educación y Ciudad 47

Policy Frameworks for the Digitalization of Public Universities in Mexico and Spain

Marcos de políticas para la digitalización de las universidades públicas de México y España

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Abstract

This article is the product of a research work that brings together Mexican Higher Education institutions to characterize the paths taken in integrating digital technologies into their internal processes. Its objective is to analyze the transition from government policies to their implementation in organizations. The methodology reviews the intertextuality among documents of various genres issued to promote the incorporation of digital technology at the higher education level. By relating the texts, a process of argumentation was identified which serves as a reference point for meaning in decision-making. When comparing Spain and Mexico, it is recognized that the framework of the former has greater legal precision in terms of objectives, strategies, actions, and indicators, which, along with significant funding, strengthens management and implementation. In the specific case of Universidad de Guadalajara in Mexico, it is noted that university policies are segmented and focused on incorporating technology into a part of their processes. This work concludes that governmental reference frameworks are essential for guiding the design of policies for the digital transformation of universities.

Keywords: policymaking, government, education, university, digital.

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Resumen

El presente artículo es producto de una investigación que reúne a instituciones de educación superior mexicanas para caracterizar las trayectorias tomadas al incorporar las tecnologías digitales en sus procesos internos. Su objetivo es analizar el tránsito de las políticas gubernamentales hasta su implementación en las organizaciones. La metodología revisa la intertextualidad entre documentos de diverso género, promulgados para impulsar la incorporación de la tecnología digital en el nivel superior de la educación. Al relacionar los textos se pudo identificar un proceso de argumentación que opera como referente de significado en la toma de decesiones. En la comparación entre España y México se reconoce que el marco de referencia ibérico cuenta con mayor precisión legal en objetivos, estrategias, acciones e indicadores lo que, unido a un importante financiamiento, robustece su gestión e implementación en las universidades españolas. En el caso específico del análisis de la Universidad de Guadalajara en México se aprecia que las políticas universitarias están segmentadas y centradas en la incorporación de tecnología a una parte de sus procesos. Se concluye que los marcos de referencia gubernamentales son imprescindibles para orientar el diseño de políticas para la transformación digital de las universidades.

Palabras clave: Elaboración de políticas, gobierno, educación, universidad, digital.

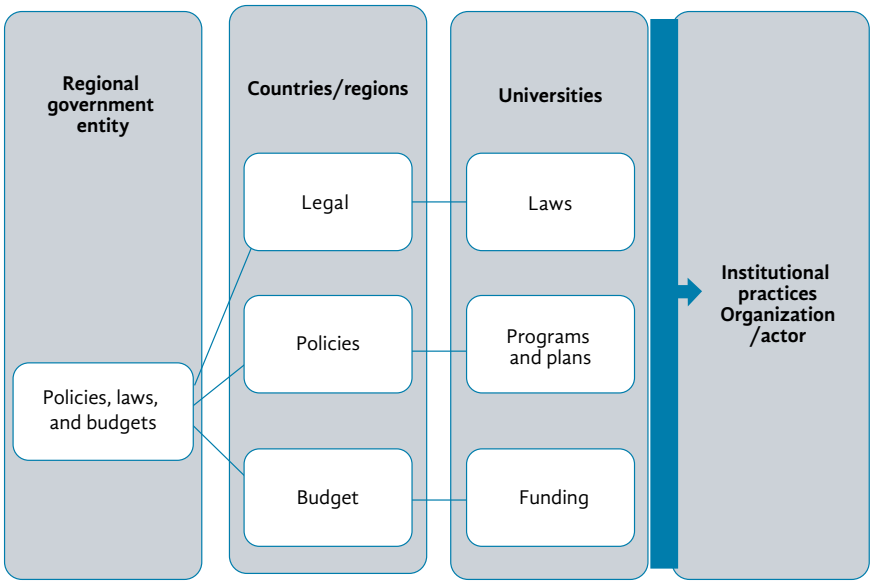
Introduction

The importance of digital technologies (DTs) in social and economic life was made evident after its intensive use during the COVID-19 pandemic, which generated new forms of interaction, mediated by electronic devices. These conditions guided governmental actions to design roadmaps for change in sectors such as the economy, commerce, and education. Automated industrial production, online commerce, cybersecurity, QR codes in transportation, and the use of platforms to teach classes are examples of DT adoption. In these activities, the challenge faced by governments is the improvement of infrastructure and the development of capacities for the use of these technologies.

DTs are regarded as the set of technological tools, emerging technologies, automatic systems, devices, and technological and data analytics resources capable of generating, storing, and organizing information to automate processes and reduce times (Ciarli, Kenney, Massini, and Piscitello, 2021). This article addresses the changes planned by universities to incorporate DTs into their academic and administrative processes through their documentary relationship with national and international policy.

An axis of analysis is drawn between policy texts, which starts with international documents and ends with those issued by the two studied universities in Murcia (Spain) and Guadalajara (Mexico) (Figure 1). This allows identifying the density of their interrelation and their function in incorporating DTs in higher education. Intertextuality refers to the presence of a text in another, under an explicit inscription, which may refer to prescriptions, epistemic elements, textual references, or implicit ideas of authors (Bazerman, 2003).

Figure 1.
Trajectory of intertextuality



Note: Intertextual reference framework of university policies

This article compares emerging data from the process of Spanish universities, with advancements in research conducted among Mexican higher education institutions, aimed at exploring their digitalization plans, with their policy frameworks as the common denominator. In Mexico, this aligns with the Digital Education Agenda (DEA) and the legislation derived from the 2020 Education Reform (ER), which highlighted the use of DTs but was not consolidated, as most national reforms and policies that lack precise definitions tailored to the needs of the Mexican society, results evaluation processes, or the incorporation of previous programs' advancements (Aboites, 2023; Garduño, 2023; Latapí, 1975).

In the Mexican case, the research question focused on the following: *What are the policy implementation conditions and factors that slow down the rollout of the DEA?* The progress made showed the importance of extending the project in order to compare it against the processes of Spanish universities.

State university policies, as part of public policy, highlight the characteristics of the relationship between the State and the university, with generate particular dynamics in the latter. In the past, this relationship transitioned from a university that guided society to one that responded to specific demands from the State, to be adapted across its different functions. This relationship is established by means of policy (Espinoza, et al, 2011).

Policies go through negotiation phases, in which problems and their solution methods are evaluated and hierarchized. Decisions interrelate within a broad set of legal texts, diagnostics, and assessments until they reach their implementation as programs, guidelines, or directives. This path is called transposition and has several analytical stages: a) a strategy to transpose the directive by means of technical bodies; b) the formal range of the *transposition*, wherein the actions taken to ensure the useful effect of the directives are analyzed; c) independence to create or link competent bodies of application with the adequate procedures during implementation; d) the transposition timeframe and regulatory content of the directive in internal regulations; e) hearings to ensure the adoption of the directive; and f) communication or reporting (Arzoz, 2013).

This research is justified by the need to identify limiting factors in the design and implementation of an efficient university policy regarding DTs. The analysis of the texts presents the challenge of analyzing DTs from their conceptual definition, in order to avoid signifying them as a means for analog to digital information transfer in disorganized processes that lack education models denoting their role, thus neglecting them as a cultural transformation (Llorens and Fargo, 2022; Warner and Wäger, 2019).

Likewise, this work calls for a review of the creation, coordination, and execution of the digital agenda in university processes, in order to explore its core functions. This article shows the limits of universities in adopting digital change and meeting current demands within an intergovernmental framework of policies.

Methodology

This is a descriptive research work that analyzes the intertextual relationship between policy and legal documents at different government levels, as well as the internal programs of education institutions, which is complemented with interviews carried out with key officers and a press review. Existing information from the portals of the government and the studied universities was employed.

The intertextual analysis starts with the following question: *What is being sought in the texts and why?* Specific texts are identified for examination. The analysis may start in a text and extend to others, looking for citations or explicit references, or identifying traces of other texts. Based on this, relationships are identified which demonstrate the correspondence between texts and the way they are used to construct others (Bazerman, 2003).

Intertextuality analysis has been applied to the study of policies (Resende, 2017; Fischer and Forester, 1993). University institutional policy texts are objects of analysis that were drafted through negotiation with reference to other policy texts at different levels (national and international) and operate as a discursive reference framework.

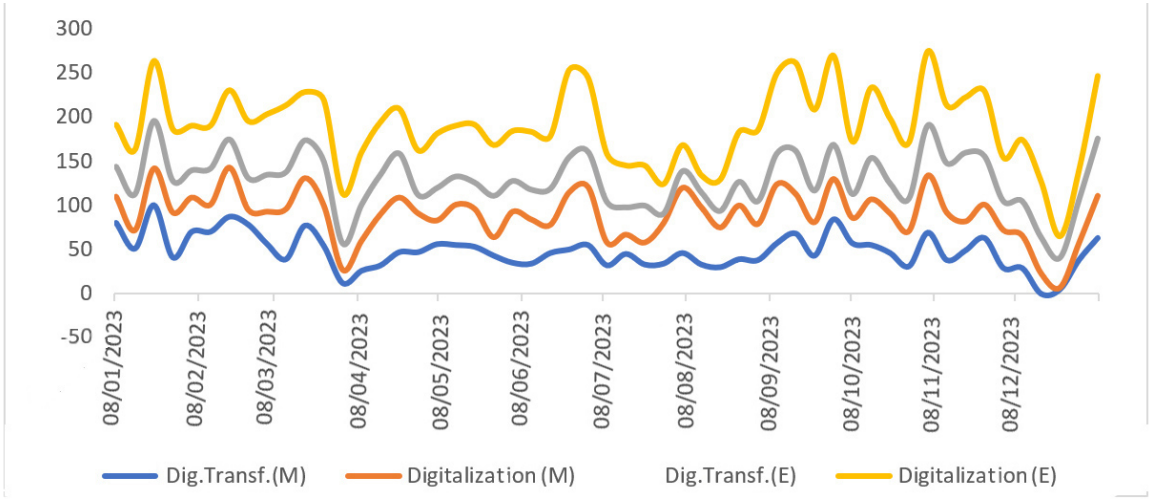
Based on the results of analyzing the Mexican framework, composed of national policy texts, we decided to extend the analysis to the Spanish university's reference framework. The documents were grouped by levels of government up to the education institutions. For the review, organization, and analysis, the following were considered as key sections: the guidelines and directives regarding infrastructure, individual and collective competencies, the education model, and administration.

Results

As an indicator of social interest in the subject, we consulted Google regarding the search frequency of words associated to DTs in 2023. The results showed contrasts between Mexican and Spanish users. In the case of *digital transformation and digitalization*, we found the latter to be the most searched word in both countries. We also found a higher search frequency for both terms in Spain (Figure 2).

Figure 2.

Comparison between Mexico and Spain, digital transformation, digitalization

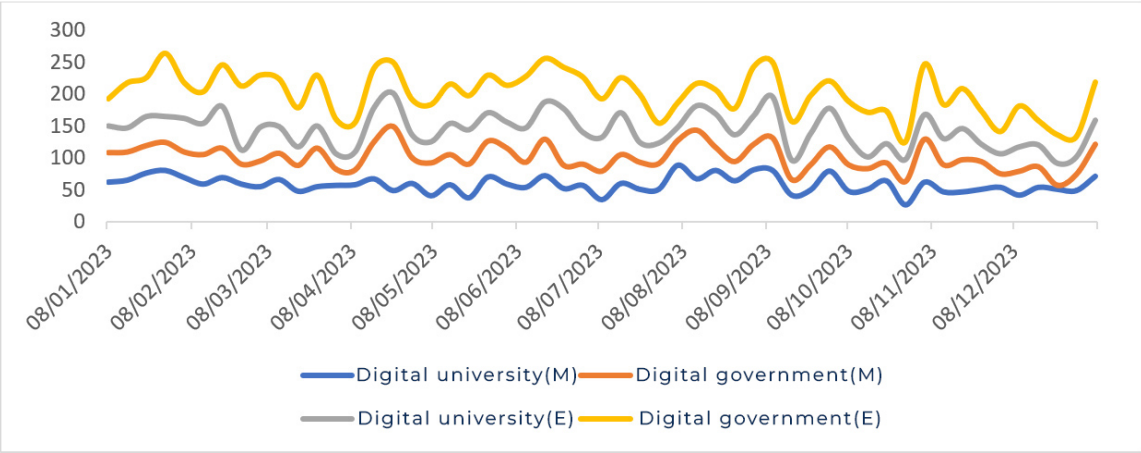


Note. Source: GoogleTrends in 2023. Monthly data.

A second review allowed identifying the institution most associated with the digital realm. When analyzing the terms *digital university and digital government*, a higher search frequency of both was observed in Spain, with digital government being the most tracked concept (Figure 3). In both searches, the results denote public interest in staying informed about a subject whose media presence increased when the use of artificial intelligence in everyday life became known. The differences regarding search frequency in both countries resemble the focus placed by their governments in developing digital transformation policies that influence general life.

Figure 3.

Comparison between Mexico and Spain, institutions associated with the digital realm



Nota. Source: Google Trends in 2023. Monthly data.

Policies for digitalization in Spain

The European Union (EU) has the legal capacity to legislate over its member states. Its legal system is divided into a) treaties and general principles, b) derived law, and c) subsidiary law. The Union's law takes precedence over that of each member country's national law. The legal instruments of the EU are divided into a) regulations, b) directives, and c) decisions (EU, 2023a).

Directives are regulations to be harmonized with the legislation of member countries. They translate common goals into policy, legal, and technical texts by means of an internal process comprising several stages: a) implementation via technical bodies; b) the analysis of actions to ensure a useful effect of the directives; c) the creation and linkage of institutions and procedures; d) the establishment of transposition deadlines through regulatory content to internal norms; e) the definition of audience spaces to ensure the adoption of the directive; and f) the issuing of reports (EU, 2016).

The organization of policies and directives in the EU is governed by the European Commission, which elaborates legislation proposals, applies the decisions taken by the European Parliament and the Council of the EU, verifies compliance with agreements and directives, manages policies, and allocates funds from the budget. The current European Commission

(2019-2024) operates the Digital Decade Policy Program 2030 (EU, 2022), within a common legal framework and with collaboration projects for national States, which allows evaluating the advances made, scheduling funding, and disseminating particular laws regarding digital services and markets, digital identity, artificial intelligence, data strategies, industrial strategies, spatial technology and traffic, defense, and commerce.

Among its purposes, the following stand out: training specialists in information and communication technologies (ICTs), developing basic digital capacities in the population (including elderly people and students in school systems), optimizing the digital transformation of businesses, enhancing the digital infrastructure, and achieving the digitalization of public services in the region. Strategies have been defined for each goal. There is an open data platform where information can be consulted with regard to budgets and expenditures from funds allocated to the development of a digital market that drives the creation of specialized businesses under fair conditions (EU, 2023b).

In the case of the education sector, a high-quality, inclusive, and accessible digital change is sought by means of the Digital Education Action Plan 2021-2027 (EU, 2018), in order to contribute to the national States' adaptation to the demands of the digital age and their achievement of the European Education Area's objectives. Education addresses the demands established in the documents titled *A Europe fit for the digital age and Next generation EU,* as well as those in the European Skills Agenda, in order to prepare the workforce for the new job market, which utilizes digital instruments. With this, an increase in sustainable competitiveness is sought, in addition to social equity, integrating learning and training throughout life and in the workplace (EU, 2021).

The aforementioned set of documents constitutes a collective action framework for the EU's digital transformation, which is transmitted to create specific change strategies in each country. Spain outlined a roadmap called *Digital Spain*, which considers three structural aspects: infrastructure and technology, economy, people. Its actions are oriented towards economic growth, reducing social inequality, increasing productivity, and leveraging new opportunities based on the use of technologies (Gobierno de España, 2022b; 2021).

Eight specific digital plans were designed, with an initial budget of 20 million euros, which are shown in Digital Spain's portal (Gobierno de España, n.d. a): the Connectivity and Digital Infrastructure Plan, the Strategy to Bolster 5G Technology; the National Cybersecurity Plan, the National Artificial Intelligence Strategy, the 2021-2025 Plan for the Digitalization of Public Administrations; the 2021-2025 Plan for the Digitalization of SMEs; the Plan to Boost the Audiovisual Sector; and, the one most related to education, the National Digital Competen-

cies Plan (PNCD), which defines the basic skills for citizens and specialized digital competencies for work, as well as the digital skills structure of students (Gobierno de España, 2022a).

The actions taken by the Spanish education sector (Table1) seem to be articulated and in line with the EU's policy framework, by means of the Program for the Improvement of Educational Digital Competencies. These actions outline a series of strategies for general digitalization, with a guided effort for each institution to design its Digital Center Plan and include ways to develop the digital competencies of teachers and students (Gobierno de España, n.d. b).

Table 1
Comparison of the policy frameworks underlying universities' institutional plans

	Government and treaties	Regional/national policies	Laws	Funding
International	Regional goverment body for countries:	Diverse policy instruments for aspects related to government, security, social life, and the economy.	Laws are modified by means of the political agreements celebrated. This starts with changes at the regional level which reach national countries through directives. The adoption of directives promotes changes at the national and regional levels.	In Spain, the higher education digitalization budget includes 1) the improvement of digital infrasctructures, equipment, technologies, digital university teaching and assessment, with an initial budget of 146.880.000€; 2) credentials requalification 50.000.000€; 3) the training of teaching and research staff 383.120.000€
	They have an international digital transformation treaty	Regional digital transformation treaty: the Digital Decade Policy Program 2030; the 2021-2027 Digital Education Action Plan; a Europe Fit for the Digital Age; the European Digital Space; Next Generation EU; the European Digital Capacities Agenda; the Program for Improving Educational Digital Competencies.		
National	They have a policy issued by the National Government of Spain and the Government of Murcia actively participates	Digital Spain; Program for Improving Educational Digital Competencies; Recovery, Transformation, and Resilience Plan; Center Plan.		

Spanish universities (institutional plan). They incorporate DTs and show an intertextual basis guided by the regional government.				
Processes involving institutional transformation, organizational culture, and lifeworld of actors. University plan.				
Mexican universities (institutional plan). They do not incorporate DTs and have no national reference point				
Nacional	The Federal Government did not include the digital issue in their higher education policies. This also happened with the state government.	Estrategia Digital Nacional 2021 – 2024 reducida al Proyecto "Internet para todos" (2021) cuestionado por intrascendente e inoportuno; Agenda Digital Educativa (inactiva desde 2019 y suspendida en 2022); Reforma en Telecomunicaciones 2013 (suspendida en 2019).	The Federal Telecommunications law dates back to 2014 and corresponds to the reform promoted in 2013. In 2019, the tender for the backbone network was cancelled. The General Education Law (2019) acknowledged mixed and remote modalities and the centrality of the Digital Education Agenda, which was halted in 2022.	The budget for 2021 is $46,526,197 pesos. Approximately 2 million euros for the basic level. Higher education has no budget.
Internacional	Regarding the digital issue, the treaty has a chapter focused on commerce. It does not include any other social, productive, or educational activity.	There are no common policies aside from digital commerce.		
	There is a commercial treaty with Canada and the United States of North America. There is no common government body among countries.	Free Trade Agreement. Mexico, Canada, USA. International trade policies. Digital commerce is included.		
	Government and treaties	**Regional/national policies**	**Laws**	**Funding**

The guidelines and specific support for higher education have been published in the Recovery, Transformation, and Resilience Plan. The intention is to modernize the university system, aiming to "stimulate innovation and digital transformation from the university. Universities can become central actors in the digital transformation processes taking place in our societies, particularly in areas of demographic decline" (p.11). There is a line of action for improving digital infrastructures, equipment, technologies, teaching, and digital university evaluation, with an initial budget of 146.880.000 €. This plan is related to that involving the requalification and internationalization of teaching and research staff (383.120.000 €) and to the plan for developing university micro-credentials (50.000.000 €) (Gobierno de España, 2023).

The extension of university funding has allowed working in infrastructure, policy, training, training strategies, stimuli, and communication. The advances made have been evident, as several universities already have specialized vice-principalships, and they have specific objectives in digital transformation plans or include them in their global strategic plan. At the collective level, universities present their progress in a regular Digital Maturity Report (Castañeda, et al, 2023; Crespo. UNIVERSITIC, 2023; Fundación CyD, 2023).

When analyzing particular aspects, it was evidenced that, since 2018, Universidad de Murcia has generated the legal conditions to steer its digital strategy. It defined a roadmap for its strategic and operational digital transformation and information technology plans. Its project starts with a specific diagnostic regarding digital transformation and adopts seven strategic lines, grouping 24 objectives and 85 actions linked to the axes defined for the European region, referring to the provisions of the local government (Gobierno de Murcia, 2023; Universidad de Murcia, 2022).

The digitalization policy in Mexico

The international reference for regional policy is the Free Trade Agreement, which limits its content to commercial exchange between Canada, the USA, and Mexico. Exclusively in that category, the document includes a chapter on digital matters. There is no other content that mentions this issue.

To define the characteristics of the digitalization of Mexican higher education, it is necessary to determine the Federal Government's position on telecommunications, a sector for which two reforms have been implemented, delimiting the actual digitalization policies. The first reform was carried out in the 1990s, during the privatization wave that slimmed down the State's participation; the sale of public assets was tolerated, and the sector's activities were liberalized. The last reform was implemented in 2013, and it defined the State's involvement

to complement private investments, which neglected the incorporation of new technologies in the rural regions of the country (Mariscal, 2020).

The 2013 legislation distributed access to telecommunications, stimulating a greater competition in television, radio, and telephony. A backbone telecommunications network was proposed, and a Digital Agenda was created to guarantee public Internet access, promote public and private investment in telehealth and telemedicine, and encourage digital government with open data. The reform failed to reach implementation, and many aspects were truncated until 2019. Among the pending aspects was the regulation of large telecommunications and broadcasting companies, the improvement of the scope of connectivity, and the reduction of the digital gap (Montero, 2019).

Several structural issues limited the development for operating education with digital media, starting with the poor infrastructure for its geographical distribution in rural populations. In urban areas, 81,6% of the population use the Internet, and 70% have a connection. Meanwhile, in rural areas, 56% use the Internet, and only 40% of households have a connection. 50% of those who do not use the Internet are above 55 years of age, and 90% of those who do not use it belong to low socioeconomic strata (Evaluare, 2023).

Since his presidential campaign, the current President of the Republic claimed that he would end the manifestations of neoliberalism in the country's social and economic life. Upon assuming power in 2019, he canceled the tenders for the Backbone Network, assuring that there would be a future proposal for remote and poor regions to gain access to ICTs. The six-year term's federal policy regarding the digitalization of the country was articulated in a couple of documents the 2021-2024 National Digital Strategy (EDN) and the ADE.

The EDN bases its creation on the 2019-2024 National Development Plan. Its sole goal is to achieve Internet coverage throughout the country to make government processes more efficient. However, the Internet for All Project specified no strategies or funding for the digitalization of the country (Gobierno de México, 2021). This document was heavily criticized for being issued late, failing to present a situational diagnosis, not presenting the stance of federal entities regarding digitalization needs, lacking elements for measuring progress, and boasting a strong ideological content. The conclusion was that the country lacked a plan or strategy for the insertion of ICTs into social and productive life (Otero, 2021).

The Federal Government reduced its efforts to expanding the infrastructure for Internet use and disregarded the creation of a national plan with guidelines to lead collective efforts. The immediate consequence was the discretion and fragmentation of plans, programs,

and institutional policies in the social, economic, and governmental sectors to incorporate DTs into their processes.

For a time, the national education sector maintained a common work project under the criteria of the ADE designed in the previous term. When revisited in the 2020 ER, it posed challenges in executing, sustaining, and projecting the actions for digitalizing education conceived by the preceding government. It aimed to increase connectivity in households, in order to improve the appropriation of technology for school use, redefine pedagogical change and training models with the use of technologies, enhance digital skills, and develop resources and platforms for managing learning.

As there were no governance models for digital inclusion, their elaboration was proposed, aiming to achieve coordination between the different government levels, articulating institutional leaderships to maintain a common vision. The systematization of information was sought to evaluate initiatives and analyze the trajectories of the vulnerable population. The ADE modernized the conception of DTs in education, defining them as Digital Information, Communication, Knowledge, and Learning Technologies (TICCAD) and encouraging the intensive use of technology in education to address social and educational backlogs (Gobierno de México, 2020).

The ADE saw its golden years when the COVID-19 lockdown came into effect. Its dissemination was boosted by the use of the @prende.mx platform, a means for consulting auxiliary materials for distance teaching. With the return to the new normal, the issue of DT use in education started to fade, as well as the financial support provided to this sector. For example, for 2024, $46,526,197 pesos were budgeted for the Management of @prende.mx, focused on the whole country's basic level, but the higher level never had a budget for digital change during this term (Gobierno de México, 2023).

Given the infrastructure, organizational, and capacity limitations of Mexican public universities, with the absence of government policies and no funding whatsoever, it was virtually impossible to find actions for digital transformation; any collective process remained dependent on individual initiatives and specific leaderships.

In October 2020, the National Association of Universities and Higher Education Institutions (ANUIES) promoted the creation of a Collaborative Agenda proposing structural axes for the use of technologies in education, among these: the redesign of education models, the training of teachers for innovation, the dissemination and use of open technological education

resources, the enhancement of technological infrastructure, and the expansion of connectivity to develop an inclusive digital culture.

The objectives for developing a program indicative of the development of higher education were outlined, with a converging vision among national universities. The ANUIES managed to align wills among education institutions, the private sector, and various government secretariats, but it failed to consolidate this effort (ANUIES, 2020). Annually, this entity holds and event to present their results regarding the state of DTs in higher education, facilitating academic exchange on the matter.

The modern reopening of Universidad de Guadalajara (UdeG) took place in 1914. In the 1990s, it was organized into a departmental model and as a network of university centers distributed across the territory of Jalisco. The University Network is a complex with six centers located in the metropolitan area of Guadalajara and nine in municipalities within the state. This also includes the Upper Secondary Education System and the Virtual System. The semester enrollment exceeds 300 thousand students (Ramírez and Ramírez, 2024).

The planning of the UdeG's institutional activities starts with the Council of Principals and the General University Council, who, by means of consultation, propose a six-year work agenda that will be reflected, after gathering the opinions of the university community, in the Institutional Development Plan (IDP), which will be the reference for the design of plans in each center of the University Network (Universidad de Guadalajara, 2023).

The rationale for the IDP is in line with the objectives of the 2030 Agenda for Sustainable Development and does not integrate objectives or strategies from the planning and programming documents of the federal or state governments. The document articulates four substantive purposes: teaching and academic innovation, research and technological and knowledge transfer, extension and social responsibility, and the dissemination of culture. They include 14 institutional programs assigned for adoption in the university centers, and the mention of ICTs or digitalization in their functions and processes is marginal (Universidad de Guadalajara, 2023).

Within the IDP, the *Teaching and curricular innovation* axis points out, regarding the Curricular Innovation Program, the need to update curricula and adopt innovating teaching methodologies. It also emphasizes that learning necessitates the use of TICCAD in virtual and in-person spaces. However, there is no congruence between the description of the program and its strategies and indicators. There is also no proposal for incorporating TICCAD into new education models or for integrating them into reformed curricula. The Access to Education

Program outlines the objective of increasing students' access and designing virtual courses to free up physical spaces (Universidad de Guadalajara, 2023).

The Institutional Management Program includes strategies that involve the use of technologies to innovate institutional processes and simplify them. However, it does not present specific indicators regarding these strategies, as only the percentage of optimized institutional processes is taken into account (Universidad de Guadalajara, 2023).

In the past, the UdeG had a document related to the digitalization of academic and university management processes: the Information Technology Development Plan (PDTI), elaborated in 2013. This document presented a roadmap for integrating ICTs in the university. However, after falling into obscurity, it became obsolete when the university's General Coordination of Technologies was restructured (Ramírez and Ramírez, 2024).

In the reviewed documents, it stands out that the IDP mentions the General Higher Education Law (LGES), the State Governance and Development Plan of the State of Jalisco (PEGD), and the Sectorial Education Program (PSE). However, there is no conceptual or operational linkage with the EDN or the ADE. Instead, the objectives of the 2030 Agenda for Sustainable Development are cited, which are monitored by means of infographics.

Upon reviewing the issue of t DT insertion into the institutional plans of two university centers (i.e., the Social Sciences and Humanities University Center, or CUCSH, and the Los Altos University Center, or CUALTOS), it was found that their terms and actions emphasize the purchase of computers and the delivery of courses through digital platforms. They do not establish a digital skills training or updating plan for teachers, students, or administrative personnel (Universidad de Guadalajara. CUCSH, n.d.; CUALTOS, n.d.).

These centers stick to improving teachers' search skills in digital libraries and scientific portals, increasing the offer of online courses, and certifying digital competencies without a diagnosis or the detection of needs regarding training updates. They intend to bolster a flexible education model and diversify the education offer through ICTs without creating strategies, objectives, or indicators for it.

Likewise, they aim to buy licenses and computer equipment. There is no strategy for incorporating contents in undergraduate programs. Some of the CUCSH's programs maintain a 15-year-old curricular structure, which is why the training of their alumni currently responds to a non-existent job market (Ramírez and Ramírez, 2024).

Conclusions

This text aims to show the differences between the reference frameworks underlying the institutional policies of universities in Spain and Mexico. These frameworks are assumed based on theory, as a product of the intertextuality encompassing the content, bibliographic references, or explicit ideas included in the plans of universities.

Emphasis is placed on the density and specificity of the reference frameworks to substantiate the actions taken regarding the digitalization of academic and administrative processes when mentioned (or their absence) in university plans. The characteristics of these frameworks have an impact on the decisions made by managers to hierarchize and define institutional actions in the immediate future in relation to the digital transformation.

The digital issue is a global imperative that is part of the management horizon for national public policy content and negotiation in the decision-making processes of university officials. Its inclusion at the national level allows providing it with a place in the hierarchy of university problems and needs. This relationship can be studied by locating the texts that constitute the decisions articulated within the public policy cycle and verifying their characteristics in the design of public universities' design of policy and actions. In the case of Universidad de Murcia, digitalization is highly relevant, whereas this issue is not present in the plans of Universidad de Guadalajara, which is why no actions are projected in this regard (Figure 4).

The presentation of the Policy Reference Framework, with which Spanish universities plan for digital transformation, is robust and precise. It facilitates the decision-making processes established in institutional plans. This is attributed to the set related to policies and financial support that is organized by the European Commission. The inter textuality shown in the documents of the European Union defines tasks and objectives, indicates collaboration axes, and creates feedback and auditing strategies for the goals and objectives of the national plans that articulate universities, society, and businesses.

The reviewed documents show that, in light of the absence of government directives, the changes in study programs, the updating of teachers, the interinstitutional collaboration for training industry and government workers, and the generation of new lines of research that include digitalization are contingent upon universities' institutional capacities.

This article opens the possibility of continuing to explore the issue regarding the relationship between intertextuality and decision-making at various government levels. This can be done in two directions.

The first of them considers the precision of Universidad de Murcia's plan to implement actions in pursuit of digitalization. In this sense, it can be studied whether the EU's strategies and directives have allowed national States to have a solid discursive base to design their change process in the education sector, as well as the way in which these circumstances allow universities to consolidate their institutional plans and programs to define objectives and actions to bolster DTs within them while contributing to digital changes in other social and productive sectors.

The other type of potential studies could analyze the alternatives developed by universities to meet the demands of their core functions from their immediate context and without the support of national governments. Important issues in this case include changes in training programs when modifying work profiles and production schemes and research om the forms of social interaction in light of the insertion of digitalization in social life. This concerns the study of what universities do and how they tackle the challenges of change in their core functions when faced with the absence of a government policy reference framework that includes this subject.

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