Structural Changes in the Landscape of Spanish Distance Universities

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Abstract

The main national distance learning universities were launched before the emergence of the Internet. In order to adapt to digital connectivity, these universities had to modify their organizational and methodological procedures. But in recent years important changes have emerged in the field of educational technology, and this has significantly altered the higher education sector.

This work analyzed the recent updates that distance-learning universities in Spain have undertaken in order to adapt to the current higher education landscape. The evolution of enrolment rates in distance universities in Spain in the period 2003–2017 was taken as a reference. Based on the available data, the factors that explain the enrolment gap between types of entities are analyzed and key actions for the evolution of distance learning universities in Spain are suggested. This provides an evidence-based approach that aims to contribute to the reflection of academics, institutional managers and policy makers who are called upon to reorient the strategy of distance universities to make them sustainable in the medium and long term in the new landscape.

Keywords: Distance universities, higher education, educational policy, lifelong learning, digital shift, digital governance, Spain.

Introduction: the evolution of the landscape of distance higher education

The main national distance universities were launched with the purpose of democratizing access to higher education for people who cannot attend face-to-face studies (Tait, 2008). The evolution of the first generation of distance universities has materialized in various types of institutions that currently provide teaching services through multiple methodological models (Orr, Weller & Farrow, 2018). Although these universities have fulfilled the objective of expanding access to higher education, in recent years there have been negative indicators referring to the enrolment rate and the financial balance that suggest that their structures have not been fully adapted to the new social needs.

The current situation of distance universities can be explained by analyzing how they have managed the transition towards a digital model, as well as the institutional adaptation to social changes, especially since the Internet becomes a mainstream technology. In adapting to changes, they have been influenced by internal dynamics, which affect the ability to provide education and research services taking advantage of new digital resources. And there have also been a series of external factors, among which we find the emergence of novel agents competing in the higher education sector as well as a pronounced regulatory advance that sets the conditions for universities to compete in that sector (Guri-Rosenblit, 2009).

Regarding internal factors, distance universities have significantly modified their internal procedures —both organizational and methodological— in order to adapt to digital connectivity. Recently, they also changed the way of providing teaching to give a better response to a broad consideration of lifelong learning. These measures allowed universities to maintain their traditional target of students with a higher average age than face-to-face universities, and also to expand it by adding young people who wish to integrate into a more dynamic and specialized labor market.

But in recent years important changes in the field of educational technology have emerged — especially the presence of new stakeholders and companies working on digital tools based on artificial intelligence, with a focus on data-driven learning— and there have been changes in the labor market —mainly the new professions and tasks that require high level skills that are not included in university curricula—, so that all this has significantly altered the structure of the higher education sector. Traditional Distance Universities (TDU) are currently in the process of adapting to the new structure, and are implementing new measures that go beyond the surface changes corresponding to the first phase of digitalization. This is a key process since the viability of many of the pre-Internet distance universities will depend on their adaptation to the current landscape of higher education, and they have done it necessarily within the regulatory framework of each country.

This paper analyses how these generic dynamics have affected the landscape of distance higher education in Spain. Specifically, the analysis will focus on the supply and demand gap that affects distance universities in a twofold perspective: on the one hand, between TDU and New Distance Universities (NDU); and on the other hand, between distance universities as a whole and the new proposals for digitally mediated teaching that come from the very diverse agents that have begun to operate in the higher education sector. Data from Spain confirms the international trend that traditional distance learning universities are not being able to attract the growing demand for online learning (Qayyum & Zawacki-Richter, 2018). The causes that are motivating this phenomenon are analyzed, and alternatives are also proposed with which to change the trend. The proposals are based on the action of agents involved in innovation cycles in emerging markets, and taking into account trends in the higher education sector (Domínguez, Álvarez & Gil-Jaurena, 2016).

Competitiveness and enrolment rates in Spanish distance education universities

The implementation of distance higher education in Spain corresponds to the creation in 1972 of the National Distance Education University (Universidad Nacional de Educación a Distancia, UNED), whose beginnings and subsequent evolution followed a parallel path to first generation distance education universities (Daniel, 1996). The advent of the Internet led to the emergence of a second distance-learning university in 1994, the Open University of Catalonia (Universitat Oberta de Catalunya - Universidad Abierta de Cataluña, UOC), which offers its studies online, but with a smaller scope and structure. These two pioneering universities are considered TDU.

In addition to the TDU, since 2006 NDU have appeared in Spain, which are locally based but offer distance studies throughout the country. They apply various models, ranging from proposals based on quality and high cost to low-cost ones. The main difference between these two types of universities would be the organizational structure: traditional universities have a larger dimension, which corresponds mainly to the needs to produce their own learning resources; whereas the structure of new universities is small, focusing on outsourcing services.

Finally, in addition to this group of institutions, there is a growing tendency for face-to-face universities to offer distance learning. A trend already widespread in Europe, where over 80% of higher education institutions are offering online courses (Gaebel et al., 2014).

In national higher education systems where there are many universities offering their services to the same population, the main indicator of the competitiveness of institutions is the enrolment rate. In the case of Spain, the evolution of student enrolment in the set of non-attendance universities from 2003 to 2017 has been increasing (Figure 1).
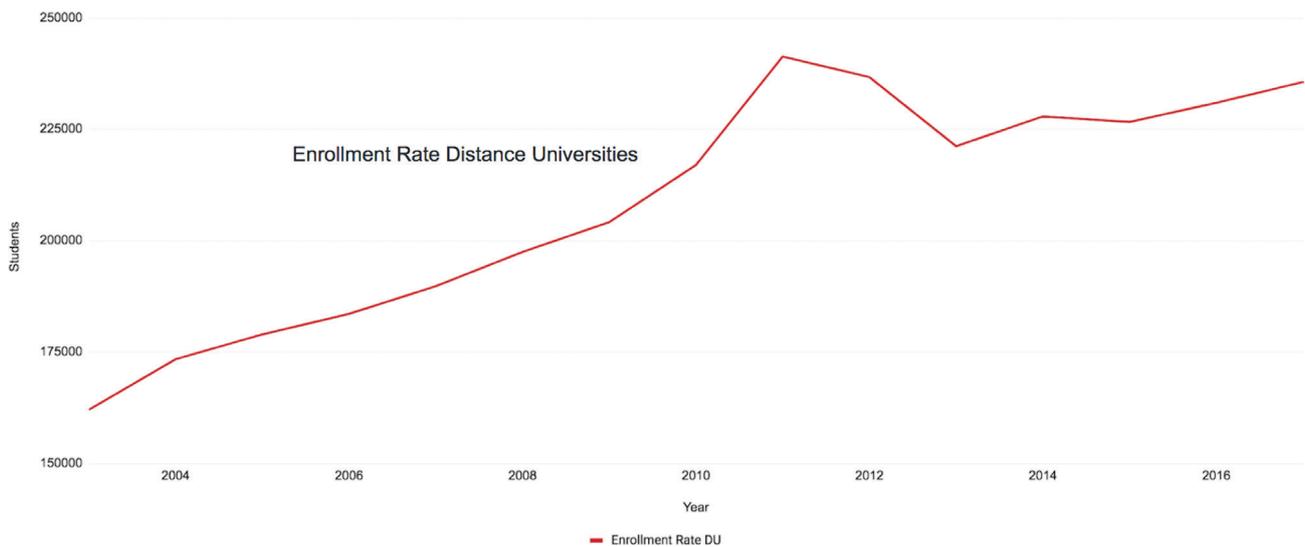
Figure 1: Enrolment rate (official programs) in Spanish distance universities (TDU and NDU), 2003–2017
Source: General Secretariat for University Coordination and Monitoring, Integrated University Information
System, Spanish Ministry of Education, Culture and Sport; UNED; UOC

Disaggregated analysis of these data shows differentiated behavior for TDU. The positive evolution of student enrolment in Spanish distance universities has not been reflected in the enrolment rates of traditional universities. In the case of TDU, the effect has been the opposite and they have lost students in recent years. In more detail, there are two clearly differentiated cycles: one that corresponds to an increasing stage of enrolment, between 2003 and 2011; and another cycle of decreasing enrolment, where enrolment in traditional universities decreases significantly (Figure 2).
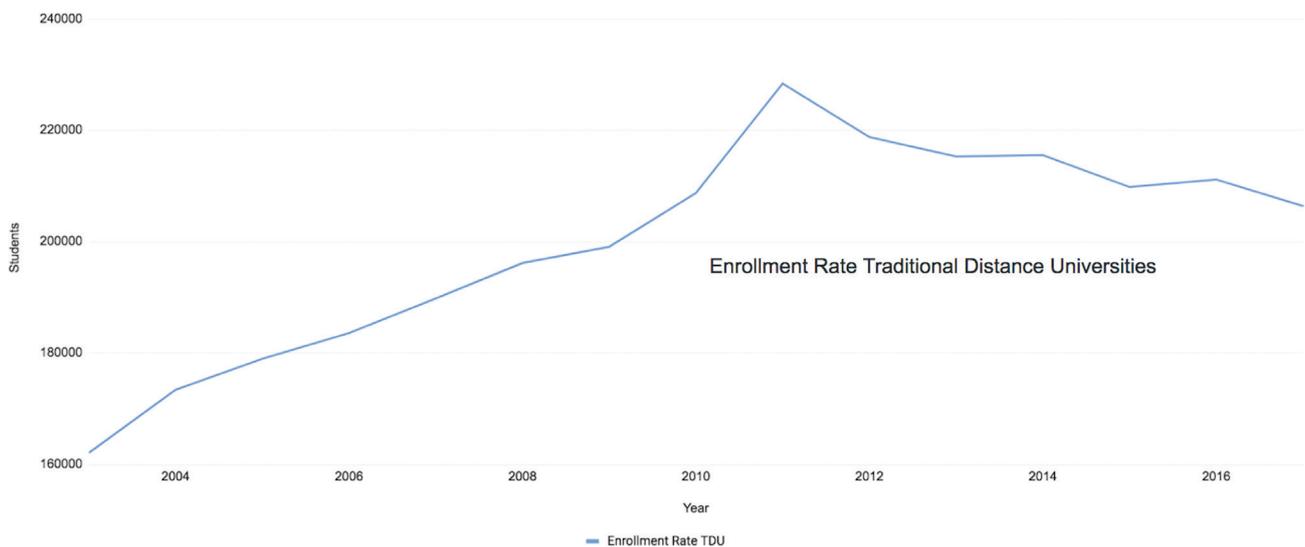
Figure 2: Enrolment rate (official programs) in Spanish TDU, 2003–2017
Source: General Secretariat for University Coordination and Monitoring, Integrated University Information
System, Spanish Ministry of Education, Culture and Sport; UNED; UOC.

In order to explain the difference between the overall enrolment ratio (TDU and NDU) and those for TDU only, it is important to consider the date on which the new NDU begin to offer their studies. In the period 2002–2007, the universities that monopolized the distance higher education system in Spain were the two TDU. The first distance university to offer its studies outside the TDU was the Distance University of Madrid (Universidad a Distancia de Madrid, UDIMA), in 2008. In 2010, the Distance University of La Rioja (Universidad Internacional de la Rioja, UNIR) and the Valencian International University (Universidad Internacional de Valencia, VIU) were incorporated. And from 2013 onwards, Isabel I of Castilla University (Universidad Isabel I de Castilla) was added. As a result, the current trend is that the number of students enrolled in distance universities is increasing, but the number of students enrolled in TDUs is decreasing. This decoupling leads to a competitiveness gap that affects traditional models (see Figure 3).
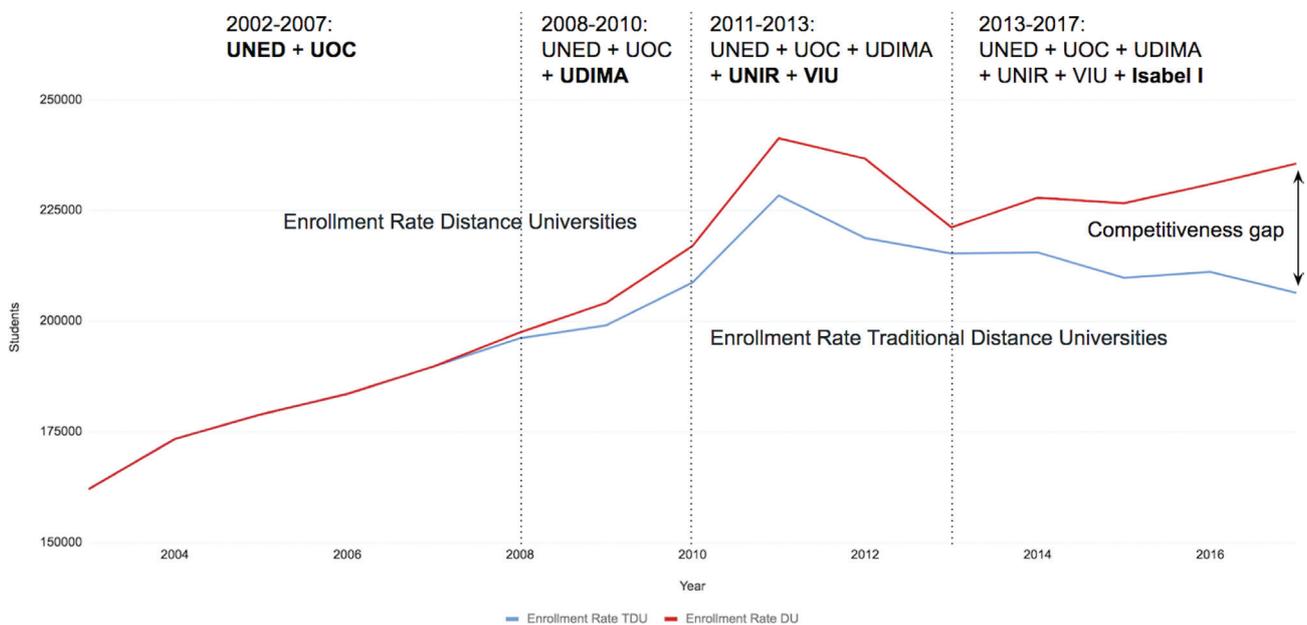

Figure 3: Competitiveness gap of TDU
Source: General Secretariat for University Coordination and Monitoring, Integrated University Information System, Spanish Ministry of Education, Culture and Sport; UNED; UOC.

But university-based courses are not the only possible format for higher education. Distance education has always been offered in more formats than conventional education. And since the advent of the Internet and mobile technologies, there seems to be an increase not only in formats but also in agents providing training. As the world is increasingly connected to the Internet through a variety of devices, online education in multiple formats has attracted the interest of both students and a variety of stakeholders interested in operating in the higher education sector, whether for educational or for-profit purposes. The Massive Open Online Courses (MOOC) is the most outstanding example of a format that is supported by different agents, mainly start-ups that are "accelerated" by Silicon-Valley based innovation processes (Weller, 2014).

Open access courses are certainly not new in the history of distance education, nor is it new whether there is an educational offering with an accreditation option or not. Traditionally, this educational offer was monopolized by distance learning universities. For this reason, the emergence and subsequent

popularization of MOOC outside distance universities represents a significant change in the evolution of these institutions, which points to a limit in their capacity for innovation. The classical literature on socio-technical innovation indicates that when this happens there may be disruptions in the previous service delivery system (Christensen, 1997; von Hippel, 1988). And as a consequence, disrupted agents can put at risk the traditional ecosystem dominance of major agents (Kilkkia et al., 2018). With a stable student population and the increase in the number of distance education institutions, the importance of distance universities —especially traditional universities— as the main recipients of students in distance learning methodologies tends to decrease.

Institutional challenges and key factors in the evolution of distance universities

Together with the growing competitiveness among the agents of the higher education system mentioned in the previous point, distance higher education institutions in Spain are facing challenges similar to those identified by Gaskell (2018) in the case of United Kingdom:

- Increasing convergence of distance and campus-based education.
- Government funding and regulation of higher distance education.
- Retention rates in distance education.
- Informal learning.

The evolution of these challenges depends on a number of factors, both internal and external to the universities themselves (see Table 1). In contrast to other milestones in the history of distance higher education, analyzing these developments and understanding the response of institutions to new challenges is now of great importance because of the depth of the changes they can bring about in the structure of the higher education system as a whole. As Gaskell (2018) points out for the case of the Open University in the United Kingdom, the viability of traditional distance universities — "One issue for the future is whether single-mode distance teaching institutions can survive" (p. 94)— is directly related to the evolution of challenges and their management by universities.

Table 1: Key factors in the evolution of distance universities in Spain

Internal factors	External factors
• Resistance to change in the workforce.	• Emergence of new types of digital educational agents with platform-type models.
• Rigid internal regulation of university governance.	• New ecosystem of companies offering training and digital learning tools.
	• Rigid government regulation of the higher education system.

In the case of Spain, the evolution of institutions in recent years has been mainly influenced by resistance to change. This is an internal factor that affects the competitiveness of distance education institutions in Spain, and which is especially noteworthy in the case of more traditional ones such as the UNED. Alan Tait (2018a) explains the way in which the main axes of innovation of distance universities have been eroded since their creation: innovation in institutional vision and mission, teaching methods, learning technologies, educational logistics, scalability and innovation embedded

in the organizational system itself. In Spain, none of the universities, both traditional and those born in the last decade, has introduced significant modifications in their methodologies —either in the institutional methodological model or in the specific didactic strategies at the level of the subjects— since their creation. In Spain there are two distinct types of distance learning provision. On the one hand, traditional institutions such as the UNED and the UOC use a mixed method based on self-directed learning (Garrison, 1987) and online interaction with students (Anderson, 2003) through virtual campuses and with tutors in charge of monitoring and evaluating students (UNED, 2019; UOC, 2019). And a second group of newly created distance universities that employ a method based on replicating face-to-face teaching —scaling up groups through growing cohorts of class-groups— and using digital mediation to facilitate the tracking of distance students (UNIR, 2019). None of these methods, which were innovative at the outset, has evolved significantly since their introduction. In fact, no institution has introduced significant variations in its methodology since its creation (Álvarez, Álvarez, Domínguez & Kiczkowski, 2011).

The second (external) factor refers to new types of agents operating on the basis of the Internet and using platform-type models (Kenney & Zysman, 2016) that allow for lower production costs and an alliance-based offering that expands dissemination and maximizes the entry of new students. Kerrison (2016; cited by Gaskell, 2018) mentions the positive economic and image impact for the University of London of his collaboration with Coursera, one of the leading providers of MOOC using a platform model.

And to these agents must be added the new type of companies that are working on particular tools in fields such as tutoring, campus safety, robots in the classroom, social-emotional learning, job training, personalized learning, "critical skills" training, learning analytics, behavior management, grammar and spelling assistance in exchange for your personal data, learning management system, test preparation, language learning, and educational apps (Watters, 2017). This new ecosystem of companies offering training and digital learning tools is mainly aimed at meeting the needs of new professions and the development of tasks requiring high-level skills that are not included in university curricula. So all this has significantly altered the structure of the higher education sector.

A final factor, which acts in a twofold sense, from the outside but with a direct influence within the institutions, refers to government regulation of the higher education system. Spain applies the governance and Quality Assurance model of the Bologna Process (European Higher Education Area, 2018). But there is also national legislation governing access to university for professors and the performance of teaching and research tasks (LOU 6/2001; RD 1313/2007). Within this legislative framework, the only universities that have specific regulations for providing distance education services are the UNED and the UOC. The rest of the distance learning universities that have emerged in recent years should be covered by the conventional regulations available to face-to-face universities. For example, depending on the case, new universities wishing to offer distance learning may not offer scalable services, but must respect a teacher-student ratio equivalent to that of face-to-face systems, or may not exceed a certain total number of students. These limitations do not apply to traditional distance learning universities, which allows them to maintain their preferential position within the system as the main providers of distance learning. The barrier effect of this regulatory framework on the implementation of new distance learning universities is not exclusive to the Spanish case (Orr, Weller, & Farrow, 2018), but in the case of Spain it has allowed enrolment rates in traditional universities to remain stable as a result of the limitation of the scope of other emerging competitors. And all this in spite of the greater demand for distance higher education on the part of Spanish citizens, as shown in Figure 1.

Discussion and implications

The combined effect of NDU and the digitization of face-to-face universities increases the overall range of distance higher education offered. A situation that directly affects the sustainability of TDU —which are still slowly restructuring to meet the new needs of students who continue to demand distance learning, but of a new kind— and of NDU. The analysis of enrolment trends in distance learning serves as a basis for proposing the conclusions of this study, followed by a series of considerations on the positioning of distance universities for the future.

Filling the competitiveness gap through innovation

The trend in recent years has been to widen the competitiveness gap between TDU and NDU as shown in Figure 3. A similar gap should also be considered in the case of distance learning universities as a whole and the incipient offer of online education that is beginning to be offered by face-to-face universities. A first condition for reducing these gaps between universities —and from these with the new agents operating in the system— is to orient the changes towards the needs of students who opt for forms of teaching more suited to their interests.

   According to the data, in the case of the Spanish TDU, the changes undertaken are not caused an upturn in the enrolment of students, who seem to opt for the offer of other distance universities. TDUs are immersed in the dilemma of the innovator (Christensen, 1997), which arises when organizations must change at a time when they are dominant and need to protect their market. At some point a competitor comes along that threatens your business with a better alternative. And then they face the dilemma of sustaining the market where they are standing out (the traditional model of distance education), but at the cost of losing some great opportunities (focusing on the new demands of students), or focusing on these opportunities that could only bear fruit in the long run (at best).

   As a result of the study of the key factors that explain the pattern of behaviour found in enrolment rates, the necessary innovations point to a set of proposals on the configuration of distance learning universities. On the one hand, the scope of the innovations points to a necessary reconversion of traditional institutions, and their repositioning within the higher education system is also discussed. According to the benchmark of the new agents in distance higher education, and the evolution of the digital education sector in the last decade (Palvia et al., 2018), three types of innovative guidelines are proposed: (1) In the methodological field, to deepen the scalable teaching methodologies, which maintain the costs contained while guaranteeing the quality of studies and the social mission of distance universities; (2) at the operational level, innovations aimed at deepening the use of digital technologies based on data, and at focusing the learning process on the student and his/her particular needs in a distance learning environment; and (3) at the institutional level, to relocate distance education universities to the higher education landscape as agents that facilitate in-depth learning and certify higher-level skills throughout life, which means making the teaching offered at universities compatible with skills acquired in non-formal and informal spaces, whether in digital or face-to-face spaces.

Implications for mission and scalability

It has long been debatable to refer to distance learning as a distinct mode of teaching provision. What distinguishes single-mode distance universities is their mission, not their location and provision on campus or at a distance. And, according to Tait (2018b), the mission remains as it always has been:

"to provide post-secondary education at scale with quality at a price that is affordable, and with the flexibility to permit people to come in and out during their lifetimes" (p. 100).

The mission does not change, therefore, but the conditions under which universities provide their higher education services on a massive scale have changed. These universities have always been influenced by technology to develop their mission, but have recently seen how the digital shift has affected certain structural aspects of their model. This forces them to adapt the functioning of organizations to be able to offer their scalable services in the new context.

Scalability in distance learning —which allows for low-cost studies to be offered to all interested parties, and which has been the key to distance learning methodology— is being called into question for two reasons. On the one hand, the quality control of the national agency operating under the Bologna scheme requires it to maintain teacher-student ratios similar to those of face-to-face universities and makes it difficult to promote methodologies based on self-learning. Only the UNED applies (residual) methodologies based on self-learning in Spain, and this is at the expense of a high cost in the production of learning materials adequately adapted to the conditions of autonomous learning. The digitalization of the systems for the production of learning resources and also the flexibility of the regulatory frameworks under which quality control operates are necessary in order to continue offering innovative methods of providing distance learning clearly differentiated from face-to-face universities —considering that offering video recordings of lecture class sessions and seminars, as well as tutorials through videoconferencing, is not a differentiating factor characteristic of distance learning in higher education.

Organizational and logistical implications

The socio-technological change generated by the Internet, by mobile services and the interconnectivity between people has radically transformed the very notion of distance. Digital connectivity affects the way in which teaching services are delivered and also has implications for the organizational model of universities.

As has been said, the UNED currently maintains an organizational model that is typical of first generation distance universities. This includes having study centers scattered throughout the country and, in some cases, also abroad. In the beginning, these centers were necessary to support learning with a high practical component. Despite its high cost (the UNED dedicates 40% of the enrolment fee income to its associated centers), its presence gave it a competitive advantage over other agents who did not have a network of study centers. However, the number of people attending face-to-face tutoring at the UNED has dropped significantly in recent years, in parallel with the implementation of digital teaching platforms and e-learning services.

At present, no other Spanish university has face-to-face study centers, and in no case does the teaching method depend on the existence of face-to-face tutors. However, it is common for new distance learning models (especially MOOC) to use centers where the skills acquired in distance learning are validated, particularly in the case of qualifications giving access to regulated professions. Thus, identifying which services require the student's presence as a first step towards advancing physical off shoring in favor of ubiquity based on digital technologies seems to be a suitable way to solve the problem of extra costs affecting institutions that emerged in the first phase of distance higher education.

Sustainability is a challenge that affects not only universities, but also all the agents that operate the higher education system —see Agarwal (2018) for the case of MOOCs on the edX platform. The sustainability of distance learning universities is related to the indexation between expenditure and

income, which in turn depends on the methodological model used to provide the teaching service that is derived from the institutional mission. The new Internet-based platform models allow a more fluid relationship between service providers and users, as well as a direct and flexible relationship between agents both inside and outside the organizations involved in the processes. Distance education universities have already explored the platform model in the case of MOOCs —for example, the Open University of the United Kingdom, with the FutureLearn project (Manathunga, Hernández-Leo & Sharples, 2017)— to allow for partnership between the agents who design and deliver courses under the same entity. But it would also be appropriate to explore the extension of the scope of the platform-type models within organizations, so as to favor the work processes between those responsible for the courses, which in the future will necessarily be provided on the basis of the Internet and through digital mediation devices.

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