Chapter 11
Changing Skills and Attendant Stressors Appraising the Efficacy of Traditional Wellness Programmes in the 4IR: Skills Development

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ABSTRACT

The need for pertinent skills is invaluable in every industrial evolution and will not be any different for the fourth industrial revolution. Appropriate employee wellness programmes will enable an increase in the potential of employees to develop the required skills necessary for the fourth industrial revolution. The fourth industrial revolution is having the blurring line effect between the physical, digital, and biological spheres characterised by systems, scope, and velocity. This chapter shall address the need of changing skills and its relevance to the fourth industrial revolution, employee effectiveness, and efficiency. The fourth industrial revolution requires employees to be multi skilled rather than being specialist skilled.

INTRODUCTION

This chapter deliberates on the impact of the fourth industrial revolution on skills which change as a result. Topics discussed in the chapter include the fourth industrial revolution and its impact on developed and third world countries, skill trends, an attendant stressor - job insecurity, the ways to develop skills, wellness and the fourth industrial revolution, followed by recommendations and conclusions.

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In deliberating the skills and attendant stressors in relation to the fourth industrial revolution, it should be noted that the fourth industrial revolution does embrace changes that are fundamental to the way we live, relate with each other, as well as work. It has been considered as a human centred future that is inclusive. The need is created for all to go beyond technological perception but to see how to grant a number of people an ability (skill) in positively impacting communities, families and organisations (WEF, 2020).

The technological innovations were considered to be skills biased by earlier researchers; the understanding was that it increased the demand for the relatively more educated than the less educated (Nelson & Phelps, 1966; Katz & Murphy, 1992; Goldin & Katz, 1998; Bekman, Bound & Machin, 1998; Violante, 2008). This is well illustrated by the quotation given by Nelson and Phelps (1966: 69) stating that "education enhances one's ability to receive, decode, and understand information." This may not be far from the truth in terms of the demands of the fourth industrial revolution as it unfolds, and the challenge of skills being adjusted to meet the needs becomes something of concern as this chapter is addressed. The traditional wellness programmes in terms of skills that are available and what will be required to match the demand of skills are significant in terms of employment.

The authors have often pointed out that what humans can do well and is well codified can be performed by computers. However, tasks that require situational flexibility, visual and language recognition as well in-person interaction are far out of reach for computers. These kinds of tasks include persuasion and problem solving as well as creativity. The tasks that have become achievable through technology have been incredible in ordinary terms. This has been noted in many cases. It can be exemplified by the self-driving car which can replace Uber for bus and truck drivers as well as construction machinery drivers. Language translations which include simultaneous translations have now become available to anyone with internet. This is available on Google translate and Skype translation. It was also noted that IBM's Watson and DeepMind Health in 2016 was able to diagnose rare cancers more than human doctors. So many other tasks can be generated through technology including among others, financial advice, tax analysis, teaching, medical diagnostics, legal assistance, HR workers and even software programming (Frey & Osborne, 2017).

BACKGROUND

The fourth industrial revolution (Industry 4.0) is currently taking place and is changing the way we communicate, live and work. Previous industrial revolutions brought along many benefits that shaped the way people go about their lives (Figure 1). The first revolution saw the introduction of the commercial steam engine which enhanced transportation, the second revolution brought about the telephone which amplified communication, the third revolution saw the internet take the world by storm, and lastly the fourth revolution brought about disruptive technologies and trends such as the Internet of Things (IoT), robotics, and Artificial Intelligence (AI). Disruptive technologies are technologies that takes the place of an established technological discovery and either create a new industry or vastly change the current industry it is situated in (Morrar, Arman & Mousa, 2017). Like any industrial revolution, change is imminent and this change is said to be very powerful. Each of the revolutions has attained some benefits as noted in Figure 1, and it can be noted that there has been an increase in the levels of benefits. It all started with steam powered machines, and finally we are dealing with robots which eventually impact on the skills levels required for this revolution.