The Utility of Fourth Industrial Revolution (4IR) Technologies to the Management Sciences Discipline

The unique impact of the plethora of emerging technologies associated with the Fourth Industrial Revolution (4IR) on society and particularly on the human behaviour within the workplace has been reiterated (Schwab, 2016). This expectation is not new as previous technological advances have consistently contributed to social change, thereby naturally influencing the ways in which humans live and work. And 4IR technologies are expected to fare no different. For instance, digital technologies have already transformed the workplace at an increasing pace, as technology begets more technology. Today, the question confronting contemporary society, organizations and the individual is not about their willingness to adopt and implement new technologies but rather how these entities can adopt and leverage on such technologies at a quicker rate in order to remain relevant. Also, the notion that computing power doubles every two years, supports the hectic pace of technological innovation and the subsequent changes it brings to the workplace. In this, the role of the management sciences discipline (notably human resource management, business management, marketing management and government management) is crucial. The instrumentality of this discipline in facilitating the preparation of both employees and managers for managerial challenges in the everchanging world of work cannot be overemphasized. The adoption of 4IR technologies in driving efficiencies in the workplace happens to be one of such managerial challenges (Broekhuizen et al., 2018). Accordingly, the management sciences discipline is saddled with the responsibility of developing professionals who are not only adept at managing transitions to a 4IR technological platform but also able to identify and leverage on the benefits conferred by such transitions. This set of skillsets is deemed critical considering the increasing expectation of leaders and managers to act as change agents for the reinvention of the workplace, management of diversity and creation of strong organisational cultures that support growth and sustainability in a very competitive global sphere-otherwise referred to as the 'new world of work'.

The way in which the various 4IR technologies are likely to influence the new world of work is not clear (Schwab, 2016). Certain positions/skills that currently exist may become redundant in the future and the possibility of re-skilling/upskilling is not foreclosed. Some professions may even become obsolete due the advancement of these new technologies. Presently, Artificial Intelligence (AI) is having a notable influence on the way in which individuals work and interact with technology. Examples include Human Resource Information Systems, Pymetrics, Big Data Analytics etc. Also, the ability of AI platforms to replace occupations involving the performance of routine tasks such as bookkeepers, casino cashiers, travel agents, Information Technology (IT) support, financial planners, etc. has been noted (Jarrahi 2018, Chelliah 2017, Makridakis 2017).

In furtherance to this, AI can engender efficiencies in the following organizational facets:

Dealing with exponential technology change: Every day, technology helps human resource professionals to move towards becoming the true architects of work. From sensors that gather data about daily activities to apps that use AI to predict music choices to automation that facilitate thermostat adjustments to suit comfort levels. Tasks previously performed by humans are now performed by smart technologies and robots. These improvements have boundless implications for the future of the workplace.

The reality of human-machine interaction: AI is not about replacing jobs rather about creating a new world of collaboration between humans and machines. This is likely to influence the evolution of jobs – something that can be a frightening prospect for employees. The more organisations come to rely on robots, AI and machine learning, the more pronounced the need for social scientists to comprehend the impact of this massive shift in the way humans work.

Re-thinking talent management: Given the complexity of the new world of work existing talent management strategies are already obsolete. The notion of work has also evolved, and work has become in certain instances, more temporary, team works is more pronounced and virtual organisations is a reality. This reality accentuates the need for AI in facilitating such transitions. Organisations thus need to re-think their talent management approaches taking into consideration the demands of the external environment, as well as the internal realities of the organisation. Environmental scanning thus need to become a crucial activity for especially strategic managers.

Projects in the management science disciplines will revolve around informing colleagues and other stakeholders on the impact of AI and how it is likely to change the world of work. It should be kept in mind that the management science disciplines are more likely to be the consumers of AI and not necessarily the developers thereof, although collaborations between stakeholders and engineering and information technology (IT) professionals are not excluded.

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