

Chapter 2

Digitally–Enabled Innovation Processes: The Emergence of a New Management Logic

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ABSTRACT

Malleability, homogeneity, and transferability are three distinct characteristics of digital technology that allow the continuous evolvement of innovation and the generation of new forms of agency, both within and across processes. Scholars have developed various research directions to theoretically understand digital technology correlative to business process management. Yet, literature in this area lacks a structured view of how digital technologies modify the innovation processes, and research aimed at examining the effect of digital technology on business process management is still relatively scant and in a very early stage. This chapter sheds light on scholarly works to explain digital technology’s impact on the innovation process and how it is linked to business process management.

INTRODUCTION

The emergence of digital technologies and their constantly expanding digital infrastructures, including social media, wearables, mobile computing, augmented and virtual reality, blockchain, data analytics, cloud computing, robotics, machine learning, 3D printing, and the Internet of Things (IoT) are radically modifying the processes, outcomes, and nature of innovation (Nambisan, Lyytinen, & Yoo, 2020). Digital innovation can generally be described as “the creation of (and consequent change in) market offerings, business processes, or models that result from the use of digital technology” (Nambisan, Lyytinen, Maj-

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chrzak, & Song, 2017, p. 224). Digital innovation consists of a “new combination of digital and physical components” (Yoo, Henfridsson, & Lyytinen, 2010, p. 725) that are carried by an amorphous agency to achieve uncertain outcomes resulting from a constant flow of integrating, expanding, and augmenting digital tools and components into business infrastructure (Nambisan et al., 2020).

The widespread use of digital technologies in innovation processes and outcomes has urged scholars to formulate new theories on innovation management. These theories shake core assumptions about the boundaries between innovation and organizations and the link between firm performance and innovation processes (Nambisan et al., 2017). Digital technology has drastically impacted the business environment (Davis, Field, & Stavroulaki, 2015) and modified the way organizations and customers interact and create value (Yadav & Pavlou, 2014). Digital technologies have indeed reshaped organizations and industries and challenged themes and assumptions that underly innovation process management. Thus, scholars are urged to build and incorporate new concepts and theories that can reflect the ways digitalization of innovation processes modifies the practical outcomes and transforms process management (Ferreira, Fernandes, & Ferreira, 2019).

Business processes are considered a top priority in the context of digital innovation. Business process management (BPM) has become the field of focus for many scholars and practitioners by providing techniques, management principles, and methods to strategically position processes to achieve better results, compliance, and sustainability (Van Looy, 2021). However, BPM is challenged by the rapid emergence of digital technologies that impose fast-paced transformations in the business environment (Fichman, Dos Santos, & Zheng, 2014; Schmiedel & vom Brocke, 2015). The incorporation of new technologies in organizational strategies and business processes has become a matter of survival and growth, especially when such technologies are competitive and user-friendly (Fichman et al., 2014). For example, Uber still takes customers from A to B, and it rather modifies the process of the way it is done. Blockchain systems do not change the fact of money transfer, but it fundamentally modifies how its conducted. These types of modifications go beyond the mere substitution of one tool for another to improve speed and quality and reduce cost; as a result, it opens up new areas of activities (Mendling, Pentland, & Recker, 2020).

While BPM has essentially focused on standardization, automation, and continuous improvement, digital innovation requires flexibility and agility (Van den Bergh, Thijs, & Viaene, 2014). The core transformation characteristic of digital technologies is the openness they bring to the process they are incorporated in, which disrupts the inward-looking nature of traditional BPM and requires openness to the surrounding environment (Van Looy, 2021). Given the new challenges of digital innovation in the traditional BPM discipline, scholars have started to tap into new streams of research to understand how to manage business processes under the influence of digital technology and how BPM benefits from digital innovation. One of the main questions for further investigation is how can the transformative process of digital innovation be managed? It is widely acknowledged that digital innovation provides opportunities for change and deviation, but can this deviation be optimized? In other words, can BPM benefit from digital innovation to enhance operational efficiency (Grisold, Wurm, Mendling, & Vom Brocke, 2020; Mendling et al., 2020)?

Hence, the objective of this chapter is to elucidate the way digital technologies impact the innovation process and ultimately reshape the way business processes are designed and managed. It also sheds light on the link between digital innovation and BPM and the means by which they complement and reshape one another. The following sections explain the characteristics of digital technology, the impact of digitalization on innovation processes, and the link between digital innovation and BPM.

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