Chapter 2
Disruptive Unicorn of Digital Innovations:
A Challenge for University Professors

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ABSTRACT

This chapter analyzes the disruptive unicorn of the 21st century, characterized by six of the most important digital disruptive innovations that will dominate the business ecosystem. A survey was applied to undergraduate students at Tecnologico de Monterrey in Mexico in 2019 to identify the students' perception of the unicorn. The hypothesis to be evaluated is that the undergraduate student has an unclear perception of the existence of the unicorn that could generate risks related to ethics and business power shifts in the world. An educational challenge is the need to develop the transversal competence of critical thinking related to digital disruptive innovations in the students. The educational strategies must evolve as fast as these digital disruptive innovations in order for the world to have citizens of a technological world in favor of humanity with the power of critical thinking and discernment. This is the challenge for the university educator.

INTRODUCTION

The concept of digital economics arises from the abundance of digital technological innovations and the easy way to adopt them in favor of the sustainable development of businesses (Jones and Wynn, 2021). The new digital era is perceived as a magical unicorn that could increase productivity in business: optimization in productive processes, benefits to entrepreneurship, support for small and medium sized firms, help to marginalized areas, improvement in governmental services, an increase in competitiveness and consumer welfare through improved goods and services, among others. However, this mythological creature that could be perceived as a magical tool to increase welfare in humanity, could also bring hurt and harm. Thus, it is important to lead its disruptive force towards good.

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The disruptive unicorn will transform the traditional way of doing business and will be a game changer in the world, not simply by using social networks as Instagram or Facebook, among others, but as a deeper disruption as those found, for example, in the electric industry through the use of intelligent clothes, digital bracelets to monitor the worker's biometric signs, augmented and virtual reality, etc. (Syduzzaman et al., 2015).

The objective of this chapter is to test the hypothesis that the undergraduate student has an unclear perception of the existence of the unicorn that could generate risks related to ethics and business power shifts in the world (Bannister et al., 2020). This is accomplished through a survey in order to identify the educational challenges that are needed to develop the transversal competence of critical thinking related to digital disruptive innovations in the students (Kane et al., 2017). The survey aims to raise awareness within university professors of the educational requirements needed for the development of transversal skills as critical thinking and discerned ethics when talking about digital technological innovations which will impact every field of the human and business lives. This chapter opens an action field for the university educator who needs to value the importance of teaching with an holistic vision about digital innovation in every discipline with the main challenge to transform it in a positive disruptive force that benefits and supports the sustainable development of businesses in which the students should become citizens of a technological world in favor of humanity (Martin and Smith, 2019).

This chapter presents the following sections: a research background and literature review and a brief analysis of six of the most important disruptive innovations chosen to be evaluated considering their potential and the evolution of their effectiveness that will be improved and spread around the world during the following years. These disruptions are: Artificial Intelligence and Machine learning – disruptive technologies that think on their own, Big Data, Blockchain, a permanent registry, the Internet of Things (IoT) and the wearables, Biometrics, and Digital Payment (DiPa). The next section will explain the methodology chosen to identify the students' perception of the disruptive unicorn of digital innovations and the hypothesis to be tested, followed by a presentation of solutions and recommendations. Before presenting the conclusion, future research directions are discussed. At the end of the chapter the references are presented.

BACKGROUND AND LITERATURE REVIEW

Christensen (1997) defines a disruptive technology as the one that unexpectedly arises and displaces the existing one. This technology is vaguely defined, with implementation problems, with a yield that is not profitable yet, and faces difficulties to be used in practical and commercial applications.

A disruptive technology has the power to change our lifestyle and the approach of doing business. These technologies will change the power centers of the world that will require a reinvention of the business models (Van Veldhoven and Vanthienen, 2021). While the adoption of a disruptive technology may be easy, fast and with a low-cost possibility of failure in some type of businesses, for others, it could mean a huge risk, a threat because of the slow process of acceptance and marketing, and a financial danger due to the high cost possibility of failure in its application (Andal-ancion, et al., 2003).

Agger (2007) describes Google's potential power due to the personal information it collects from the families: friends, purchasing habits, travel activity, even the pictures of where they live. Agger´s fear originates in 2007 when Google had not developed several services yet: Google Home, Google Flights, Google Drive, Google Play, among others, and before the acquisition of other firms like Motorola and