Rethink Thinking Zimbabwean Tertiary Education in the Fourth Industrial Revolution: The Case Of A State University

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Abstract

Disruptive technologies such as robotics, artificial intelligence, nanoscience, and blockchain technologies characterize what is referred to as the Fourth Industrial Revolution (4IR). This revolution came after the first, second, and third industrial revolutions (1IR, 2IR and 3IR) whose main contributions were steam engines, electricity, and internet-connected computer processing respectively. Due to its unique exponential speed, breadth, and impact on systems, the Fourth Industrial Revolution is changing the way people work and live and is threatening to make many jobs, skills, and education redundant, antiquated, and defunct now and soon. In view of the foregoing, it is not surprising that, like its predecessors, the Fourth Industrial Revolution technologies are making skills currently being taught to Zimbabwean students and those held by professionals in the industry archaic and thus making many workers redundant in today and tomorrow?s industry. Now, with authorities such as Gleason (2018) stating that from as early as the first industrial revolution, education and society have been transforming themselves to suit the dictates of the industrial revolutions, this study sought to assess the degree to which state universities are prepared to adopt 4IR technologies to keep its graduates suitable for the workplace of tomorrow. It also sought to understand major drivers for adoption and to understand the nature of the relationship between industry and the university. A philosophy of pragmatism was used and both qualitative and quantitative methods were used. Questionnaires and interviews were used as the tools for data collection. Descriptive statistics and thematic narrative discussions were used to analyze the data. It was found out that save for basic computer skills taught at most universities in Zimbabwe, very little, if any, has been done to implement the adoption of 4IR technologies such as Artificial Intelligence (AI), Robotics, Machine Learning (ML), and Blockchain technology in the curricula. The study also established that university lecturers at state universities have no contracts with the industry?s instructional designers in key technologies that can capacitate them and facilitate training thereof in the the deployment of relevant 4IR technology in their teaching. It was also found out that

adoption of 4IR technologies can narrow the gap between the rich and the poor students, increase access to learning materials, and make university education cheaper and accessible. The study concluded that if Zimbabwean universities continue to be driven by consumeristic factors to adopt technology, there is bound to be little innovation and industrialization that would spur-causing drought in the innovation hubs and in international patent filings. It was recommended that practical implementation of the adopted technologies in the curricula should be adequately monitored at all levels to enable universities to produce students who are fit for the 4IR workplace.