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SPECIAL ISSUE ARTICLE

Strategy in the digitalization era

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Abstract

Ever since the rise of the Internet, digitalization has been increasingly shaping firms' business processes and models. The rapid rise of digital technologies has perhaps even changed some of the fundamentals of strategy, including strategic decision-making, cognition, discourse and practices. However, limited effort has been made to structure the strategy-oriented academic discourse in the digitalization era. This essay begins by defining and positioning the digital transformation from a strategic perspective. We provide grounds for this essay based on the existing research on a literature search and review to add theoretical structure to the field through the bibliometric mapping of 626 digital transformation studies from high-quality academic journals (AJG3 and AJG4 journal quality levels). Based on the analysis, we identify four clusters of research perspectives: (1) digital transformation, (2) digital strategy, (3) digital business model innovation and (4) digital marketing. Our essay contributes to the emerging digital transformation literature by positioning these different perspectives in digital phenomena that are relevant and adjacent to strategy and strategizing. Finally, we position the special issue papers in the research perspectives identified, and we suggest potential avenues for future research.

INTRODUCTION

Digitalization has been rapidly changing businesses and academic discourse over recent decades. This advance has been made possible by the rise of personal computers, the Internet, mobile computing, connectivity, the Internet of Things (IoT), Industry 4.0 and—most recently—the transformative rise of artificial intelligence (AI). We have witnessed the progress from initial digitization (i.e., turning analog to digital), to digitalization as a mega-trend of adopting digital technologies, to the eventual digital transformation of organizations and even complete industries and markets (Gradillas & Thomas, 2023; Verhoef et al., 2021). Digitalization is only likely to accelerate and increase in importance as it profoundly influences most industries and companies and, hence, their strategy and management practices (Hanelt et al., 2021; Kohtamäki et al., 2025). Digital transformation has impacted multiple levels and every aspect of business strategy (Dąbrowska et al., 2022), including industries, networks and ecosystems, business models, firms' identity and capabilities and also practices and psychological microfoundations (Rabetino et al., 2025).

Thus, digital transformation—and the related accelerating development of novel digital technologies—can be expected to disrupt and change business strategy and strategizing for quite some time. For instance, among the emerging and potentially disruptive technologies, AI is already changing industries and business models (Fosso Wamba et al., 2025; Sjödin et al., 2023), competitive advantages (Kemp, 2024; Ruokonen & Ritala, 2024), activities (Bharadwaj et al., 2013; Li, 2023; Porter & Heppelmann, 2015) and the nature of work and how humans work with various technologies within organizations (Faraj et al., 2018; Orlikowski & Scott, 2008). Furthermore, the increasing prevalence of data that is used across devices, organizations and ecosystems is changing how firms develop strategies to create and capture value and interface with their customers and other stakeholders (e.g., Alaimo & Kallinikos, 2022; Ritala et al., 2024).

Thus far, it has been established that digital transformation touches upon all aspects of organizing and strategizing (Hanelt et al., 2021) and occurs across levels of analysis, ranging from micro to macro (Dąbrowska et al., 2022). However, strategy research continues to be primarily influenced by different theories developed decades ago in a substantially different business landscape (He et al., 2020) and adopting a range of onto-epistemological approaches (Rabetino et al., 2021). Consequently, new studies combining strategy research and digital transformation are needed to discuss the role of digital technologies in the strategy context (Adner et al., 2019; Volberda et al., 2021). In an attempt to advance this discussion, *strategy* is here defined as *the means to achieve the vision. Strategizing*, then, involves enabling practices, practitioners and praxis (the actual strategic work) to analyse, decide and plan the implementation of strategic actions (Kohtamäki, Whittington, et al., 2022). Although digital technologies provide new means for companies to plan and implement their strategies, digital transformation also requires renewal due to the increasing speed of transformation and, therefore, the strategizing and dynamic capabilities (Teece, 2017; Teece et al., 1997; Warner & Wäger, 2019) to develop and maintain competitive advantage at different levels, including firm and ecosystem levels (Kohtamäki et al., 2019). We must review how strategy and strategizing appear in the digital transformation era from different angles to understand these developments entirely.

Systematic literature reviews are a powerful tool for advancing conceptual and methodological approaches (Breslin & Gatrell, 2023; Fan et al., 2022). For instance, Durand et al. (2017) argue that literature reviews can help extend established theories and combine existing concepts and research findings to analyse emerging phenomena. The digital era needs essential contributions to strategizing, from extending, clarifying and applying existing theories in new ways (Makadok et al., 2018). This introductory essay aims to stimulate discussion on digital transformation from the strategy perspective. In doing so, we provide novel theoretical insights from multidisciplinary research, combining insights from information systems and strategic management (Yoo et al., 2010) to comprehend better emerging strategy-related challenges that modern organizations encounter in digital transformation. First, we define and position the digital transformation from the strategy perspective. Second, we add a theoretical structure to the field by bibliometric mapping 626 studies from high-quality academic journals (AJG3 and AJG4 journal quality levels). Based on the analysis, we identify four clusters of research: (1) digital transformation, (2) digital strategy, (3) digital business model innovation and (4) digital marketing. We contribute to the digital transformation literature by conducting a content review on the clusters. Third, we locate the special issue papers in the created landscape and shed light on potential avenues for future research.

DEFINING THE CONCEPT OF DIGITAL TRANSFORMATION

To understand the digital transformation field from the strategy perspective, we conducted a literature search employing three search strings based on the existing literature: (1) digitalization, (2) strategy and (3) journal title. First, we used the following digitalization concepts of 'digital transformation*', 'digital transition' OR 'digital*' to scrutinize titles and keywords. Second, we used concepts of 'strateg*', 'business model*' OR 'activity system*' to narrow our search down to digital transformation papers from the strategy perspective. Strategy embraces business models and related activity systems (Casadesus-Masanell & Ricart, 2010; Porter, 1996), and a strategy study could use either the concept of strategy, business models or even activity systems as alternative keywords or in the title. Third, we confined our search to top-tier academic journals (AJG3–AGJ4*) in management, marketing, strategy, organization, entrepreneurship, innovation, operations, supply management and information systems. We aimed to limit our focus to the business, management and accounting domains of top journals that exemplified high scientific rigor (Khanra et al., 2021). The final data comprised 626 scientific papers.

Defining the concept of digital transformation

It is essential to define and understand digital transformation in terms of closely associated key concepts, including digitization, digitalization, digital business strategy and digital business model. Table 1 summarizes the relevant concepts, organized by their scope, from more generic to more specific. Concepts are central to this literature review and related to the content of the reviewed studies.

TABLE 1 Relevant definitions for the digital transformation and business model literature.

Authors	The concept	Definition of the concept
Verhoef and Bijmolt (2019)	Digitization	Digitization is the encoding of analog information into a digital format (i.e., into zeros and ones) such that computers can store, process, and transmit such information. (p. 891)
Gartner glossary (2020)	Digitalization	Digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business. (p. 1)
Kristoffersen et al. (2020)	Data analytics	Data analytics is the process of deriving knowledge and actionable insights from data and information, predominantly involving a series of methods and techniques including, but not limited to, data mining, artificial intelligence, knowledge discovery in databases, big data analytics, machine learning, and deep learning. (p. 243)
Hanelt et al. (2021)	Digital transformation	…organizational change that is triggered and shaped by the widespread diffusion of digital technologies (p. 1160)
Bharadwaj et al. (2013)	Digital business strategy	…organizational strategy formulated and executed by leveraging digital resources to create differential value. (p. 472)
Li (2023)	Digital strategy	…the strategic plan formulated in an organization to achieve long-term business objectives by exploiting existing and emerging digital capabilities. (p. 394)
Verhoef and Bijmolt (2019)	Digital business model	Digital business models are situations where digital technologies have fundamentally affected the way a firm structures and carries out its business and thereby creates value for customers, the firm itself, and its partners. (p. 343)
Kohtamäki et al. (2022)	Digital servitization	…a transformation toward smart, sustainable product-service systems that enable value creation and capture through monitoring, controlling, optimizing, and autonomous functioning. (p. 256)
Kannan and Li (2017)	Digital marketing capabilities	An adaptive, technology-enabled process by which firms collaborate with customers and partners to jointly create, communicate, deliver, and sustain value for all stakeholders. (p. 23)
Felix et al. (2017)	Social media marketing	Social media marketing is an interdisciplinary and cross-functional concept that uses social media (often in combination with other communications channels) to achieve organizational goals by creating value for stakeholders. (p. 123)

Digital transformation involves profound changes to firms, ecosystems and entire industries and societies (Dąbrowska et al., 2022); yet, it is important to understand how this transformation unfolds and has proceeded. First, a prerequisite for advanced-order digital initiatives is **digitization**, converting analog information into digital formats to store, process and transmit information digitally (Gradillas & Thomas, 2023). **Data analytics** is a key enabler for transforming raw digital data into actionable intelligence that supports decision-making. As such, digitization does not necessarily alter business processes, value-creation mechanisms, or strategies. Such a profound change process calls for broad adoption and application of digital technologies (and data) across organizations and industries—the mega-trend of **digitalization**.

When digitalization extends beyond technological implementation and process improvements to reshaping business operations and reconfiguring value creation, delivery and capture, it becomes **digital transformation**, a process guided by **digital strategy**. Digital strategy focuses on specific technological implementations and defines how digital technologies will be leveraged to achieve business objectives, involving technology adoption, capability development and organizational change management. Digital strategies can lead to new **digital business models** that emerge when companies leverage digital platforms, ecosystems and data-driven monetization approaches to redefine how an organization competes, creates, delivers and captures value. One form of this organizational and business model transformation is **digital servitization**, where manufacturing and business-to-business companies integrate digital services into their product-related value proposition by leveraging data analytics, IoT and cloud-based services. Finally, **digital marketing**—for instance, using digital marketing channels, such as social media marketing—can play a key role in driving digital transformation by creating value and customer engagement.

TABLE 2 Comparing the clusters of digital transformation studies.

Theoretical lenses and perspectives	Digital transformation	Digital strategy	Digital business model innovation	Digital marketing
Central topics	Digital transformation, digitalization, digital transition, digital technologies, digital innovation, digital capabilities, circular economy, decision-making, artificial intelligence, information systems, sustainability	Digital strategy, digital business strategy, digitalization, strategic planning, capability development, digital platforms, ecosystems strategy and orchestration	Digital business model innovation, technological innovation, Industry 4.0, service innovation, product–service offerings and sustainability	Digital marketing, social media, digital marketing strategy, electronic commerce, digital platforms, on-line communities, sharing economy, pricing, marketing
Central theoretical grounds	Technology adoption, resource-based view, dynamic capabilities, open innovation and organizational change	Strategic management, strategy process, resource-based view, organization design, strategic agility, open strategy, paradoxes, ecosystems	Servitization, value creation, value capture, dynamic capabilities, business models, product–service system (PSS)	Value co-creation, game theory, social networks, marketing strategy, consumer behaviour, brand management
Core insights into strategy in the digital transformation era	Digital technologies have pervasive and consequential effects on organizations' structures, processes and capabilities	Digital technologies require rethinking core strategy and strategic management principles concerning firm scope, advantage and competitive position	Digital technologies allow new value creation, delivery and capture mechanisms and schemes	Digital technologies change how firms approach their customers and present their value propositions
Example studies (five most cited in each cluster)	Amankwah-Amoah et al. (2021), Eller et al. (2020), Hanelt et al. (2021), Kristoffersen et al. (2020), Verhoef et al. (2021)	Bharadwaj et al. (2013), Constantinides et al. (2018), Danneels (2004), Helfat and Raubitschek (2018), Sambamurthy et al. (2003)	Ghezzi and Cavallo (2020), Kohtamäki et al. (2019), Setia and Patel (2013), Täuscher and Laudien (2018), Warner and Wäger (2019)	Autio et al. (2018), Day (2011, p. 201), Eckhardt et al. (2019), Felix et al. (2017), Loebbecke and Picot (2015)

Structuring the digital transformation literature

Accordingly, the four clusters emerging from the documents' bibliographic coupling analysis using the VOSviewer software are labelled as follows: **(1) digital transformation**, **(2) digital strategy** (Green), **(3) digital business model innovation** (Yellow) and **(4) digital marketing** (Red). These clusters are broad and have blurry boundaries. There is considerable variation around the central themes. As a result, the proposed labels are summaries reflecting common citation structures rather than conclusively characterizing each cluster.

Table 2 briefly details the clusters that are introduced in Figure 1. The clusters are explored based on dimensions such as central topics, theoretical grounds and some example studies. The first cluster, digital transformation, includes 134 studies. These studies tend to emphasize digital transformation, the digital transition process, digital technology and digital innovation. The second cluster, the digital strategy, includes 145 studies. These studies look at digitalization from the perspective of digital strategy, transformation, digitalization, strategic planning, platforms and ecosystems. The third cluster, the digital business model innovation, involves 187 studies. These studies emphasize business models, business model innovation, dynamic capabilities, value creation and capture, servitization and product–service systems. The fourth cluster, digital marketing, includes 160 studies. Studies in this cluster emphasize digital marketing, social media marketing, commerce, on-line communities, sales, value creation and pricing.

DIGITAL TRANSFORMATION

Digitalization is a gradual process where the value propositions and activities of the company change from 'analog to digital' (Piepponen et al., 2022), and digital transformation, then the pervasive organizational and industrial change that ensues across all aspects of organizing and strategy (Dąbrowska et al., 2022). The uptake of digital technologies

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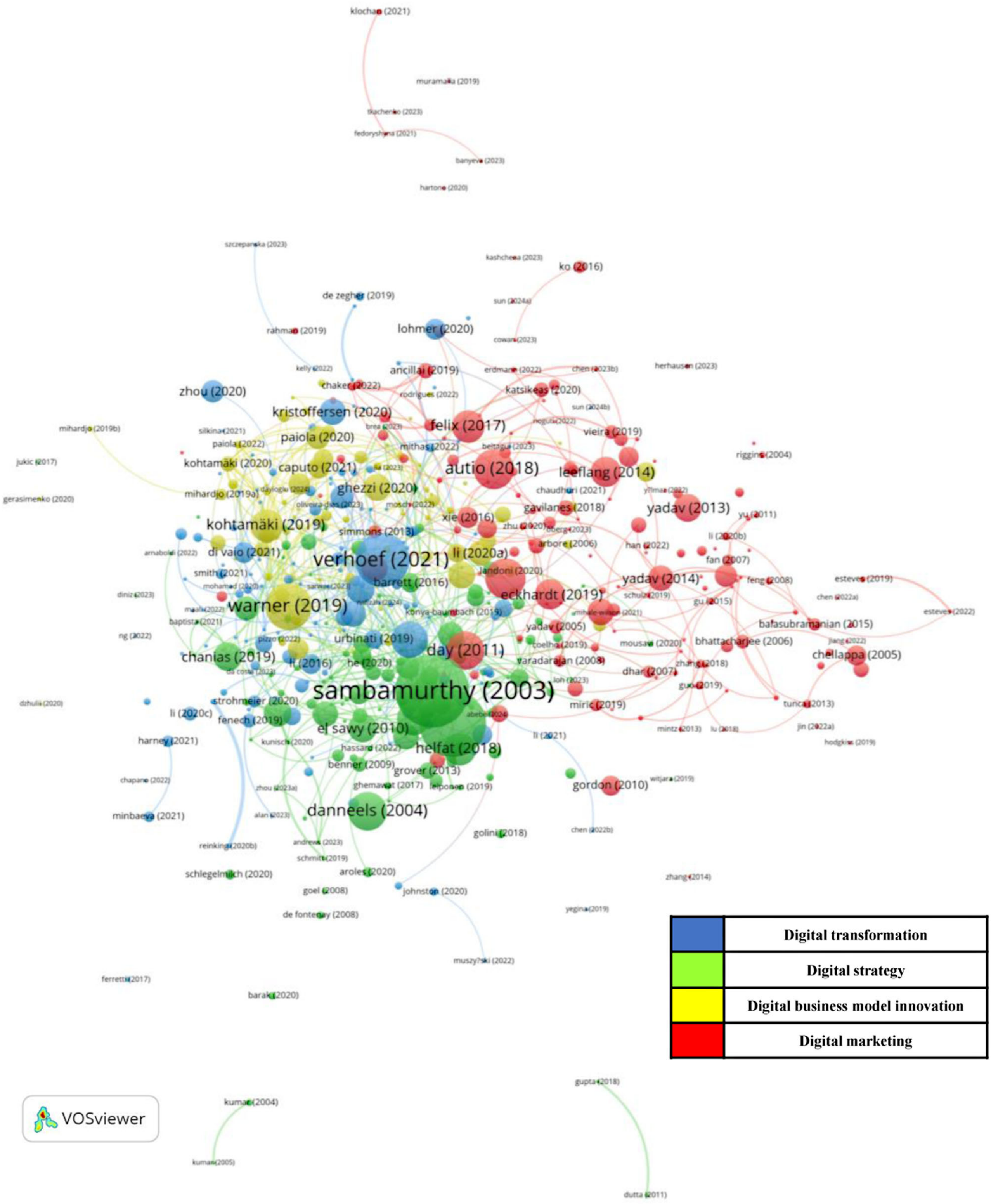

FIGURE 1 Structure of the digital transformation literature.

transforms the traditional business logic by starting from the digital and building the business strategy and operations around the digital capabilities (AlNuaimi et al., 2022). Although the transformation is often gradual, sometimes companies might experiment with faster strategic pivots and turnarounds as witnessed during the pandemic and moments of external crisis (Clauss et al., 2022). Moreover, in this cluster, many studies explain how digital technologies drive decision-making, innovation, value chain and supply chain (Di Vaio et al., 2021; Urbinati et al., 2019). Digitalization can also explain how capabilities such as data-driven operations and agile structures facilitate swift organizational transformation, or in other words, *digital transformation* (Hanelt et al., 2021). Furthermore, studies in this cluster focus on digitalization in varying empirical contexts, including large companies and SMEs, different industries and turbulent times (e.g., Covid-19).

Digital transformation studies use theories and theoretical concepts, such as technology adoption, business models, dynamic capabilities, resource-based views, strategic planning and organizational change. Because many of these studies consider that digital technologies and related innovations create new organizational dynamics and renewal opportunities, they ground their theorizing in dynamic capabilities. For instance, Verhoef et al. (2021) craft an agenda for digital transformation research, particularly the role of digitalization in novel business logics. Gawer (2021) explores the drivers of firm boundaries of digital platform companies. She separates three primary boundary decisions related to platform capabilities (scope), customer base and digital interfaces. Chaudhuri et al. (2022) show how circular economy-related and digital capabilities enable value creation from circular economy and digital resources. Similarly, Di Vaio et al. (2021) reveal the interplay among innovation, sustainability and digitalization tools. Proksch et al. (2024) emphasize digital capabilities and culture through quantitative analysis. These studies see digital transformation as a holistic, dynamic, continuous process involving cognition, structures and routines. Volberda et al. (2021) explore strategic management in the digital era and identify the role of cognitive barriers, routines and organizational forms as components that the incumbent firms should address when reconfiguring their strategizing practices for the digital era. In their study, Kristoffersen et al. (2020) develop a smart circular economy framework, exploring the interplay between digitalization and circularity strategies. Butt et al. (2024) study the role of culture in digital transformation, finding, for example, multiple artefacts used to steer digitalization. Thus, the digital transformation cluster takes a more process-centric view towards organizational transformation across activities, practices and levels.

DIGITAL STRATEGY

Digital strategy refers to using digital capabilities to analyse, decide and implement strategies to achieve the strategic vision (Bharadwaj et al., 2013). This cluster emphasizes strategy and strategizing in the digital landscape. Digital strategy pinpoints digitalization as an overarching concept crossing strategies, functional strategies and operations, which are all interrelated (Bharadwaj et al., 2013). On the other hand, studies remind us that digitalization comes with a caveat—should companies go ‘all in’ (Immelt, 2017) or approach technology adaptation issues through micro-applications (Grover & Kohli, 2013)? This major transformation entails numerous paradoxes, such as the paradox of global scaling (Tippmann et al., 2023), and, therefore, companies need coping practices to manage them (Danneels, 2004; see also Smith & Lewis, 2011). The digital strategy cluster encompasses a broad scope of studies, including process (Barker et al., 2024; Furr et al., 2022; Putra et al., 2023; Schildt et al., 2023), content (Geurts & Cepa, 2023; Van Dyck et al., 2024) and contingency studies (Bouguerra et al., 2023). Moreover, recent studies go beyond the organizational boundaries from firm to ecosystem-level strategic practices and actions (Cozzolino & Geiger, 2024; Geurts & Cepa, 2023). Studies in this cluster typically use concepts such as digital strategy, digital business strategy, digital platforms, strategic planning and decision-making to define their conceptual scope. Studies inform researchers about digital strategies’ resource requirements and investment needs without ignoring the value appropriation’s role in driving economic rents. Furthermore, some studies argue that digital strategy implementation may require new and different capabilities and orientations from firms and their employees (Ritala et al., 2021).

The theoretical landscape of this cluster includes foundational perspectives such as strategy process theorizing and the resource-based view, which offer insights into how firms formulate and sustain competitive strategies in the digital era. Building on these foundations, theories of organizational design, strategic agility and organizational change help to explain how firms develop the capabilities needed to adapt and leverage digitalization. For example, Bharadwaj et al. (2013) conceptualize digital business strategy through scope, scale, speed, value creation and capture dimensions. Sambamurthy et al. (2003) complement this view by explaining how organizational capabilities and strategic processes mediate the impact of IT investments on firm performance. In addition, a digital strategic perspective extends beyond the firm level; scholars have increasingly emphasized the importance of ecosystem-level orchestration. For instance, Helfat and Raubitschek (2018) propose three dynamic innovation capabilities—environmental scanning, sensing and ecosystem orchestration—as essential for integrating and navigating complex digital ecosystems. More recently, Miehé et al. (2023) explore how firms use different connectivity strategies to participate in and derive value from such ecosystem partnerships.

DIGITAL BUSINESS MODEL INNOVATION

Digital business models describe how firms leverage digital technologies to create, deliver and capture value for customers and partners (Verhoef et al., 2021). More specifically, studies in this cluster explore the role of digital technologies in impacting business models in different industries—manufacturing (Kohtamäki, Leminen, et al., 2024; Rummel et al., 2022), banking (Setia & Patel, 2013), retailing (Hänninen et al., 2018) or creative industries (Landoni et al., 2020). A broad range of studies, however, focus on manufacturing industries. Perhaps, as a result, one of the key concepts in this cluster is associated with servitization in general and digital servitization in particular (Rabetino et al., 2021). Digital servitization is explained as a product manufacturer's transformation towards smart, sustainable product–service systems (Kohtamäki, Rabetino, et al., 2022). Sjödin et al. (2022) highlight the need for novel frameworks to understand the transformative effect of different digital technologies on traditional business models and the related capabilities of value creation, delivery and capture, thus representing transformation processes that manufacturing companies go through as digitalization progresses (Kowalkowski et al., 2021).

Studies in this cluster use various theoretical approaches. Studies approach digital transformation from the perspective of product–service business models and offerings. This is the so-called transition from product-based to service-based business models, or from selling products to selling the value or performance generated by products (e.g., power by the hour). The transition is coined as servitization. It has also been referred to as the shift of the business logic from product to service logic, which digitalization facilitates. The literature also highlights the issue of sustainability. Here, reducing the carbon footprint through the product lifecycle has emerged as an important factor and, therefore, an aspect of digital business model innovation and digital servitization (Kohtamäki, Bhandari, et al., 2024). Another typical issue in these studies is the transition of the business model towards a platform business model. Blackburn et al. (2023) what they call meta-organizational orchestration mechanisms in a circular economy context. Paiola and Gebauer (2020) focus on business model innovation in progressing Internet-of-things applications. Another study seeks to understand the value-capturing strategies that convert offerings into revenues (Gebauer et al., 2020). Tronvoll et al. (2020) conclude their study with what they coin as three transformational shifts from planning to discovery, scarcity to abundance and hierarchy to partnership. Kamalaldin et al. (2020) have studied manufacturer–customer relationships to understand how relationships evolve through complementary digitalization capabilities, relationship-specific digital resources, knowledge-sharing practices and governance practices. Proksch et al. (2024) highlight the role of digital capabilities in producing product and service innovations. Finally, Rabetino et al. (2024) reviewed the digital service innovation literature, identifying three study clusters, namely, (1) innovation for digital servitization, (2) service innovation in the digital age and (3) adoption of novel e-services enabled by information system development.

DIGITAL MARKETING

Studies in this cluster build on the changing marketing practices in the digital landscape. Research in this cluster focuses on marketing challenges in this digital environment (Leeflang et al., 2014). Topics cover various digital marketing issues, or more specifically, social media marketing issues, including marketing strategies (Cai & Choi, 2023; Vieira et al., 2022), challenges (Herhausen et al., 2023; Leeflang et al., 2014), capabilities (Felix et al., 2017; Homburg & Wielgos, 2022; Stallone et al., 2024) and offerings (Bhargava, 2023; Seifert et al., 2023), as well as the broader themes of platforms (Liu et al., 2024) and ecosystems (Autio et al., 2018). These studies analyse digital transformation primarily from marketing perspectives, emphasizing social media marketing and consumer markets. The topic of digital platforms is present in this cluster of studies, but the emphasis is on consumer marketing perspectives and markets. Of course, platform business models have been primarily used in consumer markets thus far. B-to-B platforms may be emerging, but they are much rarer than consumer market platforms.

Regarding theoretical framing, these studies tap into digital marketing from various theoretical perspectives, including value co-creation, game theory, social networks and the sharing economy. Loebbecke and Picot (2015) frame the changes big data brings to society. Leeflang et al. (2014) address the challenges companies face in the digital era, identifying those related to talent attraction, organization and measurement systems. Li (2020) created a business framework for creative industries. Another study has developed a model for social media marketing (Felix et al., 2017). Day's (2011) study emphasizes the role of marketing capabilities in rapidly changing digital markets, such as market learning, market experimentation and open and interactive marketing, with the 'technology adopters' needed to realize the potential of all the market data available. According to Day (2011), companies often cannot understand and meet market needs in their marketing, resulting in slow adaptation. Autio et al. (2018) consider the emergence and characteristics of entrepreneurial ecosystems, emphasizing the emergent nature of ecosystem creation and development. In their study, Yadav et al. (2013) discuss the concept of social commerce and propose a contingency framework. Rangaswamy et al. (2020) have developed a framework to understand the role of marketing in digital business platforms. Overall, studies in this cluster focus on the impact of digital transformation on marketing practices.

PLACING THE SPECIAL ISSUE PAPERS IN THE LITERATURE ON 'STRATEGY IN THE DIGITAL TRANSFORMATION ERA'

This special issue includes five literature review articles published in the International Journal of Management Reviews. Some papers have been published in 2024 as early view, but the final publication will come in 2025. After structuring the landscape of digital transformation research from a strategic perspective, we now introduce the paper that has been accepted for the special issue and position it in the identified landscape. Table 3 provides insights into the contents of the review papers included. Each study takes a strategy-driven perspective towards digital transformation as a phenomenon. Overall, the special issue papers offer different in-depth reviews of specific topics related to strategies in the digital transformation era, using different levels of analysis, such as actors, platforms, digital business models and networks in these ecosystems.

Ortner et al.'s (2024) study focuses on open strategy and digital transformation. They did a systematic literature review of 70 articles. The study develops a framework to map the relationship between digital transformation and open strategy. Open strategy emphasizes transparency and inclusion, whereas digitalization enables openness by providing new real-time tools for interactions through various forums, blogs, wikis and crowdsourcing, to name a few examples. Using strategy-as-practice, the authors study the agency, power, temporality and materiality in the links between DT and open strategy. Openness is continuously constructed by the power dynamics and structured and shaped by digital technologies. Studying the interplay between open strategy and digital transformation holds much future potential.

Palmié et al. (2024) conceptualize digital-sustainable business models by systematically reviewing 134 papers. The study explores the concepts of digital transformation, sustainable development and digital sustainability. The authors develop a four-element framework of digital-sustainable business models covering issues, such as the business model, antecedents, boundary conditions and outcomes, which they use to review the literature. The framework also has the potential to help companies understand digital-sustainable business models and how to develop them.

Zhou et al. (2024) explore the impact of digital technologies on strategizing by systematically reviewing 163 articles. Their study develops a typology of strategic actions illustrated by the extent of change and value creation. They use a strategy-as-practice approach to understand strategizing and how digitalization shapes it. Digitalization and strategic practices can enable a firm to reinvent and renew organizational culture by integrating new technologies. Digitalization and its effect on strategic practices can provide interesting opportunities for future research.

Volz et al. (2025) study organizations within digital ecosystems and the role of dynamic capabilities in adaptation. The authors systematically reviewed 56 articles and identified 17 dynamic capabilities essential for firms to adapt to the ecosystem. These 17 dynamic capabilities should enable leveraging data, fostering collaboration and aligning operations with the business ecosystem. Some dynamic capabilities relate to collaboration and openness, whereas others focus on business model innovation, ecosystem governance or identity formation. Many research opportunities in dynamic capabilities are needed for creating and developing digital ecosystems.

Kulichyova et al. (2025) investigate the domains of dynamic capabilities and related dilemmas when implementing digital transformation. The authors conducted a systematic literature review of 123 articles. The study identified four domains of dynamic capabilities: performance, leadership, governance and organizational structure. The study also identifies four dilemmas organizations face in digital transformation. They suggest that the dilemmas can be used as lenses when planning digital transformation processes to cope with the dilemmas.

Overall, the special issue papers examine strategy in the digital transformation era using central concepts, such as digital transformation, business models, strategizing, dynamic capabilities, digital ecosystems, open strategy and digital sustainability. The papers offer insight into the intersection of digital transformation and strategizing. As we defined at the beginning of this essay, strategy is *the means to achieve the vision*. In this definition, strategizing is the process that involves enabling practices, practitioners and praxis (the actual strategic work). Thus, many special

TABLE 3 Articles in the special issue.

Author	Article focus	Methodology	Findings	Position in the clusters
Ortner et al. (2024)	Open strategy and digital transformation	Systematic literature review of 70 articles	The authors develop a framework to map the relationship between digital transformation and open strategy. Using strategy-as-practice, the authors study the agency, power, temporality and materiality in the links between DT and open strategy	Digital strategy
Palmié et al. (2024)	Digital-sustainable business models	Systematic literature review of 134 articles	The study develops a strategic management framework of digital-sustainable business models, which it then uses to map the literature regarding antecedents, processes, boundary conditions and outcomes	Digital business model innovation
Zhou et al. (2024)	The impact of digital technologies on strategizing	Systematic literature review of 163 articles	The study develops a typology of strategic actions illustrated by the extent of change and value creation	Digital strategy
Volz et al. (2025)	Dynamic capabilities in digital ecosystems	Systematic literature review of 56 articles	A total of 17 DCs are essential for firms to adapt to ecosystem-based interactions. New capabilities should enable leveraging data, fostering collaboration and aligning operations with the business ecosystem	Digital transformation
Kulichyova et al. (2025)	Domains of dynamic capabilities and related dilemmas	Systematic literature review of 123 articles	The study identifies four domains of dynamic capabilities: performance, leadership, governance and structure. The study identifies dilemmas that organizations have to face in digital transformation	Digital transformation

issue papers link their discussion to the processual view of strategy and strategy practices. Specifically, the strategy-as-practice approach was used by Ortner et al. (2024) and Zhou et al. (2024). Kulichyova et al. (2025) and Volz et al. (2025) used dynamic capabilities as a lens—Palmié et al. (2024) digital-sustainable business models. Strategy under digital transformation requires a clear understanding of the business model, strategic practices to achieve a common understanding and dynamic capabilities for renewal.

CONCLUSIONS AND FUTURE RESEARCH DIRECTIONS

This introductory essay was written to stimulate discussion on strategy in the digital transformation era. We defined and positioned the digital transformation from the strategy perspective by reviewing 626 studies from high-quality academic journals (AJG3 and AJG4 journal quality levels). On these bases, we identified four broad streams of digital transformation research: digital transformation, digital strategy, digital business model innovation and digital marketing. We discussed the novel discussion emerging from the special issue papers against the landscape and discussed potential avenues for future research.

The studies in this special issue focus on strategizing to renew strategies and business models in organizations and ecosystems. Strategizing studies lean towards the digital strategy research stream, whereas two studies using dynamic capabilities lean towards the digital transformation stream of research. One of the studies focused on digital-sustainable business models, contributing to business model innovation studies. The studies provide in-depth insight into the process and content of strategy and business models in the digital transformation era, each providing important suggestions for future research.

When reviewing the digital transformation literature and the special issue papers, we have summarized several key gaps and related recommendations for future research in Table 4. Beyond these, we want to extend a broader call for further research on strategy in the digital transformation era.

First, we invite more studies to examine the intersection of digital technology and strategy more accurately and mindfully. For instance, there is a recent stream of studies on the role and nature of (digital) data concerning organization, strategy and value creation and capture (Alaimo & Kallinikos, 2022; Ritala et al., 2024). Studies examining how the increasing prevalence of data affects firms' abilities to implement various strategies would be valuable. Similarly, the rapidly progressing AI development,

TABLE 4 Clusters, the identified gaps and future research directions.

Cluster/Methods	The identified gaps in the research	Future research direction
Digital transformation	Due to rapidly progressing AI development, adopting new AI technologies and applications, such as generative AI and agentic AI, requires greater attention	The role of practices that drive successful generative AI adoption and institutional diffusion The agentic role of AI and advanced analytics in organizations and the changes to organizational processes and structures
	The evolution of AI is increasing the pace of radical change in different industries, and too few studies tap into this process	Coping with the increasing pace of radical change in the age of AI. How can strategy and capabilities be reconfigured during the radical transformation?
	Strategy process research focuses predominantly on firm-level strategizing, and rare studies have tapped into strategic practices that move across firm boundaries	Digitalization and open strategy, practices and routines for open strategizing
Digital strategy	More than ever, research is needed on the inertial forces of technology adoption	Inertial forces of technological and organizational adoption at different levels and the role of managerial systems in the process
	Studies rarely tap into the impact of digitalization on firm strategizing	Studies on digital tools and technologies shaping strategy processes and practices
	Limited research on AI in strategic analysis, decision-making and implementation.	Studies on the role of AI at different stages of strategy work, e.g., analytics, decision-making and business model development, as well as implementation and creation of the activity system
Digital business model innovation	Very few studies exist on the role of artificial intelligence in product–service systems	AI applications in product–service systems, digital service innovation, micro-level innovation and renewal work. Studies on monetization of AI-enabled services
	Empirical studies rarely focus on digital service innovation and solution offerings	Digital service innovations and novel digital service offerings, including opportunities for novel product–service systems. Understanding processes and capabilities for digital solutions that are scalable to global markets
	Too few studies detail the microfoundations of digital business model innovations	Processual studies focusing on microfoundations and routines of digital business model innovations
Digital marketing	Rarely do studies tap into the transition from conventional marketing practices towards using AI in marketing analytics, choice and implementation	Use AI in on-line marketing analytics and implementation. To understand the transition from conventional marketing to AI-enabled marketing practices
	Research on the strategic use of social media platforms for B2B sales, marketing and ecosystem development	The role of social media platforms in supporting effective on-line B2B marketing
	There is too much scattered empirical research about on-line sales growth	What industry-contextual practices are used for the most effective on-line sales growth?

Abbreviation: AI, artificial intelligence.

including technologies such as generative AI and agentic AI, requires more attention. Finally, more studies explain how competitive advantages and strategic positions change when data and AI become more pervasive and valuable (Kemp, 2024; Ruokonen & Ritala, 2024), an important future research area.

Second, *strategy process and practice* research focuses predominantly on firm-level strategizing, and studies have rarely tapped into strategy practices that move across firm boundaries or how they interlace with digital technology. In this regard, digital-technology augmented practices and routines for open strategizing provide fruitful opportunities (see also Ortner et al., 2024, this issue). Moreover, too few studies detail the microfoundations of digital business model innovation. For instance, processual studies focusing on microfoundations and routines of digital business model innovations could provide interesting opportunities to expose the challenges and opportunities that new digital technologies create (Kanbach et al., 2024). Finally, the role of practices and routines (such as dynamic capabilities, as seen in Kulichyova et al., this issue; and Volz et al., this issue) that drive successful digital technology adoption and institutional diffusion deserves further research. Relatedly, the agentic role of AI (Vanneste & Puraranam, 2024) and advanced analytics in organizations and the changes to organizational processes and structures could provide some interesting opportunities for strategy scholars.

Third, multiple research opportunities emerge in explaining how digital technologies help *strategizing and strategy-making* itself (see also Zhou et al., this issue). For instance, studies rarely tap into the impact of digitalization on firm strategizing or the role of digital tools and technologies in shaping strategy processes, practices, or strategy discourses. Moreover, there is limited research on AI in strategic analysis, choice, and implementation (for an exception, see Mudassir et al., 2024). Studies on the role of AI at different stages of strategy work, for example, strategy framing and discourse, analytics, strategic choices, business model development and implementation, are called for.

Finally, we call for more *phenomenon-based theorizing* (see Lumineau et al., 2025) to open up the possibility for entirely new digital strategy phenomena to emerge. The existing lenses used by strategy and management scholars might not be ready for developments afforded by new digital technologies. At the same time, we are seeing more and more cross-pollination among computer science, information systems and management scholars. We believe this is a good direction. Future studies must test and extend the existing strategy frameworks and lenses and develop completely new ones whenever new empirical phenomena warrant.

Overall, as the reviews published in this special issue demonstrate, topics in the intersection of strategy and digital transformation provide a great potential for future studies. Hopefully, the special issue papers and this introductory essay will help generate insight for future studies on these topics.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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