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Article

Influence of External Stakeholders in the Digital Transformation Process of an HEI Post COVID

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Abstract: Purpose: The rapid development of technological innovations is causing major transformations in organisations. These changes are facilitating the transition of organisations from traditional to digital cultures and are influencing the positioning and even the survival of many of them. Higher Education Institutions are no exception. This article aims to understand the main factors that facilitate and drive this transformation from the point of view of their external stakeholders. **Design/methodology/approach** - Due to the complexity of the study, the case study method has been used as an appropriate methodology. **Findings** - As the results of the study show, the use of new agile methodologies, the development of continuous improvement processes, the automation of tasks with the use of new technologies, data-driven decision making, and the management of new digital talent are enablers. **Research limitations/implications** - Further research could conduct similar analyses with other stakeholders, to achieve a complete management model. **Practical implications** - The case study allows researchers to learn from practitioners and business leaders, while providing a theoretical model that can help other managers in the process of transforming their organisations. **Originality/value** - The main contribution of this study has been to apply the study to a specific Higher Education Institution.

Keywords: digital transformation; Higher Education Institutions; students; alumni; Providers; employer companies; case method

1. Introduction

The exponential growth of computing power and powerful computing and analytical tools has generated a so-called “digital” economy [1]. This is an economic activity derived from online connections between different economic units, as well as connections between devices, data, and processes [2]. This economy is based on the incorporation of digital technology to automate organisational processes. It is based on the interconnection of people, companies and machines through the Internet, mobile technology, and the Internet of Things (IoT) [3].

This economy, in turn, refers to the actions registered by the public and private sectors to use digital technologies as a means of communication and to increase the productivity of processes [4].

Innovation plays a decisive role in this process of change [5].

Organisations need to carry out Digital Transformation (DT) processes to apply these innovations to improve business processes and models, customer experience, and increase organisational performance and productivity [6].

According to [7], traditional jobs are becoming less important and new opportunities and job profiles are being created in the digital domain. These new opportunities arise because of the growing demand for new skills and digital talent [8].

Faced with this new reality, there is an emerging shortage factor in finding digital talent. Organisations have the need to incorporate them in several ways. One is to capitalise on the talent they currently have, and another is to recruit talent externally, either through mergers and acquisitions of other companies, and then integrate it into the culture and operations of the organisation [8].

To help solve this digital talent shortage, HEIs have an important role to play in adapting as an organisation to the new scenarios. Moreover, they can develop programmes to train professionals in the new skills required [2]. Therefore, one of the greatest challenges for HEIs, to achieve these objectives, is to involve all members of the organisation, including external stakeholders.

The aim of this article is to find out what are the main factors that are driving the digital transformation of HEIs from the perspective of external stakeholders such as students, alumni, employers, and external providers. The study has focused on a singular but representative case of a Spanish HEI that is currently undergoing this digital transformation process. The uniqueness is based on the profound change that the organisation is undergoing, moving from a traditional to a digital culture.

To this end, we have carried out research based on semi-structured interviews with each group of external stakeholders. In addition, to achieve greater consistency of the data, they have been contrasted from the analysis of public information sources of the institution such as: websites, social networks, communication campaigns.

Finally, data collected from direct observation by one of the authors has also been incorporated.

The article is organised as follows: in the first section, "Theoretical Framework", the theoretical foundations of the subsequent case study are developed. In the second section, "Methodology", the rationale for using the case study as the most appropriate tool for information gathering in terms of the research objectives is described. In the third section, the factors driving the HEI's digital transformation process from the perspective of external stakeholders are presented and analysed. The fourth section discusses the results obtained. The last section presents the main conclusions, implications, and limitations, as well as future research directions.

2. Theoretical framework

To deepen the understanding of the research objective and contextualise the results, this article discusses the concepts of digital transformation, external stakeholders and the factors that can drive digital transformation in HEIs.

2.1. Digital transformation

The digital economy refers to the economic activity derived from online connections between different economic units, devices, data, and processes [2].

Higher education is undergoing a major transformation in the digital economy and technological innovation, with the development of new digital tools. These changes are affecting learning models and altering the economics of the commercial component of HEI [9].

The emergence of the COVID-19 pandemic is accelerating all these processes [10]. Thus, this revolution implies that all members of the organisation participate and adapt digital technologies to optimise the use of technological advances, always with the aim of improving the value proposition of companies [11].

The increase in the demand for digital profiles on the part of companies is one of the main reasons why HEIs are incorporating new training programmes in this area. Another reason is to encourage the retraining of professionals, especially the more senior profiles, in new technologies, increasing their levels of qualification and skills [12].

The adoption of new innovations by universities is also related to the paradigm shift, where technology is conceived as a complex and interconnected environment that enables digital learning [13].

In this context, it is very important to establish an appropriate strategy, which serves to integrate, coordinate, prioritise and implement the necessary transformations.

The aim is to incorporate the appropriate technological innovations that allow us to automate processes to streamline them and provide the possibility of generating and collecting data that help the general management in decision-making [14].

According to [15], companies often define technological innovation strategies based on the development and use of information technology (ICT), but the reality is that this has a very limited impact.

To achieve a comprehensive digital transformation, a cultural change is also needed on the part of organisations. This involves new ways of thinking and working. An important factor in this process is to maximise the speed of change and innovation, as opposed to traditional organisations, which were oriented towards minimising risk and failure [16].

We are facing a disruptive change that will affect all organisations and their professionals. These changes generate resistance in most of the professionals involved for emotional, cognitive, and behavioural reasons. Stakeholders in general and external stakeholders will be relevant to achieve these changes.

Deploy an appropriate strategy to address them, with leaders being responsible for communicating clearly and transparently the need for change and encouraging their staff to participate in the project. Reducing stakeholder resistance will increase the organisation’s performance throughout the process [17].

Therefore, knowing which factors these external stakeholders consider to be most important will help to facilitate the change process.

2.2. External Stakeholders in HEIs

At the present time, HEIs must show their relevance for society. They are subject to changes in their management strategies. They have moved from simply satisfying students to creating value for their stakeholders. To do so, they must first identify them, and then be in permanent observation of changing needs and demands to meet them [18]. According to the classification of HEI stakeholders [19], Table 1 shows the main stakeholder groups.

Table 1. Types of HEI stakeholders.

Category of parties	Constituent groups
Governing bodies	State and federal governments; board of directors; neutral organisations; religious organisations
Administration	Rector, Management Team
Employees	Faculty; administrative staff, support staff
Clients	Students; parents; spouses; service sector partners, employers; companies receiving students in internships; companies employing students.
Suppliers	Secondary education providers, secondary school students; other HEIs; HEI service companies.
Competitors	Direct: Public and private post-secondary education providers. Potentials: Distance education providers; start-ups. Substitutes: training programmes sponsored by employers.
Donors	Individuals (including board members, friends, parents, students, employees, companies, research centres, foundations).
Communities	Neighbours; school systems; social services. Chambers of commerce; special interest groups.
Regulatory bodies governmental	Ministry of Education, neutral organisations; state and local financial aid agencies; research councils; local research grants; tax authorities; social security; patent office.
Regulatory bodies non-governmental	Foundations; accredited institutional and non-programming entities; professional associations; sponsors; ecclesiastics
Financial intermediaries	Banks; fund managers; analysts.
Joint venture partners	Alliances and consortia; corporate co-sponsors of research and educational services.

Source: adapted from Burrows (1999).

The research focuses on four of the main external stakeholders of a HEI: students, alumni, employers, and suppliers.

The management of external stakeholders, due to the influence they have on the organisation's digital transformation process, is crucial in understanding how to facilitate the whole process and avoiding resistance to change [20].

HEIs must be digitised, i.e., they must incorporate those information technologies that help to offer more efficient solutions to existing needs [21]. Recently, the concept of University 4.0 has emerged. It is that institution that is oriented towards others, to serve students, that is committed and connected to the surrounding productive environment and in line with the concept of a green university [9].

Today, there is a need for management with a focus on social responsibility. HEIs have been forced to reconsider their role in society due to the establishment of new relationships with stakeholders and the community.

Full recognition of all stakeholders in the process of HEI activities is essential for HEIs to achieve their objectives and manage opportunities in line with the mission of each institution.

2.3. Relevant factors facilitating the TD of HEIs from the perspective of external stakeholders

The latest digital technological developments in Big Data, automation, AI, IoT, VR and machine learning not only affect the business world, but also governments and HEIs [22]. In the specific case of HEIs, they face the need to adapt as an organisation [2], and they must also train the future agents of change who will be the professionals who must work in this new scenario.

A challenge for HEIs will be to reduce the significant skills gap, both in digital aspects and in teaching methodologies, which is occurring, and which has been aggravated by the pandemic caused by COVID-19 [23].

External stakeholders such as students, alumni, as well as employer companies, play an important role in both contributing to and managing talent to achieve the organisation's strategic objectives [24].

In the digital age, as companies seek to implement digital transformation of their business processes, it is inevitable that talent management will also become digital [22].

The concept of digital talent is used to refer to digital-oriented skills and capabilities to perform a specific job. The need to carry out digital transformation processes in organisations is causing a shortage of this type of talent, which in turn makes it necessary to transform higher education institutions [8].

Opportunities therefore arise for HEIs, if they can keep up with the times, manage digital change and engage in training digital talent that is aligned with the digital competences required by organisations [22].

The development of appropriate programmes by universities is crucial to increase the number of professionals with digital skills in new business environments, which increasingly demand this type of talent [25]. This also helps to strengthen a country's economic development and global reputation [26].

Throughout this process, it is important to bear in mind the importance of collaboration between governments, companies and HEIs in creating a digital talent ecosystem in a country, to address the global gap that is emerging between the demand for professionals with digital skills training and the number of professionals with such training.

The common goal of this collaboration is to develop a strong link between students, researchers, managers, entrepreneurs, and governmental entities, to favour the transfer of knowledge, methodologies, and technology, in the development of digital skills [22]. All this helps to reduce the gap that has been created.

HEIs are important for strengthening a country's economic development and global reputation. Countries that have successfully transformed their education systems according to the changing needs of the digital age can provide a digital workforce for public and private sector organisations [18].

What universities should consider is how to manage tools and approaches to facilitate digital skills learning. They should make these processes more effective by designing programmes to achieve lifelong learning over time [8].

In this context, assessment, orientation, and measurement strategies should be pursued to effectively monitor, learn, and guide learners throughout the process through the effective use of digital technologies [26]. Higher education institutions can also provide a digital talent development environment using new applications such as University 4.0, facilitating seamless learning opportunities through short-term training and certification programmes for students to acquire the digital skills demanded by businesses [22].

STEM (Science, Technology, Engineering and Mathematics) education stands out here. The STEM system provides improvements in curricula, educational methods, and teacher training to enable people to acquire creative, innovative, analytical, critical thinking and problem-solving skills.

Higher education content ensures the enrichment of the working environment by meeting the needs and expectations of the business world and enhancing university-industry cooperation [27]. Acquiring digital talent and internally upgrading the skills of existing talent requires partnerships with higher education institutions.

3. Methodology

To understand and interpret complex phenomena such as the factors that help in the process of digital transformation of HEIs from the perspective of external stakeholders, the use of a qualitative methodology is considered more appropriate [28] [29].

For the analysis of social phenomena in their own natural environment, and the study of subjective aspects of human behaviour, the techniques considered most appropriate for data collection are participant observation, structured and semi-structured interviews and content analysis, among others. Therefore, qualitative methodologies provide more detailed and complete information than quantitative methodologies [30] [31].

In this study the case study method has been used, within qualitative research, it allows for a deeper understanding of a specific social phenomenon [32]. Furthermore, the phenomenon investigated is exploratory and descriptive; the literature is not conclusive, and an in-depth, qualitative analysis of the subject is necessary, and primary information is available thanks to the collaboration of the HEI studied, which has allowed interviews with people involved in the process and the input provided by the direct observation of one of the researchers from within the organisation [28]. The stages followed in the case study are shown in Figure 1 below.

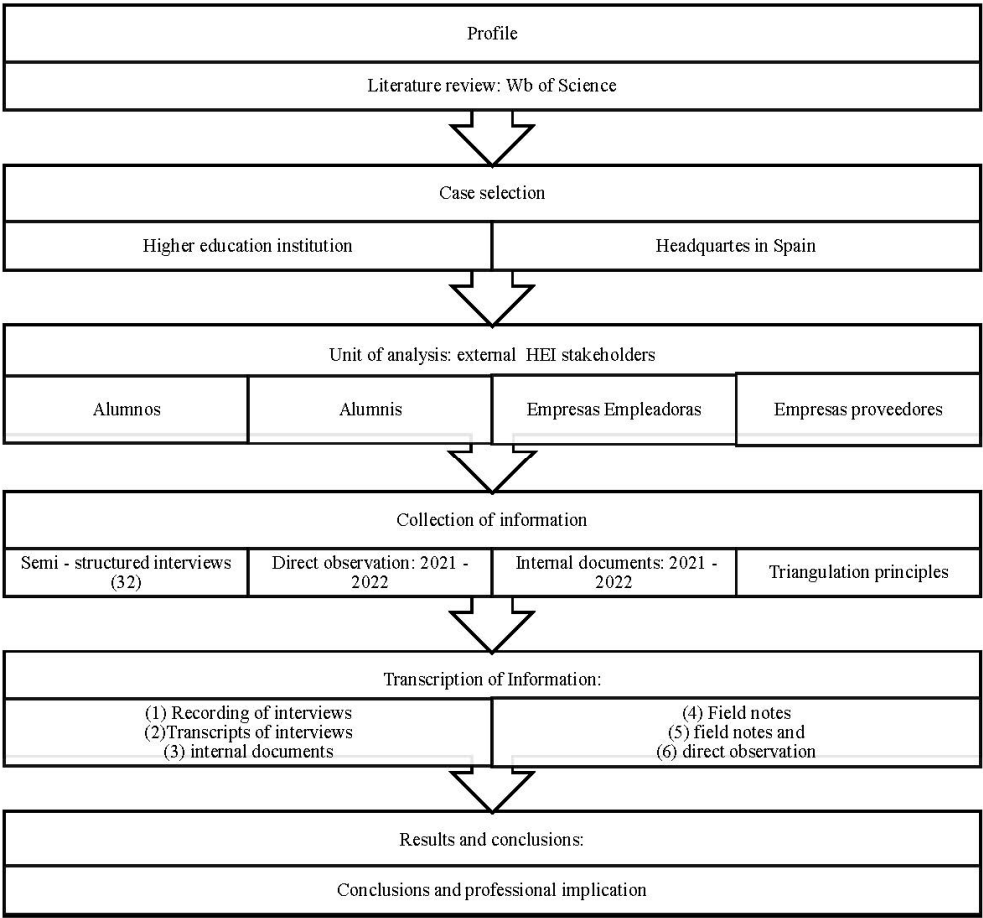


Figure 1. Stages of the case study, * Own elaboration.

Regarding the information collection process, a representative sample of each of the external stakeholder groups to be studied was selected. Thirty-two semi-structured interviews were conducted between January and May 2022. In the case of students, a sample was selected from different courses and degrees to be representative. About alumni, as in the previous case, we configured a representative sample according to the studies they had completed. As for the employer companies, a sample was also made, seeking to ensure that they were from multiple sectors of activity and that they had an ongoing relationship with the HEI in terms of candidate applications. Finally, several external providers were selected, including technology providers.

Interviews were conducted both face-to-face and online via Teams software. The interviews lasted between 50 minutes on average for the face-to-face interviews and 30 minutes on average for the online interviews. As for the type of interview, a semi-structured system was used, based on open-ended questions, and each of the topics was explored in depth according to the interviewee’s answers. Once all the interviews and the corresponding transcripts had been completed, we searched for those propositions that concurred for each stakeholder group.

There are several reasons for choosing this HEI. The first is that the chosen HEI is currently undergoing a process of digital transformation which started five years ago. Therefore, this is a contemporary event that is taking place while this research is being carried out, with the corresponding added value that this entails. Another factor has been the good predisposition of the stakeholders. Finally, it has been possible to incorporate the information provided by direct observation, as well as access to the organisation’s internal documentary sources such as: books, catalogues, websites, intranet, social networks (YouTube, LinkedIn) and even an audiovisual content platform (play.esic.edu).

A strategic plan was drawn up based on an analysis of the situation and several lines of action were established.

The objective pursued was to transform the institution from a traditional culture, which had been established since its origins more than 55 years ago, to a more digital culture, allowing for a rethink as an organisation to adapt it to a more modern organisation. At the same time, changes are being made to the organisational structure, with the creation and development of a digital transformation department.

At the same time, new teaching methodologies have been incorporated, such as transformative learning [33], where the “flipped classroom” methodology has been applied. Therefore, the focus has shifted from the master class, where the teacher is the centre, to putting the student at the centre, and making the entire methodology revolve around him or her [34].

To be able to apply this methodology, it has been necessary to make a change in the digital tools, moving from a Learning Management System (LMS) Moodle, to another, Canvas. This has provided new utilities for teachers and students to facilitate the implementation of the methodological change.

The HEI is also progressively incorporating an improvement in terms of having data-driven customer intelligence systems and all this with the implementation of agile methodologies in part of the academic management.

For all the above reasons, it is a unique case with the peculiarities and changes necessary to achieve the digital transformation of an organisation. Therefore, it is shown as a unique, contemporary case that allows first-hand information to be obtained to build a roadmap that can serve as a guide for other similar organisations.

In addition to the above, there is also the possibility of access to both internal and external information, as one of the authors of the study is part of the teaching and research staff at the time of carrying out this study. This provides a privileged view of the phenomenon and facilitates access to the sources that have been used in this article following existing models in the literature such as [33], [28], [29].

Initially no minimum number of semi-structured interviews was set, and it was decided that a strategy of ‘theoretical saturation’ would be followed for each interview. Interviews were conducted until it was perceived that informants reported similar and consistent information to support the validity and quality of the theoretical model [28], [32]. As for the sample, it was constructed in such a way that it was representative of each stakeholder. From interviews with students of different years and degrees, to students who are also studying in different areas of knowledge. As for the employer companies, an attempt was made to gather a sample from multiple sectors. The suppliers have also been selected using criteria of heterogeneity of sectors.

Finally, to complete the principle of triangulation in the collection of information and to achieve consistency, we accessed internal documents. Thus, we consulted: files on the corporate intranet, annual reports, books with the history of the last 56 years of the HEI, digital channels such as the website, social networks, audiovisual content platforms, as well as information from the different commercial campaigns.

4. Results

4.1. *Improving the learning process*

A change is taking place in the learning model within the HEI. It has evolved from a traditional methodology, centred on the teacher, with lectures, to a methodology where the student is placed at the centre and the rest of the elements that form part of the educational process, teachers, contents, etc. revolve around the student.

With the new methodology, the student is provided with the content asynchronously, prior to the face-to-face sessions, so that during the sessions and together with the teacher, the student can delve deeper into the content, resolve doubts, and learn about practical application cases [35].

In this approach, the student is put at the centre, the so-called Student Center Learning [36]; [37] (Mingorance Estrada et al. 2019) and [34] (Billis and Anid, 2017). This model is called Transformative Learning.

The incorporation of new digital tools for teaching, Learning Management Learning (LMS) Canvas, in our case, has facilitated the implementation of the new “inverted classroom” methodologies, as well as communication between students, teachers and the HEI, facilitating the entire training process.

Regarding this change of methodology and LMS, a third-year student of the Digital Business Degree comments:

“The change of the IES from Moodle to Canvas has allowed me to communicate better with the IES. Now I can access from any device and at any time to all the necessary information: contents, assignments”.

Another student of the Marketing Degree explains:

“The new Canvas system facilitates communication with teachers when it comes to resolving doubts and providing content to prepare the subjects”.

Another Marketing student comments on the usefulness of Canvas:

“It is a fundamental tool to prepare the classes based on the contents required in the new inverted classroom methodology”.

Proposition 1. *The implementation of new digital tools makes communication between students and the HEI more agile and facilitates the implementation of new teaching methodologies such as the “inverted classroom”.*

4.2. Lifelong learning

The new methodology, Transformative Learning, requires a process of preparation before and after the classes which, until now, with the traditional method, was not necessary for the student. As with any change, a period of adaptation and assimilation on the part of students and teachers is necessary, which, if not carried out correctly and with help, can lead to resistance to the change on both sides.

A marketing student comment:

“The new methodology requires us to work before the classes, the contents that are going to be seen. This requires a change in the way we study compared to how we have been doing it until now”.

In the opinion of a marketing student:

“The new methodology requires a lot of initiative, organisation and proactivity from us. In addition, there are contents that should be better adapted to the subjects by the teachers”.

A student of the Digital Business degree thinks that:

“In addition, a significant number of teachers have returned to the traditional system of explaining content in the classroom and are not developing the new methodology, due to the fact that some of the students do not work on the content prior to the classes.”

Proposition 2. *The new Transformative Learning methodology requires a process of assimilation and adaptation on the part of students and teachers to avoid resistance to change and to ensure that they make the most of it.*

The implementation of new digital tools helps to facilitate the process of lifelong learning for students and pupils. Keeping up to date is one of the differential values that HEIs can provide. Holding company events on new technologies, as well as access to new content offered by the HEI such as: blogs, audiovisual content platforms, events through social networks such as YouTube and LinkedIn, facilitate this continuous learning process.

One alumnus highlighted the accessibility of content:

“The new formats made available to us, the alumni, allow us to access up-to-date content in new formats and from any device, anywhere”.

Another alumnus shares his views on access to new content:

"I would like to keep the contents offered by my HEI up to date as it allows me to keep myself updated and strengthen my professional profile".

Another alumnus considers it important as an added value:

"The fact that my HEI offers content in an open format enhances the reputation of my HEI and therefore strengthens my professional profile as an alumnus.

Proposition 3. *The implementation of new content in digital formats favours the lifelong learning of students and alumni, increasing their added value and at the same time enhancing the reputation of the HEI.*

4.3. Employability

One of the main values that have an impact on the reputation of a HEI is its ability to enhance the employability of students. This enhancement is threefold. The first is the ease of curricular placements in official programmes where they are compulsory. The second aspect is the professional insertion through the hiring of students and alumni as employees. And the third aspect is the improvement and access to new positions in the organisations, based on the development of their knowledge and competences.

According to [38], the employability of HEIs is among the functional benefits along with the perception of "value for money". Employability is among the prominent factors influencing students' choice of a HEI [39].

A Digital Business student comments on the employability offered by IES:

"The possibility to do an internship in a company, and to be hired by the company, was one of the main factors that made me choose my current HEI".

A Digital Business student stands out regarding platforms for managing internship offers:

"Having bid management platforms that are easy to use and where I can receive feedback on my application is important to me".

Former students agree on the importance of the employability offered by the HEI:

"Being able to access better career opportunities is one of the important factors when choosing my HEI".

Other alumni comments on the process of managing new offers:

"For me, it is important to have access to digital platforms in line with others that exist in the market, such as InfoJobs, when it comes to accessing new professional offers".

Other alumni comments on the commitment made to him when he enrolled in his HEI:

"One of the important factors that made me choose IES is the commitment to access new professional opportunities throughout my professional life.

One of the employer companies considers it important when it comes to managing HEI candidates:

"Having a person from the HEI to advise us on the recruitment process streamlines the process and reduces the time it takes to fill a position. This makes us turn to HEIs that have this service".

A human resources technician from one of the companies recruiting students comments on the importance of the relationship with the HEI:

"Having agile communication channels with the IES when we have a position to fill, both for internships and for incorporation into our company, is fundamental for us as it speeds up and shortens recruitment times. This communication involves having a single interlocutor who understands our business and sends us candidates who meet the personal and professional profile we are looking for".

Proposition 4. *The availability of digital tools for the management of internship and job offers, as well as having a personalised advice service for employer companies, increases the employability of IES students.*

4.4. Procurement companies

Within the process of digital transformation of HEIs, digital innovation is an essential element. As we have seen throughout the article, digital tools influence all processes. Therefore, information and communication technologies (ICTs) are essential tools to drive the whole transformation process [40] (Cueva Gaibor, 2020). These tools are, for the most part, provided by external suppliers. We will be able to detect the factors that accelerate the digital transformation process, based on the data provided by our research.

In this vein, a CEO of a provider of some of the technology developed in a digital platform for HEI content, comments:

“Today, having a comprehensive, data-driven strategy that integrates information from the different communication channels of HEIs is essential for decision-making. It will also allow the incorporation of technology, such as Artificial Intelligence (AI), to establish business intelligence processes. It will provide a data-driven governance system that will enable real-time decision making.

Another technology provider comments on the development of new technology solutions:

“The use of agile methodologies such as Scrum has been an essential tool for the development of the content platform project. It has allowed us to periodically validate the deliverables, which has shortened the development times of the technological solutions”.

Proposition 5. Having suppliers that use agile methodologies facilitates the development of innovative technological solutions for training, such as audiovisual content platforms.

Based on the results of the research, in Table 2, we summarise the main factors that, according to external stakeholders, facilitate the digital transformation process of a Higher Education Institution (HEI).

Table 2. Main drivers of TD according to external stakeholders.

	Learning process	Technology Methodology	Canvas Transformative Learning
External Stakeholders	Lifelong learning	Technology	Audiovisual platform
		Methodology	Social Networking
	Employability	Technology Advice	Blogs
	Suppliers	Technology Processes	

* Own elaboration.

5. Discussion

We are witnessing the development of important technological innovations. These are making it possible to automate organisational processes.

HEIs are no exception, and in their case, they face several challenges. The first is to adapt as an organisation to the new cultural and digital transformation brought about by the incorporation of new technologies. The second challenge is to meet the growing demand for professionals with the right digital talent to carry out the transformation required by the market.

This is why there is an opportunity for HEIs to build a training offer to meet this demand, based on appropriate programmes so that professionals can acquire the knowledge and skills demanded by the new environment.

Within this process of transformation as an organisation, the role played by stakeholders in general and external stakeholders can help facilitate this digital transformation process.

Consequently, the aim of this research is to identify the factors that, from the perspective of external stakeholders, students, alumni, employers, and suppliers, facilitate the process of digital transformation of HEIs.

Table 3 shows the main key factors and the results obtained from the research process. From this process, it can be deduced that, in order to achieve the digital transformation of the HEI, it is necessary to have innovative methodologies, the use of appropriate technological platforms to favour the training process of students and alumni, a close and fluid relationship with employer companies and technology providers, and to work with suppliers that have the facility to incorporate the appropriate technological processes and tools to establish agile workflows.

Table 3. Propositions, key factors, and results.

Proposals	Key factors	Results
1. Learning process	Technology: Canvas (LMS) Methodologies (flipped classroom).	Improving the learning process. Facilitates learning process
2. Lifelong learning	Technology (blog, social media and audio-visual platforms). Methodology.	It enables lifelong learning. Improved sense of belonging
3. Employability	Technology (Intranet for bid management). Advisors for relations with employers.	The recruitment of students and alumni is speeded up. Improve employability and reputation.
4. Relations with suppliers	Technology. Administrative processes	It facilitates the creation and development of new technologies. It facilitates management and relations.

From the present research, it is corroborated that, for students and alumni, the use of digital tools already mentioned, such as Learning System Management (LMS), Canvas, as well as the new flipped learning methodologies, are important factors when choosing a teaching centre and for their continuous training over time, which is known as Lifelong Learning. Likewise, the new methodologies already mentioned, which place the student at the centre of the learning process, are another key factor that would contribute to the HEI continuing to be their first choice in their training process. Both groups are aware that, in the current environment, it is essential to remain permanently updated as professionals to be able to face the challenges of the future. In a more practical way, students value the use of new technologies and formats such as blogs, social networks, audiovisual platforms, podcasts, etc., which offer the possibility of acquiring this training anywhere and at any time, achieving that permanent training or Lifelong Learning that means a development of students and alumni as clients who consume more training programmes, and not on a temporary basis as until now. The latter, in turn, develops a sense of belonging to the institution, increasing its reputation among groups that may be potential students. None of this would matter if it did not contribute to increasing the employability of both groups. Therefore, it is this proposition, employability, which students, alumni, and employer companies express as essential when choosing a HEI, both for their education and as a source of recruitment for their organisations.

Moreover, for employers, ICT-related technological innovations, such as online platforms and intranet, are necessary to streamline recruitment and employability processes. This will result in a significant increase in employability rates and thus in the reputation of the HEI. Students and alumni value the availability of these intranets favourably in terms of receiving feedback from employers to whom they have applied as potential candidates. Employers state that a fundamental factor in the process of choosing HEIs for recruiting talent is the availability of personal advisors who facilitate the task of coordinating offers to suitable profiles and thus speed up the recruitment process.

Finally, the other HEI providers also consider that having adequate technology and streamlined administrative processes on the part of the HEIs are determining factors in improving and developing

their relationship with the HEI. This allows them to offer a higher level of quality in the provision of their services, improving the resolution of incidents, reducing administrative work, and facilitating the implementation of new value propositions that are generated in the day-to-day relationship and in contact with other clients.

In short, the aim is to ensure that the HEI becomes an organisation that is connected to its environment and that has the capacity to orient itself according to the increasingly frequent changes in the environment, always offering the best value proposition to the market.

5.1. Theoretical implications

A review of the literature that has studied digitisation and DT in HEIs has revealed the interest of the scientific community, with a significant increase in the number of publications year after year. A first contribution to the literature refers to the significant acceleration in the TD processes brought about by the situation generated by the COVID-19 crisis, due to the imperative need to give continuity to the remote educational process during situations of confinement. In the year 2020 alone, the number of publications was 142, which is greater than the total scientific production accumulated up to that time.

A second contribution to the literature leads us to affirm that the TD of HEIs is an unstoppable phenomenon and should be seen as a process that will be maintained and developed over time. The scientific community is not ignoring it but is paying more and more attention to it. From the study we can also affirm that the interest in digitisation and TD in HEIs is not only a technological issue, but also encompasses business and educational concerns, as it affects all departments, all levels, and all stakeholders, both internal and external. The literature review also shows the positive impact of remote learning on sustainable development. The COVID-19 crisis has been a turning point for all actors involved in the educational process who are trying to provide a new and better education for future generations based on the potential of ICT.

A third theoretical contribution of this study derives from the verification of the proposed theoretical model through a case study. The evidence obtained in the previous literature is corroborated with primary information obtained in a Spanish HEI with a nationwide presence, and even with campuses in Latin America. In this work we have managed to determine the success factors in the HEI's TD process through the case study methodology.

In addition to the above contributions, the research represents an advance for the existing literature, as it shows results based on the limitations exposed by specialist authors who have published in this area of research. This constitutes a fourth theoretical contribution of the thesis.

In this regard, [18] (Geryk, 2017) proposes future lines of research related to the ongoing analysis of the changing needs of HEI stakeholders to align them with the programme offerings that can meet them. The response of HEIs to the question of what these potential future needs may be becomes an extremely important factor in the harmonious development of HEIs.

According to [41] (Baños Martínez, 2021), distance learning systems, which are proposed as one of the models that can be developed in the future, have a wide margin for improvement, as students need to learn to self-regulate, acquire greater autonomy and take responsibility for their own learning, and teachers have to adapt to a different reality in which they have to apply new teaching strategies and multiple tools, as well as redefine their role. This is where the digital transformation of universities goes beyond the mere use of technology.

[42] (Jackson, 2019) proposes that higher education, together with business leaders, must show where, how, and when higher education programmes need to develop best, being able to adapt to technological disruption in order to remain relevant and relevant over time.

The fifth and final block of theoretical contributions concerns the use of the case study. Despite the obvious advantages of the case study methodology, many authors have shown potential limitations that are analysed and discussed in this paper. The main conflict arises when considering that this method does not meet the sufficient requirements in terms of reliability and validity that quantitative methods offer [43] (Stoeker, 1991). The bias of the results is shown to be one of the main drawbacks, mainly due to the bias of the researcher, since it is the researcher who specifies the

phenomenon to be studied, chooses the theoretical framework, weighs the relevance of the different sources, and analyses the causal relationship between the facts [44] (Bonache, 1999). In the present study, the professional link between researcher and company has allowed, from the proximity, to gather evidence during five years of the TD process in which the HEI under study is currently immersed. This, in turn, has facilitated the ability to discover, interpret and understand the perspective of the participants within the social reality [43] (Stoeker, 1991).

Regarding the generalisability of the results obtained from a limited number of cases that may not represent a significant sample, [28] (Yin, 1989) states that this methodology is valid when it seeks the illustration, representation, expansion, or generalisation of a theoretical framework, and not the mere enumeration of frequencies of a sample. In the present study, the research pursues the analytical generalisation of the results so that they can be used by other organisations and researchers [29] (Larriaga & Rodriguez, 2010). This research aims to shed light on the following elements:

To the management teams of other HEIs, to design their own roadmaps that will streamline and facilitate their own DT processes and thus achieve organisations that are connected to their environment, with flexible structures to develop competitive advantages over their competitors.

To HEI teaching teams, to be able to align both methodologies and tools to guide students' training according to the changing needs of the economic environment.

According to [44] (Bonache, 1999), one of the most important difficulties when developing the case study is to find companies that are appropriate for the research objectives and that are interested in collaborating. Furthermore, we must not forget that it is important to have information from the greatest number of stakeholders involved and from all levels of the institution. We should not fail to mention the importance of having access to information that might otherwise be considered sensitive and difficult to access by external researchers. In this sense, the present research has been carried out by the PhD student during the last five years from within the organisation. This fact is fundamental in the elaboration of the case study. During this period, the PhD student has played several simultaneous roles within the organisation. Specifically, he has developed his activity in several departments as administrative and service staff, even, as a teacher, being responsible for an area related to new technologies: Virtual Reality, Metaverse, 3D printing, robotics, geolocation, radiofrequency systems. Therefore, he has had a privileged view from inside the organisation and in direct contact with a wide range of internal and external stakeholders, also having access to relevant information on the main factors that facilitate the HEI's TD process.

5.2. Practical implications

In addition to the academic implications, this paper presents several practical implications for the HEI sector. The paper offers a few success factors that are essential in HEI TD processes. A roadmap has been developed which can be used as a reference by heads of TD, management teams and teaching staff alike, to achieve the desired goal successfully.

Digital talent is a fundamental element to drive the transformation of the HEI. This talent is becoming increasingly scarce as it is demanded by any organisation in any sector to achieve the TD of organisations. In the case of the HEI, this requirement is also fulfilled. To keep this talent and even recruit it, it is necessary to have a participative leadership within the organisation that favours the contribution of new ideas for improvement and where a good working environment and care for people are valued.

In this study, it is clear, according to students and alumni, that having new methodologies based on putting the student at the centre and having tools that facilitate access to information and communication are essential factors in their choice and reputation. Employers and other external providers also state that the availability of appropriate technological tools such as intranets and streamlined administrative processes based on appropriate technological platforms facilitate administrative management and foster the development of innovations by connecting the HEI more effectively with its environment. This also enhances the reputation of the HEI itself in terms of its brand as an employer, which is essential for maintaining and developing its position in the education sector.

5.3. Limitations and future lines of research

This study has several limitations which, while delineating the limits of its contributions, hint at opportunities for future research. In relation to the literature review carried out, it is limited to a specific period. In view of the data from recent years, it confirms an increasing trend in the number of papers expected to be produced in the coming years, which should be updated.

In relation to the research itself, the main limitation is that the study is limited to a single Higher Education Institution and could be enriched by carrying out the same study on a wider sample of Higher Education Institutions to corroborate or, where appropriate, extend the results of the present study.

As for future lines of research, it is suggested to study the impact that technologies with uses in education can have, such as: extended realities, artificial intelligence (AI), blockchain, digital twins and the Metaverse and the incorporation of generative Artificial Intelligences as tools in the educational process for both teachers and students. These technologies have interesting applications in the field of training, by facilitating immersive experiences through visors or glasses, in environments where digital spaces can be developed with tools that significantly enrich the training experience, recreating environments that facilitate immersive content. They also facilitate the connectivity of students and teachers in these immersive spaces, significantly increasing the degree of attention and interaction of teachers and students. In addition, it is possible to design group workspaces for students in immersive formats, being able to connect a larger number of students who are anywhere. All that is needed is an internet connection and a pair of glasses, a PC, or a smartphone. Therefore, although these are technologies that need to go through the corresponding process of maturation and research, they still offer new capabilities that should be the subject of future research. Authors such as [45] (Chetty 1996) argue that case study methods are only appropriate for exploratory research. Another limitation highlighted by [44] (Bonache, 1999) is that of finding companies that may be appropriate for the research objectives and that may be interested in collaborating.

6. Conclusions

Due to the impact on organisations of the development of new technologies that facilitate and automate many of the processes carried out by companies, they are being forced to rethink the need to establish digital transformation processes to develop competitive advantages in each market.

To achieve the digital transformation of organisations, it is necessary to incorporate not only technology, but also the development of new processes and methodologies to develop new value propositions.

Several types of contributions result from this article. For the research community, the study brings to the surface the main factors that can drive the digital transformation of HEIs from the point of view of their external stakeholders.

As we have not found previous research measuring these factors, we have used the case method [46] [47] (Yin, 1994) to collect such information.

Based on the methodology used for the collection of information, consisting of semi-structured interviews, internal and external communication channels and direct observation, the aim has been to achieve an adequate degree of consistency in the data required in this type of study.

In this sense, four propositions have been identified: the learning process, lifelong learning, employability, and supplier relations. From these, according to Table 3, we have determined nine key factors in the process according to the external stakeholders on which the study was carried out.

In terms of practical implications, the study highlights the importance of improving and facilitating the learning process, offering training proposals for the retraining of students and alumni, as well as building close relationships with employers and suppliers based on the automation of processes that enhance the reputation of the HEI as a customer.

With all the above, the HEI will become an organisation that is connected to its environment, that can steer its direction according to the changes that are taking place and offer a value proposition that is appropriate to the market at any given moment [47] (Tay & Low, 2017).

Although we have used the case study methodology to achieve a high degree of depth in the study and have used several sources of information, direct observation, semi-structured interviews, documentary analysis, conducting the study on other similar HEIs would provide a higher degree of consistency in the results.

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Abbreviations

ICTs	Information and Communication Technologies.
TD	Digital Transformation
HEIs	Higher Education Institutions.
SDGs	Sustainable Development Goals
WoS	Web of Science

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