Chapter 2
The Reflections of Technological Singularity on Open and Distance Learning Management

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ABSTRACT

According to Kurzweil, technological singularity is the inevitable change of human civilization by all developments in technology, especially artificial intelligence. Open and distance learning systems are the systems that allow individuals to access learning materials and get education whenever and wherever they want. These systems are widely used today in programs offered by universities such as associate degree, undergraduate and graduate programs, as well as certificate programs and massive open online courses. This study discusses the technological singularity within the context of super-human and Human 2.0 concepts regarding the definition of "new human" that this phenomenon will shape, its reflections on education, and especially open and distance learning, namely open universities, and how these systems will transform. Its effects on managerial activities and managed processes in management were investigated, and suggestions have been made for restructuring management in accordance with this change and singularity in technology.

INTRODUCTION

The technological singularity (Wikipedia, 2018), which is defined as the hypothetical point where artificial intelligence will surpass human intelligence in the future and will radically change civilization and human nature (Wikipedia, 2018), will have been realized soon according to futurists (Vinge, 1993; Kurzweil, 2005; Shanahan, 2015; Eden, More, Soraker, Steinhart, 2015; Goertzel, 2017; Potapov, 2018; Yampolskiy, 2018). Another reason why singularity is believed to be approaching is the current study and developments related to artificial intelligence which is included in its definition. The new systems that have emerged with the development of artificial intelligence applications will be employed in open and distance learning in various dimensions, which will pave the way for a transformation process in the systems. As a matter of fact, in the literature, it is possible to find researches on the use of artificial intelligence in open and distance learning. The concept of "technological singularity" which is claimed to be the end product of the maturity process that artificial intelligence will pass through will inevitably impact the open and distance learning systems that reaches individuals through being fed by technology. Therefore, it is appropriate for open universities and institutions that provide open and distance learning services to take strategic decisions and start preparatory processes at the management level for this period.

THE EFFECTS OF TECHNOLOGICAL SINGULARITY ON THE MANAGEMENT OF OPEN AND DISTANCE LEARNING

The constructivist approach that defines the teaching activities where the learners are actively involved in processes and learning by doing (Schank, 1996) will become the instrument by which the next generation will learn to join the world according to Ray Kurzweil (O'Keefe, 2016). In the constructivist approach, the emergence of a product and getting the learners to acquire the skill to present this product are important achievements. With this approach, real life skills can be taught. It is a well-known and generally acknowledged fact that learners' motivation and success increase when they actively participate in their own learning processes (Açıkgöz, 2003; Kimonen and Nevalainen, 2005; Gülbahar, 2012). Kurzweil also anticipates that the individual, like his predecessors, should learn by doing and experiencing, and that passionately involving in problems and finding solutions will shape education in the future.

From the scope of this anticipation, it is inevitable to use technology and environments such as practical augmented reality, artificial intelligence optimizations, holograms, neurocognitive learning laboratories in order to realize learning activities

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