Proposal for a digital maturity model for universities (MD4U)

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1. SUMMARY

As ITs become more important in organizations, there has been confusion between different related concepts: digitization, digitalization and digital transformation. It is important for universities to understand that the destination of this path is not simply their digitalization but to become true digital universities. We understand by digitalizing the use of information technologies to offer faster and more efficient solutions to existing business needs. However, digital transformation consists of both digitalizing and detecting the potential of a technology to drastically transform business processes or create new services or strategic business processes for the organization based on that technology. We propose a characterization of digital transformation on which our Digital Maturity Model for Universities (MD4U, from Spanish *Modelo de Madurez Digital para Universidades*) will be based, taking into account that the reasons we are going to provide and the definition of the model will be limited to the university environment, which has very specific and differentiated characteristics from the rest of the industry sectors.

2. STATEMENT OF THE PROBLEM AND BACKGROUND

Altimeter in its annual report *The State of Digital Transformation* (Solis, 2018) defines digital transformation as "the investment in and development of new technologies, mindsets, and business and operational models to improve work and competitiveness and deliver new and relevant value for customer and employees in an ever-evolving digital economy". As Bloomberg (2018) says "we digitize information, we digitalize processes and roles that make up the operations of a business, and we digitally transform the business and its strategy. Each one is necessary but not sufficient for the next, and most importantly, digitization and digitalization are essentially about technology, but digital transformation is not. Digital transformation is about the customer". Rogers (2016), concludes that "digital transformation is fundamentally not about technology but about strategy. Although it may require upgrading your IT architecture, the more important upgrade is to your strategic thinking. Traditionally, digital leaders, such as CIOs, were tasked with focusing on automating and improving the processes of an existing business. Today, digital leadership requires the ability to reimagine and reinvent that business itself".

Universities have already begun to worry about their digital transformation (Crue-TIC, 2018; Fernández y Llorens, 2018; Gómez, 2017; Llorens-Largo, 2018; Padilla-Verdugo, Cadena-Vela, Enríquez-Reyes, Córdova-Ochoa y Llorens- Largo, 2018; Ponce López, 2018). Kähkipuro (2018) proposes the grouping of digital capabilities into four clusters with similar government requirements: technical, mainstream digital, evolving digital and opportunistic. According to Navitas Ventures (2017), most university leaders are opting for a middle ground in relation to the change in the current university model, with plans to partially digitalize their current operations and also considering the creation of new digital models.

3. PROPOSAL

According to the abovementioned approach, a digital transformation of the business processes of a university will only be achieved if the technologies are disruptive and they completely change an existing process, adding new value or triggering the creation of new services or business processes. Therefore, we understand that the **ability to change or create new processes** is one of the fundamental characteristics of digital transformation.

When an organization implements new technologies, it can do so in such a way that the result speeds up or makes a process more efficient, but without making it strategic, or it can create a new process that is totally strategic for the organization. Therefore, we understand that the **ability to create strategic processes** is the other fundamental axis of the digital transformation.

Based on these two dimensions, we have designed a Digital Transformation Grid (Figure 1) that establishes the situation in which a university can find itself in relation to the impact of information technologies. We exclude the case in which the university is not aware of the importance of IT to improve its business processes and therefore does not invest in its implementation. On the contrary, we start from the assumption that the university wants to make an explicit commitment to information technologies. We establish four levels:

- **Digital management**: technologies help to make more efficient existing business processes that are not strategic for the university.
- **Digital innovation**: technologies make it possible to create new business processes or disruptively transform existing ones, but without turning them into strategic processes for the university. The usual situation is for the university to keep most of its processes in digital management mode and start up some new processes at the innovation level.
- **Digital governance**: there is good governance of the processes that are at the level of management or innovation and therefore these processes provide strategic value for the university.
- **Digital transformation**: the high potential of a new technology causes the creation of new disruptive and strategic business processes for the university.

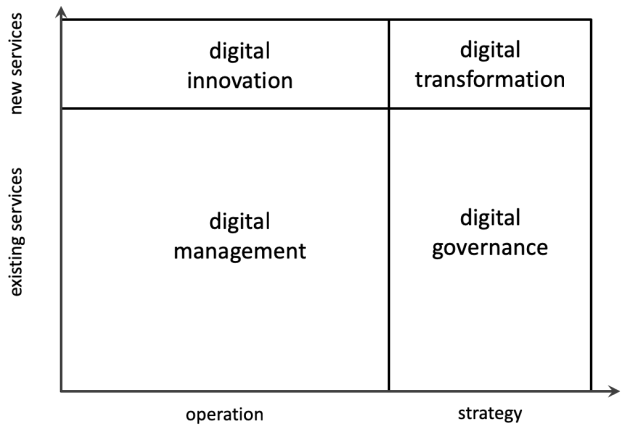

Figure 1. Digital Transformation Grid

4. CONCLUSIONS

The MD4U Model should help the university to assess the current situation for its IT, but also to identify the good practices that should be implemented to increase its maturity in the desired areas and thus move its resources from management or innovation to governance and digital transformation. We understand that in order to achieve this, the university must adopt an innovative attitude towards IT and assume the risks of being more cutting-edge than now in the implementation of new business processes based on technological trends.

Only universities that implement this type of strategy will be able to lead the digital transformation and gain a competitive advantage over universities that do not do so while maintaining their resources dedicated to non-strategic areas.

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