(Akhtar et al. 2022)	Operations	Digitalization improves supply chain resilience.
(Liu et al. 2022)	Operations	DT can significantly promote enterprise development.
(Tian et al. 2022)	Operations	DT has a significantly positive effect on corporate risk-taking.
(Zeng et al. 2022)	Operations	Digitalization can significantly enhance firm performance.
(Wen et al. 2022a)	Operations	Digitalization and environmental regulation can significantly improve total factor productivity.
(Albert et al. 2021)	Operations	DT promotes greater profits, productivity, and competitiveness.
(Li, 2020)	Operations	DT reshapes firms' business models.
(Rachinger et al. 2018)	Operations	DT reshapes value generation.
(Björkdahl, 2020)	Operations	DT significantly increases productivity.
(Li & Jia, 2018)	Operations	Adopting information technology alone does not improve business performance.
(Logg et al. 2019)	Operations	The usefulness of decisions derived from digital sources has been questioned.
(Bollaert et al. 2021)	financing	Digitalization influences access to finance.
(Niu et al. 2022)	financing	DT helps alleviate corporate financial constraints and improve governance.
(Liu & Wang, 2022)	financing	DT significantly increases trade credit provision.
(Sun et al. 2022a)	financing	DT can significantly reduce corporate cash holdings.
(Sun et al. 2022b)	financing	DT significantly reduces the cost of debt financing for enterprises.
(Ding et al. 2022)	Investment	DT greatly increases corporate green investment.
(Lv & Xiong, 2022)	Investment	DT improves the investment efficiency of listed firms.
(Mashalah et al. 2022)	Investment	Digitalization promotes investment in supply chains.
(Li et al. 2022)	Investment	DT encourages firms to invest more in R&D.
(Wen et al. 2022b)	Investment	DT promotes investment in innovation.
(Matarazzo et al. 2021)	Investment	DT accelerates investment in supply chains.
(Cao et al. 2022)	Investment	DT promotes green investment.