



Business Models for Disruptive Technologies Digital Transformation Report

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Abstract: *Digital transformation is essential for modern organizations, yet its implementation remains complex. This study explores the key factors driving digital transformation, the challenges organizations face, and the direction it is headed. By reviewing existing literature and case studies—including the failure of GE’s digital industrial initiative and the success of Starbucks’ mobile app—the research highlights strategic misalignment, cultural resistance, and poor risk management as major reasons for unsuccessful transformation efforts. It examines challenges from technological, organizational, and social perspectives, with cybersecurity risks, skill shortages, and the digital divide standing out as key obstacles. The study also looks at emerging developments such as 5G, digital twins, and advanced connectivity, which are expected to influence future transformation efforts. To succeed, organizations must take a balanced approach that combines innovation with cultural readiness, ethical responsibility, and inclusive strategies. This research offers practical insights to help businesses align digital initiatives with their goals while managing risks and broader societal impacts.*

Keywords: Digital Transformation; Organizational Change; Cybersecurity; Artificial Intelligence; Digital Divide; Business Strategy; Ethical Considerations.

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1. Introduction

The concept of digital transformation has been increasingly prominent in discussions about the main factors that impact the development and continued existence of modern organizations. Kotarba (2018) defines digital transformation as a change or adjustment of a business model in response to changes in consumer and social behaviors caused by rapid technological advancements and innovations. Put simply, digital business transformation is causing significant changes to the boundaries that separate business individuals, organizations, and objects across all industries. By the dismantling of these obstacles, they can generate new products and services and discover more efficient methods of conducting business.

It is crucial to highlight that mass trends frequently encompass both detrimental and beneficial features. These advancements have resulted in significant transformations in many companies, as digital technologies (DTs) implement new processes and systems that could impact the fundamental frameworks that allow corporations carry out their operations. Organizations should not underestimate the complexity of transitioning to this, since it entails many risks and obstacles, similar to any other change process. According to Heavin and Power (2018), the main goal of digital transformation (DT) is to tackle issues concerning efficiency and effectiveness. In contrast, Hess et al. (2016) claim that companies that fail to promptly create and perform a DT strategy are unlikely to remain competitive in the emerging digital landscape. Companies that effectively avoid risks and capitalize on opportunities have a chance to attain growth rates that are higher than the average, strengthen their current market positions, or enter new markets. Hence, it is crucial to develop a comprehension of digital transformation and utilize it as a catalyst for advantageous alterations in organizational strategy and behavior.

This study enhances the field of research on digital transformation in business and management by offering comprehensive insights into the development of digital transformation. The purpose is to provide insight into the key factors that drive digital transformation, analyzing the technological, cultural, and structural aspects that organizations need to consider.

2. Defining Digital Transformation (DT) in Current Companies

Digital transformation refers to the incorporation of digital technologies throughout all aspects of an organization, resulting in a fundamental shift in the way the organization functions and provides value to its customers (Wrike Teams, 2024). That is, digital transformation in modern businesses refers to the strategic implementation of digital technology to fundamentally change an organization's operational processes, enhance customer satisfaction, and maximize return on investment.

Within certain sectors, digital transformation largely focuses on optimizing industrial processes. This is typical in manufacturing businesses (Schwertner, 2017). Digitizing the research, testing, and production processes for new goods is essential for cost reduction. In these situations, mobile applications are frequently employed to enhance efficiency and simplify internal employee communication, rather than focusing on engaging customers, particularly when these customers are not direct purchasers of the product. Furthermore, the process of digitization has a profound impact on every facet of the organization, with a significant emphasis on after-sales services. Nevertheless, its influence is equally significant in several company functions, including research and development, purchasing, manufacturing, marketing, and sales. It also means that in order to achieve digital transformation, firms must incorporate and create new ideas in all areas of their business.

According to Schwertner (2017), mobile technology is an essential component of the digital transformation technology suite. It accomplishes digital transformation goals by enabling smooth interactions between organizations and customers at all stages of contact. The increase in the number of mobile digital business platforms, particularly via smartphones and tablets, has transformed society and the global economy by enabling work flexibility and digital cooperation. Mobile technology has the potential to enhance productivity and boost profitability by 26% when compared to conventional approaches. The level to which mobile technologies are adopted and incorporated into business operations is primarily influenced by the requirements of enterprises, with a specific emphasis on enhancing the efficiency of business process management.

As an instance, given the framework of digital transformation in the retail sector, the adoption of the Starbucks mobile application serves as a prime example of how mobile technology is strategically incorporated to improve customer satisfaction and operational effectiveness. The Starbucks mobile app transforms the conventional coffee buying procedure by including mobile ordering, payment, and personalized rewards programs directly into the user experience. This functionality not only decreases the amount of time customers have to wait in the physical store, but also enhances customer loyalty by means of customized advertising tactics and incentives for repeated purchases (Buvat & Welch, 2019). Buvat et al. (2019) found that mobile orders constitute almost 16% of all transactions at company-owned stores in the US, illustrating the significant importance of mobile solutions in contemporary business strategies. The Starbucks story exemplifies how mobile technology may greatly enhance customer engagement and profitability inside the retail sector.

3. Why So Many High-Profile Digital Transformations Fail

Many high-profile digital transformation failures can be traced back to a fundamental misalignment between digitalization goals and the company's broader strategic objectives. This misalignment might result in insufficient support from crucial stakeholders, leading to poorly integrated innovations that disrupt current business processes (Kane et al., 2020). This was apparent in GE's endeavor to transition into a 'digital industrial' corporation. Despite implementing modern technologies and enhancing service profitability, the initiative failed to generate financial success or inspire investor confidence. Consequently, there was a lack of agreement between CEO Jeff Immelt and the company's direction (Davenport & Westerman, 2018).

Furthermore, the presence of cultural resistance within organizations frequently hinders the implementation of new digital practices since employees and management exhibit resistance towards changes that disturb established workflows. The presence of opposition can hinder involvement and weaken the execution of digital projects. Many organizations fail to fully comprehend the scope of change, not only in terms of adopting new technology, but in terms of completely reconsidering existing business models (Hess et al., 2016). Addressing such neglect requires significant changes to the business culture, a task that is both challenging and time-consuming.

In addition, companies such as Lego, Nike, P&G and Burberry experienced similar setbacks, where initial enthusiasm for digital initiatives was replaced by strategic pullbacks due to poor performance and shifting corporate priorities. These cases emphasize the importance of a balanced approach that aligns digital strategy with

business objectives and market readiness, avoiding the pitfalls of investing in technology without a sustainable integration and growth plan (Davenport & Westerman, 2018).

Finally, insufficient risk management, specifically in dealing with cybersecurity and data security, makes digital transformation projects more difficult and frequently results in severe setbacks. This mix of strategic misalignment, cultural resistance, and underestimation of required change highlights the complexity of digital transformation and underscores the need for a coherent strategy that integrates technological advances with core business functions.

4. Challenges and Ethical Considerations

The process of digital transformation has significant prospects for innovation and expansion; however, it is accompanied by a multitude of obstacles. In the following analysis, I explore three significant obstacles - technological, organizational, and socio-economic - that firms must overcome in order to fully achieve the benefits of digital transformation.

Initially, in our rapidly evolving and increasingly digital world, cybersecurity has become a major concern, with implications for individuals, organizations and governments (Bokan & Santos, 2021). It means that data breaches in the digital era can result in severe consequences, including financial losses and reputational damage. The complexity and frequency of cyberattacks require that organizations invest heavily in up-to-date security technologies and practices. For example, the FTC alleges that Equifax's failure to implement reasonable security measures led to the data breach in 2017, affecting approximately 147 million people (Federal Trade Commission, 2019). This instance emphasizes the importance of implementing strong risk management and showcases the negative outcomes that can arise from a lack of alignment between strategy and security practices in digital transformation projects.

Secondly, despite firms talking about their greatest and advanced technologies, their organizations lack in the necessary skills and attitudes required to effectively navigate this transformation, which resistance to change impedes the adoption of new technologies (Kane et al., 2015). Effective digital transformation requires more than just technological upgrades; it requires a cultural shift that embraces continuous learning and the ability to adapt. For example, Microsoft's experience in the early 2000s is illustrative, as it encountered internal resistance in the early stages of its move to the cloud due to teams being used to traditional software development. Microsoft had to lay off as many as 13,000 employees in 2014 due to the organizational change devised by the company CEO (Bort, 2014). That is, overcoming this resistance requires comprehensive retraining programmes and organizational restructuring to adapt to the new digital strategy.

Finally, digital transformation risks widening the digital divide, as not all stakeholders have equal access to the necessary technology and skills. Inequality access to digital technologies by companies can exacerbate existing social and economic inequalities, limiting individuals' potential, and hindering societal progress (Sheriffdeen et al., 2024). For instance, During the COVID-19 pandemic, the shift to online learning highlighted the digital divide in education. Students without access to reliable internet or computing devices found themselves at a significant disadvantage, prompting schools and governments to accelerate efforts in providing necessary digital tools and connectivity to underprivileged students (Education Gazette, 2020).

5. Future of Digital Transformation

The future of digital transformation is likely to be influenced by advances in artificial intelligence, machine learning and the Internet of Things (IoT). These technologies will continue to evolve and become more sophisticated, providing businesses with unprecedented capabilities to automate complex processes and personalize customer interactions.

In addition, as 5G technology becomes ubiquitous, it will enable faster and more reliable internet connections to support more advanced digital services and solutions, particularly in mobile platforms and edge computing scenarios (42 Interactive, 2024).

The concept of "digital twins" – virtual replicas of physical systems (MaKinsey, 2023) – is expected to become more mainstream. These will allow businesses to model and simulate the real world in a virtual space, enhancing everything from product development to predictive maintenance.

6. Conclusion

In summary, digital transformation has reshaped the enterprise, combining technology with traditional business functions to drive innovation and efficiency. However, the process is fraught with challenges, from protecting sensitive data from cyber threats to managing organizational resistance and ensuring fair access to technology. For organizations to thrive in this dynamic environment, they must develop a comprehensive strategy that includes strong cybersecurity measures, proactive change management and strong leadership commitment. Additionally, addressing the digital divide and maintaining ethical standards are critical to fostering an inclusive digital culture. As organizations continue to navigate through these complexities, their success will increasingly depend on their ability to adapt and seamlessly integrate these digital innovations to ensure that they not only survive the evolving digital landscape.

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