

# Challenges of Digital Transformation in Higher Education Institutions: A brief discussion

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## Abstract

Like many industries, Higher Education Institutions (HEIs) have been exploiting emerging technologies as a way to improve performance and adapt to the increasingly technology-driven society. Although digital transformation is most often associated with business organizations, it is also an important issue for HEIs and presents some challenges that must be considered when defining digital policies and strategies. In this paper, as a starting point for our research, a brief discussion on the main challenges of digital transformation in HEIs is presented.

**Keywords:** Digital transformation; Digital Strategies; Higher Education Institutions.

## Introduction

Digital business and digital transformation are currently buzz phrases, that generates great interest and are being used in many contexts. In the literature, especially from the IT service and solutions providers, such as Gartner, Cisco, IDC and others, it is possible to identify some definitions for digital transformation. While some definitions focus mainly on harnessing technologies to reinvent or improve the business (e.g. (Forrester, 2016; IDC, 2015; Solis and Szymanski, 2016; Wade, 2015)), for others the digital transformation is the process of digitizing and making available what was previously analog/physical (e.g., (OECD, 2017; Raab and Griffin-Cryan, 2011)).

Regardless of how it is defined, digital transformation is increasingly viewed as an imperative and has led organizations to rethink how they can use technology to improve their performance or expand their businesses. Digital transformation is fundamentally about change and it involves people, processes, strategies, structures, and competitive dynamics (Wade, 2015). Digital transformation implies an organizational change based on the use and convergence of several resources and advances of emerging technologies, such as big data, cloud computing, artificial intelligence, augmented and virtual reality, mobile apps, social media, internet of things, blockchains, among others. The implementation of a digital strategy is a complex process that requires taking iterative measures to implement the culture, processes and technology that will enable the businesses to compete in the modern marketplaces (Forrester, 2015).

The drivers that lead organizations to digital transformation initiatives can be diverse. Evolving customer experience and satisfaction, the growth opportunities in new markets, the increased competitive pressure and new standards in regulatory and compliance, are some examples commonly referred. However, the success of a digital strategy relies heavily on several factors, some technological and others of a non-technological nature. Among these factors are (Hafsi and Assar 2016; Solis and Szymanski, 2016; WEF, 2016): the culture and internal organization, the organization silos; the organizational resistance to change, the lack of resources and budget, the legal and regulatory implications, the understanding of the behavior or impact of the customers; lack of data to justify the value of digital transformation; lack of competences and digital literacy; and security.

According to a recent study by Navitas Ventures, there is no doubt that HEIs digital transformation is already underway and some of them are at least part way through their digital journey (NV, 2017). However, the same study shows that HEIs are adopting different strategies to achieve different objectives and facing in the process several challenges. In this paper, as a starting point for our research, we present a brief discussion on the main challenges of digital transformation in HEIs.

## **Challenges of Digital Transformation in HEIs**

Nowadays, HEIs are facing enormous pressure due to the global competition for candidates, the demographic changes, the restrictions on access to financial resources, the new demands of the labor market and the growing expectations of students to innovate their experiences learning, teaching, research and management. To address some of these pressures, HEIs are using digital transformation strategies as a way to improve 'how' they do their existing work, to digitize their current operations while creating new digital models in parallel, to create wholly new digital models or to fully digitize their current (NV, 2017).

Whatever the digital transformation strategy adopted, HEIs may face many challenges. One of the main challenges is the definition of a strategic vision for digital transformation. HEIs need a strategic vision that allows the whole institution to be united in the implementation of the digital initiatives. For this it is important a strong leadership and a specialized team that can confidently explain and implement their plans. A clear vision will make the team and stakeholders more involved and invested in the process of digital transformation.

Another important challenge is the digital literacy of all stakeholders. Nowadays, students of higher education are not only young people between the ages of 18 and 25. Instead, the range of ages is widening, with young generations having generally more digital skills than older generations. Furthermore, although HEIs are by nature very dynamic and technologically advanced, their different audiences (students, alumni, faculty, administration, parents, industries, society, among others) have different backgrounds and have different behaviors with technology. The success of a digital strategy is strongly dependent on the ability of these different stakeholders to adapt to the emerging technologies and to make an efficient use of them.

A third challenge is meeting the new expectations and needs of the students. Students are increasingly demanding an improvement in the "basics" of their experience, with features such as digitization of administrative processes, unrestricted 24-hour access to all information and services using multiple platforms or digital curriculum. Choosing the right digital approach that meets the needs of students is therefore critical to improving one of the main drivers of digital transformation - the student experience.

A fourth challenge is related with the financial and technological constraints of HEIs. Emerging technologies are often expensive, which, combined with the financial constraints that HEIs face today, may hinder its adoption. On the other hand, HEIs may not have the access to the technologies needed for a given strategy because the access to these technologies is not open or its maturity level is still not the ideal. Thus, for a digital strategy to be successful, it is necessary to ensure that the HEI has the necessary resources for its implementation.

With the increasing use of digital technologies and the growing connectivity of everything come also greater challenges on the level of security, compliance and data protection and regulations. The automation of business processes and the digitization of data can increase agility of HEIs, but also significantly increase cybersecurity risks and levels of threat.

Finally, the attention given to digital transformation has led HEIs to the implementation of different digital initiatives and the adoption of different approaches. One of the most common problems faced in the digital strategies is the temptation to implement digital initiatives in silos or through a technology centric approach, which can result in a competition for scarce resources and resulting in inefficiencies and conflicts (Raab and Griffin-Cryan, 2011). Implementing digital initiatives in an integrated way is therefore a major challenge and can only be achieved if there is a framework to manage it.

## **Conclusion / Future Work**

It is widely accepted that any modern organization needs a digital strategy if it is to achieve its business objectives, and HEIs are no exception. Nowadays, HEIs are under pressure to provide new and innovative digital experiences for their stakeholders. For this reason, HEIs must begin to look at digital holistically and transform by applying digital thinking across everything they do; how they operate internal processes; and how they source their core mission. In our view, this can only be achieved by using a framework that enables HEIs to manage, in a holistic and integrated way, all digital initiatives and approaches. This framework should consider the three main components of a digital strategy in an IES:

- Stakeholders (students, alumni, faculty, administration, industries, society, among others)
- Emerging technologies (big data, cloud computing, artificial intelligence, augmented and virtual reality, mobile apps, social media, internet of things, blockchains, among others)
- Core Processes (administration, education and research)

In our research we intend to study how HEIs are facing the challenges of digital transformation and what is current state of digital transformation practices. Then, we intend to propose a digital transformation framework that can be used to evaluate the current state of an HEIs digital strategies and to facilitate the integration of different initiatives and approaches.

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