Why is digital transformation so slow? The shadow of dehumanization 2.0

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Abstract

Purpose – In recent years we have seen major technological advancements including the launch of large language models such as ChatGPT and the popularity of the digital transformation topic among professionals and academics. Despite this, the pace of digital transformation is surprisingly slow. We aimed to identify behavioral antecedents of an organization's sluggish digital transformation.

Design/methodology/approach – We adopted the organizational level of analysis, which differs from prior analyses of technological revolutions that looked at the phenomenon from an aggregate labor market or society level of analysis.

Findings – We identified dehumanization as a key construct useful in examining the behavioral impediments to digital transformation. We indicated that the traditionally dual understanding of dehumanization needs to incorporate the actual involvement of non-human agents in operational and decision-making processes in organizations.

Originality/value – We complemented the predominant approach of digital transformation, which focuses on technology and related business model development, with a behavioral approach. We considered digital transformation as an extreme degree of change, similar to the Industrial Revolution. We paved the way for the conceptual development of dehumanization in the digital world and for developing managerial practices useful in alleviating concerns that impede the pace of digital transformation.

Keywords Digital transformation, Dehumanization, Adoption rate, Business models, Technology

Paper type Viewpoint

Introduction

If the promise of a digitalized world is so compelling, why are firms so sluggish about the digital transformation? Digital transformation refers to integrating digital technologies into business operations, fundamentally changing how organizations operate and deliver value to customers (Vial, 2021; Kraus *et al.*, 2022). This process has already led to a shift in the demand for certain job roles, requiring individuals to adapt and acquire new skills (Tucker, Fixson, & Brown, 2020). According to the World Economic Forum (2023), the impact of digitalization on jobs is vastly negative, with an estimated 83 million jobs to be lost in the next five years because of technological transformation and only 69 million new jobs to be created. Ironically, massive layoffs are a concern for prominent roles in big tech firms, with double-digit job cuts related to AI announced at the beginning of 2024 [1]. Back in 2023, Hollywood actors went on a 118-day-

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long strike to harness the use of AI in the industry. At the same time, the pace of digitalization seems to have slowed down, as the level of automation estimated by respondents in 2023 has increased by only 1% as compared to 2020 (World Economic Forum, 2023).

Undeniably, the anticipated and profound impact of the transition from an analog towards a digital age fueled the popularity of issues related to digital transformation (Roth, 2019). Academic attention devoted to digital transformation has grown exponentially in the last few years, with the number of publications listed in Scopus growing from about 2.000 in 2017 to more than 10.000 in 2023. However, we may trace the roots of digital transformation back to the 1950s (Venkatesh, 2022). A digitally transformed network society arrived half a century later (Castells, 1996), but the transformation process remains far from complete. Therefore, we find it important to recognize that the actual pace of digital transformation is much slower than technology enthusiasts anticipated.

We addressed the intriguingly slow pace of digital transformation from a behavioral perspective. We departed from the widely adopted assumption that digital transformation is a technology adoption-related strategic change process (van Houwelingen & Stoelhorst, 2023). Contrary to established theories such as the unified theory of acceptance and use of technology (UTAUT), which takes the perspective of technology users to predict technology use behavior based on several individual-level factors such as performance expectancy, effort expectancy, and social influence facilitating conditions (Williams, Rana, & Dwivedi, 2015), we believe that organizational and societal levels (Kraus *et al.*, 2022) of analysis must be involved to better understand the consequential shift generated by digital transformation. For instance, recent works indicate that organizational constraints due to the liability of smallness hamper SMEs' digital transformation (Kallmuenzer, Mikhaylov, Chelaru, & Czakon, 2024). We posit that digital transformation entails more than a single technology adoption but rather includes several concurrent technological shifts that have a profound impact on how organizations work. Therefore, it is crucial to consider the interplay between individual, organizational, and societal factors when examining the effects of digital transformation. By recognizing the multifaceted nature of digital transformation, organizations can better navigate the complexities and challenges that come with adopting new technologies. Hence, we looked at digital transformation through the lens of a technological revolution, that is "the introduction of a new type of machines" that require a "new set of machine-specific skills" (Caselli, 1999, p. 78). This encouraged us to examine digital transformation similarities to the Industrial Revolution concept of dehumanization. Dehumanization is a phenomenon where individuals perceive others as lesser than themselves, denying them some or all human characteristics (Väyrynen & Laari-Salmela, 2018). Digital transformation seems to foster dehumanization twofold. First, by introducing non-human agents to organizations and their stakeholders (Borau, Otterbring, Laporte, & Fosso Wamba, 2021) and second – perceptually, that is, by impacting affective commitment, job satisfaction, turnover intentions, psychological strains, and absenteeism (Lagios, Caesens, Nguyen, & Stinglhamber, 2022).

Two sides of the digital revolution coin

The progress of digital transformation resembles the shift of the Industrial Revolution two and a half centuries ago, which involved the introduction of steam machines, followed by the scientific organization of work (Demir, Paksoy, & Kochan, 2021). We associate the digital transformation with expectations of operational efficiency increase due to the automation of various tasks, including clerical work, and decision-making (World Economic Forum, 2023). By employing artificial intelligence and machine learning algorithms, businesses may analyze large amounts of data to identify patterns, predict trends, and personalize customer experiences (Jaiswal, Arun, & Varma, 2022). The existing body of academic literature has improved our understanding of various facets of digital transformation (Vial, 2021). Scholars

found that digital transformation has several positive outcomes, such as improved innovation, increased operational efficiency, enhanced customer experience, and optimized business processes (Schneider & Kokshagina, 2021). The positive outcomes expected from technological innovation are likely to significantly impact individuals, organizations, business ecosystems, and society as a whole (Dąbrowska *et al.*, 2022).

However, performance-related positive expectations come with strains between organizations and their stakeholders (van Houwelingen & Stoelhorst, 2023). Furthermore, it becomes hard to relate to the organization when it seems mechanical, algorithms-driven, and dehumanized. Digital transformation is a double-edged sword at multiple levels of analysis with vast organizational and societal improvements accompanied by several negative outcomes, such as security and privacy concerns (Vial, 2021), job displacement, and the pressure on individuals to adapt and acquire new skills (Tucker *et al.*, 2020).

Two centuries ago, during the Industrial Revolution, the Luddites, a social movement, violently opposed new technology, sparking a public discussion about its potential impact on future employment. This debate iteratively resurfaces with each subsequent technological advancement (Jong, 2019). Among others, the Luddites resisted the automation of textile manufacturing due to fears of unemployment and a decrease in artisanal skills (Perez & Leach, 2022). We notice here a parallel with the advent of AI and its impact on several professions and whole industries. This fear pushed Hollywood actors to strike, in view of protecting them from excessive, uncontrolled, and ultimately threatening the mere existence of their profession by AI. Mbembe (2021) goes so far as to create the idea of "brutalism" to describe the state of today's world marked by the dismantling of traditional norms (Fernandes, Ferreira, Veiga, Kraus, & Dabić, 2022).

Critics of digital transformation caution against substituting human labor in the workplace with algorithms and machines (Clifton, Glasmeier, & Gray, 2020). However, academic and policy discussions have primarily adopted an aggregate and quantitative birds-eye approach, which seeks to estimate the possible number of workers displaced by technological progress. Several studies have examined these estimates, indicating their inherent limitations and underscoring the benefits of technical developments in creating jobs (Chege & Wang, 2020; Sima, Gheorghe, Subić, & Nancu, 2020; Dosi, Piva, Virgillito, & Vivarelli, 2021). However, unlike in the Luddites' time, we had to include an important level of analysis in the debate. Digital transformation is not a purely social or industrial phenomenon, even if it has vast ramifications. In essence, the firm's operational processes, practices, and climate transform into a digital realm. Therefore, we had to include the organizational level of analysis to better understand what impedes the swift large-scale digital transformation.

Moreover, prior debates on digital transformation have not sufficiently covered the substantive – as opposed to quantitative – aspects of job automation and the adoption of digital technology. A technological revolution pressures workers to acquire new skills, which may be financially and psychologically expensive. It also negatively impacts skills related to preexisting technologies and unskilled workers, while it appears favorable to highly-skilled new-roles involved workers (Caselli, 1999). The current digital transformation debate overlooks the importance of long-lasting employment, which will involve increased interaction between humans and advanced tools like machinery and software for business and production management (De Stefano, 2018). Moreover, the shift towards automation may also lead to reevaluating the skills required in the workforce, potentially creating new opportunities for individuals to develop expertise in areas such as technology maintenance and innovation (Ciarli, Kenney, Massini, & Piscitello, 2021; Morandini *et al.*, 2023). Previous technological revolutions have not raised unemployment but inversely created a wealth of new organizational roles and jobs. Hence, as we navigate digital transformation, it will be important to consider both how many jobs there will be and what will be their quality. This

shift may also require a focus on continuous learning and upskilling to adapt to the changing demands of the job market.

Similarly to technological revolutions, a managerial revolution known as Taylorism relates to the current debate over standardization and optimization of work processes. With its focus on efficiency and productivity, Taylorism has become a cornerstone of modern industrial management practices, adding to the historical concept of dehumanization. Individuals feel dehumanized in the academic discourse of management studies, and even their everyday lives have been impacted by influential management practices (Al-Amoudi & Morgan, 2019). Al-Amoudi and Morgan (2019) suggest that post-humanism, viewed as a broad framework, is not a means to surpass the human but rather a strategy to strip it of its human qualities. When Taylorism spread among organizations, the dehumanizing factor was the machine. Throughout the ongoing transformation, digital technologies have empowered machines, resulting in the presence of non-human agents alongside humans in the workplace. This is a substantial difference from the traditional scope of this concept, making it an advanced dehumanization 2.0. form calling for close scrutiny. Despite the absence of a structured theoretical foundation, dehumanization often encompasses the rejection of two aspects of humanness: unique human qualities and fundamental human nature. By standardizing work processes and optimizing workflows through its "one best way" approach, companies can maximize output while minimizing costs, ultimately contributing to the assemblage of work necessary for the continued functioning of capitalist society (Witzel & Warner, 2015).

Many people criticize digital transformation and the adoption of digital business models for putting efficiency above worker autonomy and well-being. As companies navigate this digital landscape, they must balance technological advancement and their employees' well-being (Guest, Knox, & Warhurst, 2022) or face substantial resistance.

Organizational level digital revolution: the role of business model innovation

O'Reilly and Tushman (2011) contend that regardless of size, businesses typically have a life span of six to fifteen years. To extend that time, they must simultaneously explore new markets and technologies to reconfigure organizational resources to take advantage of both new and existing opportunities, as well as profitably exploit existing positions and assets. Despite this, the adoption rate of fully digital or hybrid business models embracing technology is surprisingly slow and disappointing despite the enormous potential benefits for organizations and societies (Autor, Mindell, & Reynolds, 2023). In an extensive and nationally representative survey comprising more than 850,000 American enterprises across private sectors of the economy, the Annual Business Survey (ABS) found that only a small number of companies are at the forefront of technology (Zolas *et al.*, 2020). They are typically large, which results in a much higher level of technological exposure for the average worker. Advanced technology adoption is uncommon in smaller businesses, except for technology-related ones and it tends to be more prevalent among larger and well-established companies. Companies tend to follow a pattern of increasing technological complexity in their adoption, with those using advanced technologies like AI also making use of simpler ones (Zolas *et al.*, 2020). Skare and Riberio Soriano (2021) also found that larger businesses are more likely to adopt technology and transform into using more digital business models. Various complete or hybrid digital transformation business models have become prominent in recent years. Models differ based on the industry, market requirements, and technological progress (Filser, Kraus, Breier, Nenova, & Puumalainen, 2021). Some common digital transformation business models include platform-based (Täuscher & Laudien, 2018), data-driven (Hartmann, Zaki, Feldmann, & Neely, 2016), and subscription-based models (Huotari & Ritala, 2021). Each

model offers unique opportunities for businesses to leverage technology and drive innovation in their operations.

Businesses that continuously aim to secure a competitive advantage and become well-known in the market must consider the management of innovation in their business models (Schiavi, Behr, & Marcolin, 2019). Therefore, business model innovation is crucial but challenging. Various barriers hinder altering business models, but organizational processes need to evolve. Hadida, Tarvainen, and Rose (2015) discuss organizational improvisation as a means for managers to comprehend and analyze the decisions and actions taken within an organization. Organizational improvisation allows firms to exert more control over the implemented changes, especially in fast-paced, diverse, and unpredictable environments with abundant opportunities. Organizational improvisation refers to the ability of organizations to effectively and intentionally adapt their actions in response to evolving conditions (Hadjimichael, 2023). Phenomenology is a comprehensive study of the ordinary experiences that people have in their daily lives. By integrating principles of organizational improvisation and phenomenology into their digital transformation approach, organizations can better grasp how individuals, organizations, and society engage with new technologies. This holistic perspective can lead to more successful and sustainable digital transformation initiatives that truly meet the needs and expectations of all stakeholders involved.

Firms need to embrace an efficient approach to business model experimentation. Attempts will inevitably lead to failures, but they should serve as opportunities to develop new strategies and insights within acceptable limits of loss, which should be expected and even encouraged. Discovery-driven planning allows organizations to analyze uncertainties and adjust their financial forecasts based on fresh evidence generated by their experiments. Effectuation generates activities depending on the original outcomes of trials, producing fresh data that may reveal previously undiscovered opportunities (Chesbrough, 2010).

Businesses can achieve sustainable growth and a competitive advantage in the twenty-first century by adopting innovation, promoting a culture of ongoing learning, and prioritizing human-centered strategies. This can be accomplished by maximizing digital transformation and an organization's capacity to handle cultural and organizational shifts. However, an organization's capacity to adjust to organizational and cultural change is just as important to the success of digital transformation as technological advancements (Zhang & Chen, 2023). Change is the central theme when we think of digital transformation, disruptive innovative business models, and technology adoption. All stakeholders involved in the supply chain and related processes will undergo some form of change, whether due to digital transformation, alterations in business models, or the adoption of new technologies.

People naturally tend to resist change and are hesitant to abandon old behaviors or approaches. This resistance is likely to increase if they perceive a discrepancy between the proposed change and their existing ideas, values, or attitudes or if they doubt it would result in positive results such as enhanced job satisfaction, acknowledgment, or incentives (Harmon-Jones & Mills, 2019). Resistance to change may occur when individuals lack confidence in their ability to adapt to new roles, duties, or technologies or feel a loss of control over their environment and outcomes (Lewin, 1947; Bandura, 1977). They frequently prioritize preventing losses over focusing on profits or rewards (Festinger, 1957). Therefore, change management strategies must address fears and help people view digital tools both as aids and as threats, which are likely to generate awareness and caution in adopting revolutionary changes. Organizations need to build trust before and during change. This is imperative for effective workplace interactions, which can either advance or hinder an organization's digital transformation development (Trenerry *et al.*, 2021).

It is crucial to find a balance between the efficiency and standardization principles of Taylorism in the digital era and employees' welfare and job satisfaction. Digital

transformation is a potent force that may profoundly alter industries, reshape company operations, and revolutionize work ways. Like steam machinery and scientific management in the past, the digital era presents challenges and opportunities, which require companies to adapt and evolve to thrive. Businesses must prioritize change management strategies and invest in training programs to ensure the successful implementation of digital transformation initiatives and to assist all stakeholders, not only employees, in adapting to change more easily. Fostering open communication and collaboration among employees can help create a supportive environment for embracing new technologies and working methods.

The Luddites opposed the mechanization of labor due to concerns about job displacement and the devaluation of skilled work (Jong, 2019). Resistance to the change brought about by digitalization might stem from worries about job obsolescence, lack of personal interaction and trust, or the dehumanizing effect (Al-Amoudi & Morgan, 2019). Fear of job insecurity and the necessity for retraining to adjust to new technologies can also lead to resistance to digitalization. Organizations must address these concerns and offer support to employees during the transition to guarantee a successful digital transformation.

Behavioral factors impacting digital transformation

Understanding the digital transformation within organizations without adopting a stakeholder's perspective is difficult. Noteworthy, emphasizing the performance benefits of digital transformation often ignores or dismisses individual-level concerns like well-being, job satisfaction, and intentions to leave the job (Lagios *et al.*, 2022). However, those phenomena are important variables impacting organizational performance. For instance, when employee well-being is hurt, they lose trust in the organization, develop distrust, or show resistance to change, and organizational performance is likely to decrease (Taris & Schreurs, 2009). Inversely, well-being and relationships are congruent with organizational performance increase (Van De Voorde, Paauwe, & Van Veldhoven, 2012). Furthermore, such variables as identity, sense of belonging, or image are critically important for successful strategic change processes (Gioia & Thomas, 1996; Ravasi & Phillips, 2011).

Surprisingly, the current debate on digital transformation very seldom considers behavioral variables (Jedynak, Czakon, Kuźniarska, & Mania, 2021). Consequently, our current understanding of behavioral antecedents to successful digital transformation is limited. For instance, if organizational identity (Batko & Baliga-Nicholson, 2019) shifts are important for strategic change, how do automation, AI involvement, and the relationship between human and non-human agents in the organization impact their sense of belonging? Similarly, how does vast labor loss impact the digital transformation of employees' perceptions? Or what are the expectations that employees may have towards organizational support when digitally transforming the firm?

Digital transformation involves the advent of non-human agents in the organization, which is likely to fundamentally challenge the scope of established constructs useful in understanding organizational phenomena. We think these changes result from dehumanization, which makes individuals feel stripped of human qualities and may make them feel perceived as animals or machines (Brison, Stinglhamber, & Caesens, 2022). Hence, established conceptualizations (Haslam & Loughnan, 2014) of what dehumanization is involve two dimensions: animalistic and mechanistic. In the animalistic view, dehumanization means depriving people of their superior status in the organic world by reducing the cultural layer, including morality, rationality, and maturity (Väyrynen & Laari-Salmela, 2018). In the mechanistic dimensions, people lose their individuality, emotions, cognition, and agency. As such, both dimensions constitute a problem, as dehumanization opens ways for inter-group violence and several individual-level deleterious outcomes such as contempt, hostility, or disassociation (Karantzas, Simpson, & Haslam, 2023).

However, studies at the organizational level of analysis only begin to emerge in the literature with a focus on ethical concerns of bias, unfairness (Fritts & Cabrera, 2021), or potential acts of ethics violation (Väyrynen & Laari-Salmela, 2018) that impact organizational effectiveness and efficiency at multiple levels (Brison *et al.*, 2022). Employees perspective is emerging, but the perspective of managers, who may be attributed to the role of dehumanization perpetrators (Nelson, 1977), has been vastly missing. Importantly, thus far, scholars have conceptualized dehumanization as an inter-human relationship, wherein one of the parties involved was dehumanizing the other as a way to achieve ethically doubtful outcomes. Indeed, dehumanization allows us to accept behaviors that would have otherwise been seen as wrong (Bandura, 1990). With the advent of digital transformation, humans may be completely taken out of operational tasks through robotization, decision-making roles, and AI. As a concept, dehumanization requires broadening to include another aspect, which considers the ethical issues of substituting a human with a non-human agent. At best, existing scales measuring organizational dehumanization include some items relative to robotization, but not yet AI (Caesens, Stinglhamber, Demoulin, & De Wilde, 2017). Similar to antecedents of organizational dehumanization, which so far understate the role of digital transformation (Brison *et al.*, 2022).

Conclusions

Digital transformation constitutes a major breakthrough resembling the introduction of steam machines to manufacturing and the scientific organization of work in the previous two centuries. Digital transformation is more than just a technology adoption or simultaneous adoption of multiple technologies. Instead, it is a trigger of profound discontinuous change. In past revolutions and technological changes, the focus has mainly been on how technology affects society. The missing level of analysis relates to the organization. We believe that this level of analysis is crucial to understanding the slowness of technology and adoption. We urge moving beyond traditional change management methods and instead embracing behavioral factors and processes that can greatly transform business and society. Indeed, the digital transformation is much slower than anticipated and, at times, even purposefully slowed down by firms.

One reason for the slow adoption of complex technologies is related to the emergence of new business models, which requires much experimenting (Chesbrough, 2010) and ambidexterity (O'Reilly, & Tushman, 2011) to pave the way for effective disruption (Schiavi & Behr, 2018). We underlined another relevant reason connected to behavioral factors that hamper the willingness to embrace digital transformation and reshape how organizations work. Those factors include (mis)perceptions, technology readiness, (dis)trust, and identity. We suggest that these factors stem from a common major cause, that is, digital transformation-related dehumanization.

Digital transformation-related dehumanization differs significantly from how people used the concept in the twentieth century. Today, it now involves non-human agents in organizational processes. Perceptions of non-human agents, and vice versa, perception of what non-human agents adopt as a view and humans seems to be key in overcoming ethical concerns and dehumanization-related fears. Moreover, dehumanization undermines trust in organizations and hurts the relationship between the organization and its stakeholders. Therefore, we believe that conceptual and empirical work addressing dehumanization is a promising research avenue. It is particularly important to adopt a multi-level approach as individual-level theories fall short of incorporating relevant organizational and societal level concepts and phenomena. Accordingly, further research could benefit from interdisciplinary cross-fertilization, as it lies at the intersection of information technology studies, organizational psychology, and management.

Like past revolutions, digital transformation will eventually reach its conclusion, fundamentally altering the world of organizations. Organizational and individual identities will change profoundly in a way we cannot anticipate. However, this process will continue to be slow and painful if we do not address behavioral factors are not properly.

Note

1. https://edition.cnn.com/2024/01/13/tech/tech-layoffs-ai-investment/index.html

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