

Business digital transformation: strategy adaptation, communication and future agenda

Business
digital
transformation

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Abstract

Purpose – This study addresses the pivotal role of digital transformation (DT) in the post-pandemic business landscape, identifying a notable gap in comprehending strategic adaptations and digital communication amidst the complexities of the digital era. It seeks to illuminate practical insights for businesses navigating through DT by intertwining its technological and organizational aspects.

Design/methodology/approach – Employing a conceptual approach, this paper synthesizes existing literature and theoretical frameworks related to DT, integrating its technological, strategic and organizational dimensions. It utilizes real-world instances to elucidate the digital era's practical implications and strategic adaptations. The study also proposes a research agenda that spotlights pressing DT issues, challenges and actionable strategies for businesses.

Findings – Despite DT's inherent complexity, the paper reveals that it is crucial for businesses navigating the contemporary digital landscape. It underscores the importance of strategic adaptations in DT, highlighting their implications on customer experiences and organizational structures amidst the evolving technological and market dynamics. Moreover, it accentuates the significance of effective digital communication strategies in enhancing user experiences and conveying value propositions adeptly.

Originality/value – This paper brings vital aspects of DT impacting modern organizations, offering invaluable insights for practitioners and scholars aiming to comprehend and navigate DT's complexities. The identified research gaps underscore the necessity for further exploration, aiming to broaden DT's theoretical and practical facets.

Keywords Digital transformation, Digitization, Digital disruption, Business strategy, Strategic management, Innovation management, Organizational change, Conceptual paper

Paper type Conceptual paper

1. Introduction

The advent and swift proliferation of Industry 4.0 technologies, encompassing the Internet of Things, Big Data, Artificial Intelligence, Blockchain, Robotics, and both virtual and augmented reality, are profoundly altering business dynamics and customer interactions across all sectors (Hoyer *et al.*, 2020; Ivanov *et al.*, 2020). These myriad innovations are often collectively called “Digital Transformation” (DT).

The COVID-19 pandemic has accentuated the importance of DT (Yung *et al.*, 2021). It has played a pivotal role in counteracting the pandemic's detrimental effects, enabling businesses to sustain customer relationships. The broad embrace of these technologies has not only promoted hygiene and social distancing (Del Chiappa *et al.*, 2021) but also enriched personalized experiences, even in remote contexts (Gursoy and Chi, 2020; Ivanov *et al.*, 2020; Seyitoğlu and Ivanov, 2020; Lau, 2020). This transformation wave has left no sector unaffected.



The discourse around DT has intensified both in academic circles and the industry, with a staggering 2,633% surge in interest from January 2014 (3) to September 2023 (79), as indicated by Google Trends (see Figure 1). This burgeoning interest is further evidenced by a Google Scholar query for “digital transformation,” returning approximately 5,490,000 results as of October 2023, including a remarkable 15,300 scientific articles in the first nine months of this year alone.

However, ambiguity surrounds companies’ challenges in effectively navigating the DT journey. Previous studies (e.g. *Reis et al., 2018; Zaoui and Souissi, 2020*) have delved into the processes and state-of-the-art of DT but have not adequately addressed the potential barriers or the requisite cultural and organizational shifts. Furthermore, while *Vaska et al. (2021)* identified factors influencing DT success, their findings are constrained to data up to September 2020.

Two recent studies (*Ancillai et al., 2023; Feliciano-Cestero et al., 2023*) have probed the nexus between DT and business strategy, highlighting various challenges in DT implementation but leaving a conspicuous gap in understanding the role of communication strategy firms. Real-world instances, such as Airbnb revolutionizing the hospitality sector and Nokia facing challenges due to their delayed response to the digital era (*Podoyntsyna and Vaznyté-Hünernmund, 2023*), underscore the transformative power and potential pitfalls of digital evolution.

The previous studies have provided valuable insights into some aspects of DT. However, uncertainty persists around the strategic adaptations companies must make during their DT journey (*Llopis-Albert et al., 2021*). Additionally, as the role of communication strategy firms becomes increasingly important (*Zerfass and Brockhaus, 2023*), there is a highlighted need for more research on digital communication (*Grewal et al., 2022*) and exploration into how companies can turn DT challenges into strategic opportunities (*Nadkarni and Prügl, 2021*).

In light of these insights, this paper seeks to navigate through the intricate landscape of DT, addressing these gaps by exploring the following key research questions:

- RQ1.* How can companies strategically adapt to DT’s multifaceted challenges and opportunities?
- RQ2.* What are the implications of these adaptations on customer experiences and organizational structures amidst the complexities of technological innovations and market dynamics?
- RQ3.* How can businesses strategically leverage their digital communication efforts to enhance user experience and effectively convey their value propositions to specific target segments?

By intertwining DT’s technological, strategic and organizational threads, this paper aims to unravel its intricate tapestry, providing a comprehensive understanding and practical insights for businesses navigating their DT journey. Furthermore, one of the primary



Figure 1. Interest over time in digital transformation topics, measured by Google

Source(s): Google Trends (<https://trends.google.com/trends/>)

contributions of this paper is to propose a detailed research agenda that identifies and prioritizes future research avenues in the realm of DT, offering a structured framework for subsequent investigations. This agenda is crafted with the aim of guiding scholars and practitioners through the multifaceted challenges and opportunities presented by DT, ensuring that future research is strategically aligned with both theoretical and practical imperatives in the field.

Delving into the conceptual depths of DT, the subsequent sections will offer a coherent examination that intertwines empirical insights with pragmatic strategies, fostering a rich dialog between academic discourse and practical application in business DT.

2. Conceptual foundation: disambiguating digital transformation

While numerous studies have attempted to define DT, a theoretical ambiguity persists regarding its exact nature. [Hess et al. \(2020\)](#) define DT in terms of the changes it brings about, but this definition, while comprehensive, may be overly simplistic. A deeper exploration into the multifaceted nature of DT reveals that it is not just about change but the nature, direction and implications of that change.

The term “changes” might be perceived as misleading since these changes may not necessarily lead to the desired outcome. Every organization possesses potentiality that grants it rationality, the ability to identify the right strategic direction and the will to overcome temptations that lead to mediocrity and entrepreneurial pathology ([Bakan, 2012](#); [Parenti, 2015](#)).

Managing DT is one of the most pervasive challenges companies face in recent and upcoming decades. However, DT is a multidimensional concept, and its definition varies depending on interpretations, perceptions and perspectives ([Reis et al., 2018](#)). In summary, it is a complex phenomenon that is difficult to define with a static definition.

In Europe and the rest of the world, the ongoing digital transition, often called the “Fourth Industrial Revolution,” is likely the most significant innovation of the last 300 years, extending beyond the “digital economy” and involving all economic sectors. The impacts of this epochal event can already be felt across various aspects of human life and can be explored from at least three dimensions: the economy, society and politics ([EIIT, 2021](#)).

A strong resemblance to the field of business economics emerges here, highlighting the potential contribution of this discipline in understanding, managing and evaluating this phenomenon. [Coda \(2010\)](#) interprets corporate conduct as a triangulation of values (economic, competitive and social dimensions), where none of the mentioned dimensions can prevail over the others, representing the ultimate objective for top management.

Moreover, not only management but the company itself is three-dimensional. The discipline of business economics has proposed various interpretive frameworks for the concept of a company, placing it within its appropriate dimensions. Therefore, it seems fitting to adopt a strictly business-economic analysis approach, even in the digital realm. The three dimensions that characterize a company “are so intertwined that it is difficult to recognize unique and well-defined objectives in each” ([Catturi, 1971](#), p. 1820).

As previously mentioned, DT, primarily associated with the change concept, modifies customer relationships, business processes and value-creation methods ([Zaoui and Souissi, 2020](#)). In line with the Fourth Industrial Revolution, digitized companies should create an ecosystem of innovations to ensure opportunities for dialog with all the stakeholders involved in their relational capital ([Martín de Castro et al., 2004](#); [Travaglioni et al., 2020](#)).

3. Research philosophy and methodological approach

Our research philosophy for this conceptual exploration of DT adopts an interpretivist approach, emphasizing subjective interpretation of complex phenomena ([Myers, 2008](#)).

Interpretivist studies typically forgo rigid structural frameworks in favor of more flexible, personal research structures (Collins, 2018).

Understanding DT extends beyond objective data analysis; it requires delving into underlying theories, concepts and contextual factors influencing its organizational manifestation. This philosophy guides our critical analysis of literature and theoretical frameworks, aiming to uncover varied interpretations and challenge established notions (Saunders *et al.*, 2009). This approach aims for a nuanced, holistic understanding of DT as a dynamic concept influenced by economic, social and technological factors (Bondarenko and Aleshkovski, 2019).

Deviating from traditional empirical methodologies, we focus on synthesizing and developing theoretical arguments. This involves dissecting and reassembling the DT concept by analyzing existing literature and theoretical frameworks (Easterby-Smith *et al.*, 2008; Ramanathan, 2008). Our process encompasses a contemplative review of various DT interpretations and applications, informed by broad conceptual thinking rather than a structured literature review.

Our arguments and perspectives stem from critically examining and synthesizing ideas from business economics and organizational theory. This intellectual exercise combines and contrasts theoretical concepts, challenging conventional views and introducing alternative interpretations. We thus construct a coherent narrative about DT's complexity, offering fresh insights without relying on systematic literature review or empirical data.

Our exploration utilizes fundamental concepts from business economics and organizational theory (Drucker, 1994; Hosmer, 1995), grounded in a multidimensional theoretical framework. We examine DT as a complex phenomenon, interlacing economic, societal and political dimensions (Kraus *et al.*, 2021) and apply a business-economic analysis approach to explore its impact on customer relationships, business processes and value-creation methods (Catturi, 1971; Coda, 2010).

Our methodological approach, chosen to deepen the DT discourse, justifies our choices as contributing to a profound understanding of this transformative phenomenon. By integrating theory with comprehensive conceptual analysis, we aim to unravel DT's complexities, positioning our paper as a significant contribution to the field.

4. Adapting strategies in the evolving digital era

The phenomenon of DT not only holds significant strategic relevance (Singh *et al.*, 2020) but also permeates all sectors and human contexts, with its implications becoming particularly pronounced in the wake of challenges posed by the COVID-19 pandemic (Andriole, 2017; Benner and Waldfogel, 2020; Correani *et al.*, 2020; Westerman *et al.*, 2014). The pandemic has acted as a catalyst, compelling companies to expedite the DT process and gain a heightened awareness of its multifaceted nature (McKinsey, 2020).

In this digital era, customer expectations have evolved, with a surge in demand for new digitized experiences and interactions through social platforms. This shift indirectly influences these new technologies and compels companies to navigate through customers' volatile and sometimes irrational purchasing behavior, which is no longer easily interpretable, modelable or predictable (Bonchek and France, 2014; Malik and Joshi, 2023). Moreover, consumers progressively embed technology into their daily routines, personal interactions and professional relationships, altering their expectations and needs regarding company offerings and communication modes (Hanelt *et al.*, 2021).

Moreover, companies increasingly adopt value co-production and co-creation processes that engage a broad and diverse audience. This approach extends beyond traditional stakeholders, encompassing individual contributors, associations and representative groups from various sectors, including startups and the so-called "tech giants." This inclusive

approach also finds the third sector and numerous other categories participating in business processes, fostering a comprehensive and collaborative environment for value creation (El Sawy and Pereira, 2013).

The business-economics discipline interprets companies as institutions aiming to endure over time (Caliendo *et al.*, 2020; Drucker, 2012; Neely *et al.*, 2002) and embarking on transcendent development (Sorci, 2005). In essence, the principle of business evolution (Epstein, 2018) can only materialize by contributing to the economic and social progress of the company's environment. Consequently, DT necessitates adaptations of business models or the design of products and services in all competitive contexts (Correani *et al.*, 2020; Warner and Wäger, 2019; Yoo *et al.*, 2010). These adaptations involve transformations of critical processes within companies, their products and services, their organizational structures and even the managerial practices capable of governing such complex transformations (Matt *et al.*, 2015).

However, the implementation of DT presents evident difficulties. Despite the availability of numerous technological innovations and structured managerial models to fully implement DT, it often takes much longer to materialize and presents many more complications than initially anticipated, affecting businesses, public administration and the private lives of individuals (Zinder and Yunatova, 2016). For instance, numerous examples of organizations that have failed to address and manage the new digital reality, with perhaps the most famous and emblematic example being the failure of the renowned brand "Blockbuster" to operate in the "rental movies" sector (Hess *et al.*, 2020). In this context, effective DT requires developing and continuously nurturing a wide range of new competencies, the importance of which varies according to each company's business context and specific needs.

A study on European companies revealed that while 75% of the respondents considered new digital technologies an opportunity, over 41% of companies have not adopted any of these new tools. Moreover, the scarcity of financial resources and the actual cultural involvement of European small and medium-sized enterprises represent challenging barriers, alongside the increasing and significant imbalance between levels of governance and various sectoral interests. Other obstacles include inadequate training and the weakness of planning and monitoring mechanisms (Klitou *et al.*, 2017). Thus, digital technologies should become central to the organizational structure of every company, necessitating a rethinking and, if necessary, reinvention of their business models to acquire or maintain a competitive advantage (Carcary *et al.*, 2016). In other words, DT "compels" companies to design malleable organizational models that allow for continuous adaptation to the natural complexity of the digital realm (Hanelt *et al.*, 2021). Whether small or large, business entities will necessarily have to transform into infinitely flexible organizations, subject to the continuous evolutionary process of the digital era (Holbeche, 2023).

In summary, the intricate nature of the DT concept inherently possesses a degree of vagueness, often presenting challenges in crafting precise definitions. Predominantly, literature associates it with an imperative need for organizational change within companies, underscoring its pivotal role in navigating the modern digital landscape. DT emerges as a complex phenomenon, warranting investigation from an economic-business perspective, particularly considering the tridimensionality of the company. Furthermore, it introduces critical, tangible elements for its pragmatic implementation, emphasizing its applicability and impact within small and medium-sized enterprises.

5. Strategizing digital communication: leveraging content curation

Communication generates value for companies, and, at the same time, it is value in itself. The mere existence of a company, its production and marketing of certain products and services, and its interaction with different target segments involve transmitting and receiving information internally and with the external environment (Zerfass and Viertmann, 2017).

In addition to the implicit communication embedded in culture and daily behaviors, explicit communication targeting various public segments becomes essential. The extent of this communication depends on the level of understanding by the company's management of the psychological triggers influencing the purchasing decisions of their target audience. The challenge lies in managing these communication activities effectively, distinguishing those contributing to lasting success from those merely short-term profit-oriented (Bakan, 2012).

In this regard, it is crucial to fully embrace the comprehensive development model for companies (Sorci, 2005) as a valuable tool to differentiate between communications that lead to ephemeral success and those that contribute to the company's long-term viability. According to this model, any company, regardless of being digital, analogic, artisanal, industrial, or professional, cannot focus solely on profit. Instead, it must operate in a way that creates value for itself, its customers and the community.

Within this theoretical framework of comprehensive company development, the dilemma of communication management and leveraging new technologies to fuel sustainable business growth becomes prominent. One of the main challenges in the digital transition is the "web noise." There is an overwhelming amount of information, much of which is irrelevant. This is the problem that modern managers must confront (Bawden and Robinson, 2020).

Consumers dislike being overwhelmed with countless choices and alternatives. Potential customers, instead, appreciate the assistance of independent experts (Bolton *et al.*, 2018). Moreover, they trust the experiences of other users more when making purchasing decisions, relying on their advice, comments, qualified opinions, statistics, selections and collections (Braidbach *et al.*, 2018).

Today, a fundamental principle of competitive business success remains unchanged in the digital era: a deep understanding of company's audience (Lee and Peng, 2023). In the new communication paradigm brought about by the Internet, savvy managers should strategically focus on attracting specific target segments by personalizing their services and providing superior and more detailed information (Sjuchro *et al.*, 2022). In other words, the information structure should evoke empathy among readers toward the companies and influence their decision-making processes.

However, it is challenging for companies to stand out and emerge with their proposals amidst the overwhelming background noise of the online world. One of the most effective tactics to address this visibility and reputation challenge is "content curation." It can be defined as the art of finding, organizing, adding value to and publicly sharing digital information about a specific theme of interest to a particular target segment (Lopezosa *et al.*, 2023).

Despite the emergence of new 4.0 technologies, there remains a crucial need for human intervention. For instance, in strategic management, designing a human-centered experience is a critical step in formulating the core strategic direction of a company, which is more important today than ever before (Morakanyane *et al.*, 2017).

The content curation process requires thorough analysis, comparison and evaluation of each fact without personal biases. The objective is to rapidly enhance the company's credibility and establish and disseminate a strong and appealing corporate (or product) image that facilitates consensus around its commercial propositions and its social role. In short, content curation enhances brand awareness, driving sustainable business growth (Kauffman and Lahiri, 2023).

The process for implementing this digital communication tactic consists of nine phases (Dale, 2014; Fotopoulou and Coudry, 2015; Sutherland, 2020), as presented in Table 1.

The above process can be implemented to execute a content curation strategy that positions the company as an authoritative figure in its target market, differentiates it from competitors by creating valuable content that goes beyond the usual posts, listens to customers and contacts and meets their needs. This can also help in designing tailor-made products and services for them.

Step	Action	Details and tools
1	Select a specific area of interest	Identify a niche or subject matter that aligns with your audience's interests and company's expertise and potentially expand later
2	Curate sources meticulously	Examine industry websites, forums, social media groups and channels, and professional newsletters to gather relevant and insightful information
3	Monitor sources consistently	Employ content management tools to streamline and optimize the monitoring of various sources and keep abreast of the latest information
4	Verify the reliability of discovered information	Verify the accuracy and credibility of the information by cross-referencing with other reliable sources
5	Personalize and add value to the information	Ensure that the shared information is not merely a "copy and paste" but provides added value and a unique viewpoint
6	Review content before publishing	Review the content for clarity, coherence, and adherence to editorial guidelines, ensuring it aligns with the brand voice and is free of errors
7	Publish content on appropriate channels	Choose the most appropriate channels for publishing, considering where the target audience spends their time and the format of the content
8	Interact with readers and respond to comments	Engage by responding to comments and facilitating discussions to build community and gain further insights
9	Update and revise content as necessary	Revisit published content to ensure it remains accurate and relevant, updating it as needed to maintain its value for company's audience

Table 1.
Content curation
process

Source(s): Author's own creation

6. Unveiling complexities and charting future research avenues

As a strategic imperative, DT necessitates a dual focus on adapting strategies and effective communication. This shift challenges startups and established corporations to rethink their technology and business operations approach. While startups like Uber and Airbnb have integrated DT seamlessly into their operations, traditional corporations such as General Electric face significant challenges in overhauling their legacy systems and approaches (Perkin and Abraham, 2021). This discussion aims to critically examine the multifaceted nature of DT, drawing insights from the strategic adaptation and communication paradigms presented earlier and exploring their implications for both types of companies.

As detailed in section 3 on adapting strategies, DT presents an opportunity for companies to reinvent themselves. However, this perspective often overlooks the inherent challenges and potential pitfalls. For instance, the assumption that technological adaptation automatically leads to business model innovation may be overly simplistic. This paper argues that without a deep understanding of market dynamics and customer behaviors, DT initiatives might fail to deliver expected outcomes, even with significant technological investments. Future research should delve into how companies can effectively remodel their strategies to align with the unpredictable nature of digital markets and customer expectations. Moreover, cultural and regional factors are pivotal in navigating the DT journey. Companies operating in tech-savvy regions or cultures that are more open to change might find the DT journey smoother than those in more traditional settings.

Contrasting the prevalent focus on technological aspects of DT in existing literature, our exploration in the fourth section emphasizes the often-underestimated role of digital communication. This paper posits that successful DT is not just about technological adoption but also strategically leveraging communication to align with evolving customer expectations and behaviors, an aspect frequently sidelined in the mainstream discourse.

Therefore, we advocate for a reconceptualization of DT to focus more on how digital communication strategies are essential in steering successful DTs.

Furthermore, companies need to acknowledge and embrace additional challenges, including organizational structure changes and ongoing adaptation. Organizations seeking to embark on a DT journey must consider the impact on individuals, particularly assessing their response to change and customer relationships. According to a [McKinsey \(2022\)](#) study, 70% of all DT initiatives fail due to resistance to change from human resources and a lack of management support. Furthermore, the same survey indicates that only 16% of the interviewed staff reported sustainable efforts toward DT within their respective companies, resulting in improved individual performance ([Bucy et al., 2016](#)). To provide a comprehensive overview, [Table 2](#) summarizes DT issues, challenges and the practical actions companies should take to transform them into opportunities.

This diversity of aspects challenges the one-size-fits-all narrative and underscores the need for more nuanced, context-specific strategies in DT. The ongoing digitalization process is a multifaceted phenomenon that intertwines technological advancements with strategic, organizational and communicational shifts. Although the existing literature acknowledges the complexity and rapid evolution of the digital landscape, a critical examination unveils significant gaps and unchallenged assumptions that warrant deeper exploration.

A critical area for further research is the role and evolution of change management strategies in the DT journey. [Bellantuono et al. \(2021\)](#) emphasize the need for comprehensive change management, yet a detailed examination of specific components and their implementation in the context of DT's complexities remains scarce. Future studies should aim to identify and analyze the key elements contributing to the success or failure of these strategies across various organizational contexts. Effective change management is pivotal, encompassing project planning, problem identification and stakeholder engagement ([Turner, 2019](#)). Notably, many companies face project failures due to inadequate change management structures. Thus, future research should explore a range of innovative strategies to enhance the discourse on change management within DT.

The technological complexity inherent in DT poses significant challenges in implementation, data integration and end-user experience ([Benyon, 2019](#); [Bharadiya, 2023](#); [Grafius et al., 2020](#)). These challenges not only represent obstacles but also opportunities for developing innovative solutions. Research into how organizations navigate these complexities, focusing on usability and user experience, could yield valuable insights and establish best practices for managing the technological aspects of DT.

The dynamic nature of customer needs in the digital era requires an in-depth understanding of evolving customer expectations and communication modes ([Krizanova et al., 2019](#)). DT is a prolonged process. Customer needs can shift, necessitating agile and customer-centric approaches ([Ismail and Wediawati, 2023](#)). Future research should investigate strategies organizations employ to adapt to changing customer needs during DT and evaluate the impact of these strategies on customer satisfaction and organizational performance.

Defining and adhering to a DT strategy is complex due to the multifaceted nature of DT ([Matt et al., 2015](#)). Companies need to avoid oversimplification and cognitive biases, focusing instead on a gradual approach that identifies areas for improvement and necessary updates ([Trauttmansdorff and Felt, 2023](#)). This aspect of DT also presents opportunities for developing innovative, flexible and robust strategic approaches. Investigating the barriers to defining and adhering to DT strategies and the practices facilitating strategic clarity could provide significant insights into strategic management.

Additionally, areas ripe for future research include the need for technological and communication skills in DT ([Dörr et al., 2023](#); [Shakina et al., 2021](#)), managing security in cloud-based systems ([Islam and Alqahtani, 2023](#); [Scalco and Simske, 2023](#)), budget constraints

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Key references	Issue	Challenge	Action(s)	Opportunity
Bellantuono <i>et al.</i> (2021) and Turner (2019)	Change management strategy	Companies that fail to implement a change management strategy face difficulties achieving DT objectives	Project planning, problem identification, and fostering stakeholder relationships throughout the company's initiatives	Smoothen DT implementation and minimizing possible obstacles
Benyon (2019), Bharadiya (2023), and Grafius <i>et al.</i> (2020)	Technological complexity	The implementation and integration of new technologies, as well as ensuring a seamless end-user experience	Leaders should prioritize usability and user experience (UX) by selecting intuitive and integrated systems from the outset of the transformation project	More rapid decision-making and brand awareness building
Al-kharabsheh <i>et al.</i> (2023) and North <i>et al.</i> (2020)	Uptake of new tools and procedures	Employees may resist change when confronted with new technologies and processes, as they may perceive their current methods as sufficient	Companies should offer comprehensive onboarding training and continuous support, facilitating employees' swift and competent adaptation to these tools	A better understanding of factors influencing employee acceptance and collaboration
Krizanova <i>et al.</i> (2019) and Ismail and Wediawati (2023)	Ongoing transformation of customer demands	The COVID-19 pandemic has expedited this process, emphasizing the need to explore evolving customer needs and communication channels	Implementing lean business models and iterative processes becomes crucial to address changing customer demands effectively	Reinforcement of corporate image and leads nurturing
Matt <i>et al.</i> (2015) and Trauttmansdorff and Felt (2023)	Establishing a DT strategy	The management must be prepared to migrate successfully from firms' current processes to more advanced systems	A well-defined strategy is imperative for project success, guarding against hasty trends, false assumptions, or cognitive biases	Identifying areas for improvement within the company as a starting point

Table 2.
DT issues, challenges,
and actions required to
gain opportunities
(continued)

Key references	Issue	Challenge	Action(s)	Opportunity
Dörr <i>et al.</i> (2023) and Shakina <i>et al.</i> (2021)	Technological and communication skills	Companies encounter various challenges, such as insufficient expertise in cybersecurity, application architecture, software integration, data analysis, and digital communication tools	Larger companies can address this knowledge gap by outsourcing to external consultants and DT experts. There is a need to develop operational frameworks to aid SMEs in navigating this transformative phase	Bridging the knowledge gap by outsourcing to external consultants and DT experts
Islam and Alqahtani (2023) and Scalco and Simske (2023)	Cyber security	Online attackers exploit system vulnerabilities, inadequate configurations, and unsuspecting users, posing significant security threats	Companies should implement robust cybersecurity measures to protect sensitive customer data and trade secrets. In addition, it is necessary to conduct regular vulnerability assessments and penetration testing to identify and rectify system weaknesses	Enhancing firms' overall security posture, instilling trust among customers and stakeholders while avoiding potentially damaging cyber-attacks
Chen and Xu (2023) and Ebert and Duarte (2018)	Limited financial resources	Companies lacking a well-defined transformation strategy risk uncontrolled cost escalation	It is crucial to proactively identify long-term business objectives and anticipate the expected return on investment (ROI) from the transformational journey	Companies can make informed decisions, allocate resources effectively, and ensure a positive impact on their bottom line
Bouncken and Schmitt (2022) and Zhang <i>et al.</i> (2022)	Organizational culture	Companies relying on outdated systems and manual processes often exhibit traditional mindsets and cultural barriers	This cultural challenge requires a shared vision among all stakeholders, from leadership to new employees. It entails fostering a mindset open to significant changes and embracing learning opportunities in daily work routines	Faster adoption of new technologies encourages innovation and facilitates a more agile and responsive organization

Table 2.

Source(s): Author's own creation

(Chen and Xu, 2023; Ebert and Duarte, 2018) and the influence of organizational culture on DT (Bouncken and Schmitt, 2022; Zhang *et al.*, 2022). Exploring these challenges could lead to innovative management practices and strategies, contributing to a more comprehensive understanding of DT's multifaceted nature.

In conclusion, this paper calls for a shift in the discourse around business DT. While crucial, we argue that the strategic adaptation of business models and the role of digital communication are not straightforward processes. The traditional models of strategic adaptation often fail to account for the rapid and unpredictable changes in the digital era. Similarly, digital communication in the context of DT is not just about message dissemination but involves building and sustaining customer relationships in an increasingly digital world. These complexities necessitate a more critical approach to understanding and implementing DT strategies. Future research should probe DT's technological and strategic dimensions and delve deeply into the human, organizational and communicative aspects. Such a comprehensive approach is vital for a holistic understanding of DT challenges and for devising more effective strategies to tackle them.

7. Concluding thoughts

While often perceived as a technological paradigm shift, DT emerges as a comprehensive methodology, steering modern businesses through the digital age and necessitating a holistic approach. This approach intertwines classical business-economic principles with modern marketing foundations and reevaluates contributions to business ethics and human-centric design. For instance, the practical implication of integrating ethical considerations in DT can be observed in data management practices, ensuring privacy and security for stakeholders.

Content curation, pivotal in navigating digital business management complexities, becomes particularly imperative in expansive sectors like e-commerce. This compels companies to meticulously organize their offerings and augment them with precise, user-friendly information and data. For example, e-commerce platforms might employ content curation to enhance user experience and trust, impacting purchasing behaviors and customer loyalty.

Addressing the technological complexities of DT, this paper underscores the necessity for innovative solutions and strategies. It explores organizational strategies and practices to enhance usability and user experience, providing valuable insights and establishing best practices for managing technological complexity throughout DT. This is particularly relevant for businesses seeking to enhance customer engagement and satisfaction in an increasingly digital marketplace.

The DT journey, extending beyond a technological evolution, emerges as a strategic imperative with profound implications across various business sectors. This research underscores DT's challenges and opportunities, influenced by organizational culture, regional dynamics and industry norms. As businesses navigate this digital era, understanding the nuances of change management, technological adoption and customer-centric strategies becomes paramount, especially in light of the initial problem statement that sought to explore the strategic adaptations necessitated by DT.

This conceptual article serves a dual purpose: (1) contributing to a more comprehensive understanding of our knowledge about the digitalization of companies and (2) offering actionable insights for businesses looking to harness the power of DT. It offers practical guidance for researchers and practitioners, intertwining methods and insights. Further research is invited to explore implementation challenges and provide a fertile ground for business DT discussion, potentially exploring varied industry contexts and employing diverse research methodologies to deepen the understanding of DT in the business realm.

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