


# Chapter 4

## Developing Leadership Talent for Success in the Fourth Industrial Revolution

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### **ABSTRACT**

*Digital disruption brought by the Fourth Industrial Revolution (4IR) technologies has a major impact on cultures, strategies, structures, and processes of organizations. This change also requires a shift in leadership mindset to respond to opportunities, challenges, and dilemmas in the implementation of Industry 4.0 (I4.0). Moreover, effective leadership in the digital age requires developing a wide variety of core components of leadership. Therefore, improving the essential characteristics, capabilities, and skills of leaders plays a pivotal role in accelerating the path to success in the I4.0. In this regard, this chapter provides an in-depth discussion on leadership aspects of I4.0. The purpose of this chapter is to first present emerging leadership styles in I4.0. The chapter also explores what leadership roles have become more relevant in the age of I4.0 and what kind of fundamental leadership skills they need to possess in order to succeed.*

### **INTRODUCTION**

Over the centuries, the pursuit for innovative approaches to gain competitive edge in emerging economies has led to industrial developments. Current developments in Information and Communication Technology (ICT) used in various aspects of organizations have produced large-scale remarkable and rapid changes in industries. These revolutionary developments aimed at achieving digital transformation have been called the Fourth Industrial Revolution (4IR), also known as Industry 4.0 (I4.0) (Mohanta, Nanda & Patnaik, 2020). Not surprisingly, transition to I4.0 has made a profound global impact on organizations and businesses. Increased connectivity with digitalization in this age has caused major

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disruption and volatility in the industry (Hlupic, 2020) and has brought different perspectives to value creation and value capture strategies (Gilchrist, 2016). In other words, 4IR that is currently underway with their manifold effects on the future of the work has begun to disrupt existing business models and has reshaped industries (Moueddene et al., 2019). Accordingly, the consequences of digitalization for the business world have been inevitably divided into two blocks: the first block is about the gradual elimination of simple job descriptions through rationalization, standardization and automation. The second block is about the emergence of new business types and new workplace models that must take into account the requirements of digital transformation (Ternes & Wilke, 2018). Consequently, the following four factors are expected to change radically in the factory of the future: tools, organizational structure, working environment, intra-organizational and inter-organizational cooperation (Gehrke et al., 2015). This means that new practices, new management structures, new workplace relationships, new qualification requirements and new employment models should be developed during this period to create a decisive competitive advantage.

Regarding I4.0 the main question faced in the business world is the adaptability of companies to digital transformation. It is a common knowledge that most global businesses are ready to embrace the digital revolution with the aim of reducing costs and increasing efficiency (Kumar, Zindani & Davim, 2019). However, a fast, open and responsive new business environment brought by the ongoing digital transformation has resulted in not only opportunities, but also several organizational challenges to contemporary organizations (Bawany, 2019). One of the great challenges is a lack of required skills in the organizations (Oberer & Erkollar, 2018). Due to the rapid advances in I4.0 technologies, especially the skills which are essential for today's workforce have changed at unprecedented scale and advanced new skills have been needed for employees to succeed in the future workplace. Identifying future employment trends at all levels in terms of the required knowledge and skills is considered as a key element of I4.0 (Schwab, 2016). On the other hand, leadership in I4.0 has a crucial role in the long-term survival of companies (Tulasi et al., 2019). Therefore, one of the main issue to be addressed in the successful implementation of the I4.0 is leadership. All in all, forward-thinking companies realize that they need effective organizational leadership skills to survive in today's volatile, uncertain, complex, and ambiguous (VUCA) environment (Moldoveanu & Narayandas, 2019). Although some traditional leadership abilities such as establishing and communicating a clear vision, motivating and empowering others are still critical to be able to successfully lead in the digital age, there are also new qualification requirements for leaders at the rapidly changing industrial environment (Bawany, 2017).

As a result, it is important to overview what kind of leadership talent is expected to succeed in the 4IR. On this basis, this chapter first provides an overview of I4.0 paradigm. Next, it examines the relationship between I4.0 and future of work. Then, it points out leadership fundamentals in the digital disruption by analyzing emerging leadership styles, leadership roles and essential leadership skills in I4.0.

## **INDUSTRY 4.0 PARADIGM**

I4.0 is an industrial revolution that takes the meaning of the digitalization to an advanced level by radically changing the interaction between suppliers, producers and customers (Harper, 2019). Recently, it has drawn attention from both the research community and industry with the objectives of providing smooth operations and timely delivery of services (Mohanta, Nanda & Patnaik, 2020). In a general sense, in order to respond to change and improve their performance, modern companies have started to invest

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