Chapter 4
Digital Transformation Journey of HR:
The Effect of Big Data and Artificial Intelligence in HR Strategies and Roles

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ABSTRACT

Big data and artificial intelligence (AI) technologies have changed how we live, how we work, and how we organize businesses. Thus, it is no surprise that it is also changing how we manage human resources (HR). For HR leaders, digital transformation is a very hot topic, having the potential to create high value for businesses. First, HR can transform all functions, processes, and systems by leveraging digital platforms and applications. Second, HR can lead business digitalization, enabling a compelling employee experience where a digital culture, a digital workplace, and digital management are welcomed. To provide a more pragmatic perspective, this chapter discusses digitalization of HR with big data and artificial intelligence (AI) technologies and identifies key digital HR strategies and roles needed to sustain the digital transformation. Also, this chapter presents the advantages of digital HR and the basic pitfalls HR faces in the digital transformation of HR.

INTRODUCTION

The digitization and datafication of the work environment are responsible for high uncertainty, complexity and ambiguity for companies. To deal with the challenges, businesses have been focusing on digital work designs with higher flexibility, speed and agility (Richter et al., 2018; Vom Brocke et al., 2018). Digital technologies are important to achieve business goals and create value by means of innovative digital products and services. Artificial intelligence (AI), the idea that machines can think and act like humans, is used by businesses to augment human work. Recent technological advances in big data and AI systems have increased human-machine interactions and have created computer-cantered cooperative work environments. For example, the internet of things (IoT) generates big data from various sensors around us as an input for AI by increasing the level of connectedness among computers and shareholders (Saarikko, Westergen & Blomquist, 2017; Krotov, 2017). Furthermore, intelligent assistants simplify daily tasks and virtual work groups exceed the physical boundaries of organizations. In this new world of organizations, intelligent robots have already adopted employee tasks, and data-driven managerial approaches have enhanced transparency and trustworthiness in the workplace (Wisskirchen et al., 2017).

Big data is separated from other data sets with its huge volume, high variety and velocity (Beyer & Laney, 2012). Big data analytics is a term used to describe advanced analytical techniques applied to big data to gain value from complex and unstructured data sets (Russom, 2011; Intel, 2012). AI techniques are closely related to big data analytics and have contributed significantly to big data analytics that resulting better data processing and better future forecasts (O'Leary, 2013). Many researchers and professionals believe that big data and AI applications have potential to transform traditional management and business processes. With the help of technological advances in big data and AI organizations change business processes, corporate structure and ecosystem (Brown et al., 2011); increase business value with the help of new organizational capabilities (Davenport et al., 2012); enhance machine learning, automation and human-machine interaction (Jarrahi, 2018); supporting human decision making with algorithms (McAfee et al., 2012) and innovate new business models (Brown et al., 2011).

Digital transformation is not only about upgrading technology. It is about fully adapting structures, processes, strategies, cultures and leadership toward a digital revolution. Digital transformation should be a part of organizational design by creating data-driven, collaborative and reactive structures. This is why HR has a critical role. According to a 2018 Deloitte Human Capital Survey, 72% of respondents saw the adoption of automation, robotics, and AI technologies as important. However, only

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