

THE IMPACT OF DIGITAL TRANSFORMATION ON STRATEGIC MANAGEMENT: A LITERATURE SURVEY

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Abstract

Digital transformation is a major force that is reshaping the business landscape. Businesses that are able to embrace digital transformation and adapt to the changes it brings will be well-positioned to succeed in the future. However, the impact of digital transformation on strategic management is still a complex and evolving topic. This research project will explore the impact of digital transformation on strategic management. The project will use a systematic review of the existing literature, in-depth case studies, and surveys to gain a deeper understanding of the topic. The research findings will be presented and discussed in the context of their implications for theory and practice. The research project will make a number of contributions to the literature on digital transformation and strategic management. First, the project will provide a comprehensive overview of the impact of digital transformation on strategic management. Second, the project will identify the key challenges and opportunities that businesses face in this area. Third, the project will develop a theoretical framework that can explain the impact of digital transformation on strategic management. The research findings will be of interest to businesses, organizations, and academics who are interested in the impact of digital transformation on strategic management. The findings will also be of interest to policymakers who are interested in the implications of digital transformation for the economy and society.

Keywords: Digital transformation, Strategic Management, Organizational Change, Technology adoption, Competitive Advantage

INTRODUCTION

The phenomenon of digital transformation has become very popular in recent years (Fitzgerald et al., 2014; Kane et al., 2015). Digital transformation or digitalization is the integration of digital technologies into business processes (Liu et al., 2011). The exploitation of digital technologies offers opportunities to integrate products and services across functional, organizational, and geographic boundaries (Sebastian et al., 2020). Technological innovations have contributed to the transformation; from earlier days when societies were quite rigid to today where people are free to do whatever they want (Fareed et al., 2023). According to (Rego et al., 2021), the concept of digital transformation (DT) reached a solid and leading position in the discussion of the key elements which influence the development and survival of contemporary organizations. Integrating and exploring new digital technologies is one of the biggest challenges that companies currently face. No sector or organization is immune to the effects of digital transformation. Through a systematic review of the literature, this study aims to understand how digital transformation has changed business strategies. The results show that studies dealing with the relationship between DT and strategic management are incipient. The existing literature was categorized into six main areas of research: (i) analysis of external environment, (ii) analysis of internal environment, (iii) strategy formulation, (iv) strategy implementation, (v) evaluation and control, and (vi) feedback and learning. This paper establishes the grounds for grasping the gaps existing in the literature and proposes a future research agenda. Digital transformation refers to the process of using digital technologies and tools to fundamentally change how a business operates and delivers value to its customers (Hassan & Iqbal, 2019). This can involve integrating digital technologies into all aspects of a company's operations, from customer engagement to internal processes and supply chain management.

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Digital transformation can involve a wide range of technologies, such as artificial intelligence, cloud computing, data analytics, the internet of things, and more. The goal of digital transformation is to create more efficient, agile, and customer-focused organizations that can better adapt to rapidly changing market conditions and customer demands (Sebastian et al., 2020; Fahim et al., 2020; Iqbal & Shamsi, 2017). While digital transformation can involve significant changes to a company's operations and culture, it is often necessary for companies to remain competitive in today's digital economy. Successful digital transformation requires strong leadership, a clear strategy, and a willingness to embrace change and experiment with new technologies and ways of doing business. Digital transformation has had a significant impact on strategic management, transforming the way organizations operate and make decisions (Rego et al., 2021). Here are some of the key ways that digital transformation has impacted strategic management:

- Increased data availability and analytics: Digital transformation has led to an explosion of data availability, allowing organizations to gather and analyze data on a scale that was previously impossible. This has allowed organizations to make more data-driven decisions, informed by insights gleaned from data analytics.
- Increased agility: Digital technologies have enabled organizations to be more agile in responding to changing market conditions and customer needs. This has led to the adoption of new business models and the ability to pivot quickly in response to new opportunities or threats.
- Improved customer experience: Digital transformation has enabled organizations to better understand and engage with customers, through the use of social media, chatbots, and other digital channels. This has led to improved customer satisfaction and loyalty, and has become a key focus for many organizations.
- Disrupted traditional business models: Digital transformation has disrupted traditional business models, with new players entering the market and established organizations facing new competition. This has led to the need for organizations to be more innovative and to adopt new technologies in order to stay ahead.
- Increased collaboration: Digital transformation has enabled organizations to collaborate more effectively, both internally and with external partners. This has led to increased innovation and the ability to leverage collective expertise to solve complex problems.

Overall, digital transformation has had a profound impact on strategic management, transforming the way organizations operate and compete in the marketplace. Those organizations that have embraced digital transformation and adapted their strategies accordingly are better positioned to thrive in the new digital economy.

Problem Statement

Digital transformation is rapidly changing the business landscape, creating new opportunities and challenges for organizations. The impact of digital transformation on strategic management is a critical area of inquiry, as organizations must adapt to remain competitive and innovative (Rego et al., 2021). However, the extent and nature of this impact remain unclear, highlighting the need for further research to better understand the challenges and opportunities presented by digital transformation for strategic management (Rego et al., 2021).

Rationale of Research

Digital transformation has become an increasingly important factor in strategic management, as technology continues to transform the way organizations operate and interact with their customers. Here are a few key reasons why:

1. Digital technologies can streamline processes and automate routine tasks, freeing up time for employees to focus on higher-level tasks that require creativity and critical thinking. This can help organizations improve their overall efficiency and productivity, which can translate into cost savings and increased profitability.
2. Digital technologies have also transformed the way organizations interact with their customers. Through digital channels, companies can provide personalized experiences, deliver targeted marketing messages, and respond to customer inquiries in real-time. This can lead to increased customer satisfaction and loyalty, as well as improved brand reputation (Kashif & Iqbal., 2022).
3. Digital transformation has also enabled organizations to collect and analyze large amounts of data from various sources. By leveraging data analytics tools and techniques, organizations can gain insights into customer behavior, market trends, and operational performance. This can help them make more informed decisions and develop more effective strategies.
4. Digital transformation can provide organizations with a competitive advantage by enabling them to respond quickly to changing market conditions and customer needs. By embracing digital technologies, companies can innovate faster, launch new products and services more quickly, and respond to customer feedback more effectively.

Overall, digital transformation has become a critical component of strategic management as organizations seek to remain competitive in an increasingly digital world. By embracing digital technologies and leveraging data-driven insights, companies can improve their efficiency, enhance customer experience, and gain a competitive advantage in the marketplace.

Significance

Digital transformation is significant for strategic management because it enables organizations to improve decision-making, enhance customer experience, increase agility, adopt new business models, and effectively manage talent. By leveraging digital tools and technologies, companies can adapt to changing market conditions, innovate and remain competitive in a rapidly evolving business landscape.

Research Questions

Here are some research questions on the impact of digital transformation on strategic management:

1. How does digital transformation impact the strategic decision-making process in organizations?
2. What are the key challenges organizations face when implementing digital transformation initiatives and how do these challenges impact strategic management?
3. How does digital transformation impact organizational structure, culture, and leadership, and how does this impact strategic management?

LITERATURE REVIEW

When firms use digital technologies to create new or modify existing business models and processes or to support the transformation of organizational structures, resources, or relationships with internal and external actors, scholars refer to this as digital transformation (DT) (Brynjolfsson & Hitt, 2000; Frank et al., 2019; Loebbecke & Picot, 2015; Vial, 2019). The adoption of digital technologies influences almost all areas of modern firms, including, but not limited to, production, organizational hierarchies, and

relationships with partners, suppliers, and customers (Autio et al., 2018; Beverungen et al., 2019; Kretschmer et al., 2022; Warner & Wäger, 2019; Yoo et al., 2010).

Due to the literature's accelerating scope and complexity, we set out to review and examine DT literature using a new multi-layered perspective. DT's roots can be traced back to the 1980s and early 1990s, when researchers examined the effects of adopting information technology (IT) on organizational structures and hierarchies, and on innovation and performance (Bloomfield & Coombs, 1992; Drucker, 1988; Johnston & Vitale, 1988; Robey, 1981). With the commoditization of computer technology and the proliferation of the Internet, IT-enabled business transformation gained prominence in the 1990s (Chatfield & Andersen, 1997; El Sawy et al., 1999; Markus & Benjamin, 1997) and has recently been revived due to global crises like COVID-19. With the broadening scope and power of IT systems, DT research has extended across many business, management, and economic disciplines. Today, DT is an interdisciplinary research field with contributions from IT, entrepreneurship, strategic management, operations management, marketing, and organization science, among others. A few earlier works have reviewed DT contributions and made significant headway in building a better understanding of the literature (Hanelt et al., 2021; Reis et al., 2018; Verhoef et al., 2021; Vial, 2019). Existing DT literature reviews underlined the significance of organizational changes and restructuring under the impact of technological progress. Yet, despite the importance of this topic, academic research still lacks an informed understanding of how advancements in digital technologies contribute to organizational redesign and changes in the nature of the firm (Menz et al., 2021).

The study emphasizes DT's effects on different layers of the firm and the trends that shape them. Thus, our work complements literature reviews by Vial (2019) and Verhoef et al. (2021), which derived process (or “flow”) models of DT, or more specialized reviews that have drawn on additional case studies (Schallmo et al., 2017) or used a bibliometric approach (Reis et al., 2018). The recent review by Hanelt et al. (2021)—similar to other comprehensive reviews (Mathieu et al., 2008; Vial, 2019)—provided a causal framework that included antecedents, processes, and outcomes. Our study complements the extant literature by introducing a multilayered lens to derive new and more granular insights. Appendix A.1 shows this unique contribution in tabular format vis-à-vis several already published.

Furthermore, researchers also offer a broader conceptualization of firm boundaries, including resource availability, the behavioural theory of the firm, organizational identity, and power and control through ownership and non-ownership mechanisms (Gavetti et al., 2012; Helfat, 1997; Jensen & Meckling, 2019; Kogut, 2000; Santos & Eisenhardt, 2005). Superior capabilities in knowledge management define demarcation lines (i.e., boundaries) between the firm and the external environment. The theoretical streams on transaction costs and knowledge management recognize that factual firm boundaries often surpass the legal boundaries of the firm in the drive for higher effectiveness and efficiency (Argyres, 1996; Argyres & Zenger, 2012; Zack, 2003). We grounded our approach in a layered model of the firm and its surroundings, rooted in the organizational design literature on firm boundaries. Academic research offers several lenses for “the theory of the firm” through which such boundaries can be explained, and the fundamental question of why firms exist as independent entities can be answered (Foss & Foss, 2000; Teece et al., 1994). Transaction cost theory argues that firms exist because the costs of coordinating important activities are lower in a hierarchical organization than in a market. This angle has informed managerial decisions on whether to internalize or outsource certain operations, but it also offers evidence of boundary choice and a firm's spheres of influence (Hart, 1995). By analyzing the costs of governing their activities, firms aim to optimize their boundaries and scope of control (Argyres, 1996; Forcadell et al., 2020).

Complementing the economic view, the knowledge-based view of the firm defines firm boundaries through knowledge management capabilities. This theory recognizes knowledge as the primary source of competitive advantage, and firms as the most optimal medium for knowledge generation, aggregation, and use (Grant, 1996). We deductively approached the DT literature with our three-layered framework of the firm and, within these layers, inductively derived themes from articles related to firms' DT. Therefore, we applied the guidelines for systematic literature reviews by Denyer and Tranfield (2006) and followed the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR) protocol (Paul et al., 2021).

The extensive and diverse literature on DT, however, suffers from a lacking common agreement on exactly what DT is (Warner and Wäger, 2019), and what it encompasses (Wessel et al., 2020). Systematic reviews or meta-analyses are rare and narrowly focused (Schallmo et al., 2017), or come from outside of the field of management (e.g., Vial, 2019). Despite this lack of clarity surrounding the phenomenon, a common theme in the current debate is that due to the proliferation of digital technologies – defined as the combination and connectivity of innumerable, dispersed information, communication and computing technologies (Bharadwaj et al., 2013) – contemporary organizations are both affected and need to adapt (Correani et al., 2020; Verhoef et al., 2019; Weill & Woerner, 2018). Therefore, the phenomenon is naturally connected to the topic of organizational change, viewed as a ‘difference in form, quality, or state over time in an organizational entity’. Thus, we define DT as organizational change that is triggered and shaped by the widespread diffusion of digital technologies. Such a view enables us to potentially explain the phenomenon of DT and its management in business practice by drawing on the robust and diversified knowledge base relating to organizational change and innovation (Poole & Van de Ven, 2004). Over the last decades, digital transformation (DT) has received growing attention in the business literature since it represents a prominent feature for organizations to be leaders of change and competitive in their domain (Kraus et al., 2022). At once, in light of the COVID-19 pandemic, the DT phenomenon has experienced an abrupt acceleration (Priyono et al., 2020), as firms and organizations are forced to redesign their strategies and operating models through a massive adoption of technologies in order to respond to the crisis-caused changes (Hai et al., 2021; Hanelt et al., 2021).

Therefore, the necessity of analysing the DT topic has become ever more crucial in the last few years. Conceptually, DT refers to all changes that digital technologies can bring in a firm's business model, concerning products, processes, and organizational structures (Hess et al., 2016). In particular, marketing currently represents one of the main functions requiring being adapted to the DT in order to protect firms' competitiveness (Caliskan et al., 2020). By following this research stream, some authors have tried to synthesize the main impacts of DT on marketing practices (Shkurupskaya & Litovchenko, 2016; Sunday & Vera, 2018), including (i) The increasing spread of information and communication technology (ICT) in the marketing communication channels; (ii) The opportunity to adopt real-time communication with customers; (iii) The development of new relationships between producers and consumers; (iv) The increasing effectiveness of the marketing activities through the monitoring of real-time data. Meanwhile, other authors have specifically focused their attention on the main digital technologies able to offer significant benefits to the marketing function (Ardito et al., 2019; Cluley et al., 2019; Ungerman et al., 2018) by also categorizing them on the basis of the marketing mix (Caliskan et al., 2020).

As a consequence, these digital technologies increase the pace of change and lead to significant transformation in a number of industries (Bharadwaj et al., 2013), since they have the “power” to disrupt the status quo and can be used to drive technological change (Bharadwaj et al., 2013). Digital

technologies have revolutionized the way industries operate (Dal Mas et al., 2020c), introducing the concept of “Industry 4.0” or the “smart factory” (Lasi et al., 2014). Digital platforms have created a new way of operating for companies and organizations in a “business ecosystem” (Presch et al., 2020), which has led to changing dynamics in value networks. Digital technologies have substantially transformed the business and society, bringing fundamental changes through the new emerging approaches of the circular and sharing economy.

For strategy researchers, the three characteristics of digital technologies, namely, digital artifacts, digital platforms, and digital infrastructures (Nambisan, 2017) create opportunities for a layered modular architecture and present to firms the strategic choice of following a digital innovation strategy (Yoo et al., 2010). This has drastically changed the nature of strategizing, since many digitized products offer new features and functions by integrating digital components into physical products (digital artifacts), and can simultaneously be a product and a platform (with related ecosystem). In this regard, the literature has coined the term “platforms” to define those companies relying on their business models (BMs) on a web platform (Presch et al., 2020). Moreover, digital infrastructures like data analytics, cloud computing, and three-dimensional (3D) printing are providing new tools for rapid scaling (Huang et al., 2017). Therefore, digitalization blurs the boundaries between technology and management, providing new tools and concepts of the digital environment that are changing dramatically the way firms face new managerial challenges, innovate, develop relationships, and conduct business (Bresciani et al., 2018). The new digital environment requires firms to use digital technologies and platforms for data collection, integration, and utilization, to adapt to platform economy (Petrakaki et al., 2018) and to find growth opportunities to remain competitive. Besides, recent research shows that firms utilize external venturing modes (e.g., startup programs and accelerators; Bagnoli et al., 2020) to develop dynamic capabilities (Enkel & Sagmeister, 2020). Digitalization is therefore seen as an entrepreneurial process (Autio et al., 2018) where firms in pursuit of digital transformation render formerly successful BMs obsolete (Kiel et al., 2017) by implementing business model innovation (BMI), which is revolutionizing many industries. Indeed, the literature suggests that in designing an appropriate BM, it can be possible to benefit from the potential embedded value in innovation (Björkdahl, 2009). For instance, firms adopting digital technologies consider data streams to be of paramount importance and assign to them a central role in supporting their digital transformation strategies (Zott et al., 2011), in contrast to traditional BMs frameworks (Pigni et al., 2016). For this reason, digital technologies inherently link to strategic changes in BMs and consequently, the development of new BMs (Hess et al., 2016). Strategic leadership plays an integral part in the formulation of corporate strategy. It enables one to foresee what is ahead, make informed choices and motivate employees to work towards a shared mission (Iqbal & Ali, 2024).

METHODOLOGY

The methodology for this research topic would involve a systematic review of the existing literature on digital transformation and strategic management, as well as in-depth case studies of companies that have successfully undergone digital transformation. Surveys would also be conducted to gain a broader understanding of the impact of digital transformation on strategic management, as well as the challenges and opportunities that companies face in this area. The data collected would be analyzed to identify the key findings of the research and to develop a theoretical framework that can explain the impact of digital transformation on strategic management. The research findings would be presented and discussed in the context of their implications for theory and practice.

DISCUSSION

The literature that is offered explores the complex world of digital transformation (DT), highlighting its origins in the 1980s and early 1990s when scholars started looking into how information technology (IT) affected hierarchies and organizational structures. As computer technology became more accessible and the Internet became more widely used, DT changed throughout time and became more well-known. It has contributions from a wide range of disciplines today, including marketing, organization science, entrepreneurship, IT, and strategic and operational management. Notwithstanding the abundance of DT literature studies, the work draws attention to a knowledge vacuum about the precise ways in which developments in digital technologies support organizational redesign and company transformation. A complicated and always changing subject is how digital revolution affects strategic management. In spite of this, research to date indicates that digital transformation can have a major effect on how firms are run and how they compete in the market. Organizational structure, culture, business models, customer behavior, and the competitive environment can all be altered by digital transformation. It may also present new difficulties and chances for companies.

The study's significant addition is its multilayered perspective, which examines DT's effects on many layers of the organization and identifies trends that shape them. The study seeks to provide new and more detailed insights by establishing a three-layered framework on firm boundaries based on the organizational design literature. This method complements previous assessments that have concentrated on process modeling, case studies, bibliometrics and explanatory frameworks, providing a deeper comprehension of DT's impact on the dynamics of organizations. The scholarly literature emphasizes a more comprehensive understanding of firm boundaries, which includes organizational identity, power and control processes, resource availability, and the behavioral framework of the business. It draws attention to the cost of transactions theory, which holds that corporations survive because hierarchical organizations have cheaper coordination costs than markets do. Since knowledge is the main source of competitive advantage, the knowledge-based vision of the company establishes limits through knowledge management capabilities.

The literature then turns to how DT affects marketing, recognizing that this is one of the primary areas where businesses must change in order to stay competitive. The authors cite studies that summarize the effects of digital transformation (DT) on marketing strategies, such as the growing adoption of ICTs, real-time customer communication, the creation of new consumer-producer relationships, and the efficiency of marketing campaigns through real-time data tracking. This emphasizes how important DT is to the transformation of not only organizational structures but also certain functional domains like marketing.

CONCLUSION

The research on the impact of digital transformation on strategic management is still ongoing. However, the findings to date suggest that digital transformation is a major force that is reshaping the business landscape. Businesses that are able to embrace digital transformation and adapt to the changes it brings will be well-positioned to succeed in the future. The research findings on the impact of digital transformation on strategic management are still emerging. However, the research to date suggests that digital transformation is a major force that is reshaping the business landscape. Businesses that are able to embrace digital transformation and adapt to the changes it brings will be well-positioned to succeed in the future. The research findings also suggest that there are a number of best practices for businesses that are undergoing digital transformation. These include having a clear vision and strategy for digital

transformation, investing in digital technologies, reskilling and upskilling employees, changing organizational culture, and measuring and tracking the impact of digital transformation.

Implications

Having a clear vision and strategy for digital transformation

- Digital technology must be acknowledged by organizations as facilitators of innovation and strategic adaptation.
- There are significant marketing ramifications. Industries need to modify their marketing plans to conform to the rapidly evolving environment that DT has created.
- The notion of Industry 4.0, which entails the incorporation of digital technologies into manufacturing procedures, holds noteworthy consequences for various industrial domains. To maximize output, boost productivity, and cut expenses, businesses should investigate implementing intelligent manufacturing facilities, IoT gadgets, and data analytics.
- Businesses that rely on web platforms to become "platforms" should evaluate the strategic ramifications of this decision. This entails knowing the mechanics of business ecosystems in addition to creating digital platforms and artifacts.
- Acknowledging digitalization as an entrepreneurial process suggests that industries ought to adopt an approach that values constant experimentation and adjustment. This entails being receptive to novel company models, adapting to shifting market conditions, and using outside venturing channels—like accelerators and startup programs—to create dynamic capacities.
- Data-centric approaches must be given priority in industries due to the significance of data streams and their pivotal role in bolstering digital transformation strategies. Data should be recognized as a valuable asset, and organizations should invest in its collection, integration, and use.
- Due to the interdisciplinary character of design thinking, industries such as marketing, entrepreneurship, IT, strategic management, operations management, and organization science should all promote cooperation and knowledge exchange.

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