

# Redefining the Role of Higher Education Institutions in the Age of Global Disruption: Strategic Missions, Digital Transformation, and Policy Alignment in the European Context

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## **Abstract**

*This article employs a multi-perspective and multiple-case study methodology to examine the ongoing transformation of Higher Education Institutions (HEIs), conceptualized as complex and adaptive systems, within the evolving digital and geopolitical landscape of the past two decades. The analysis is framed by the increasing pressures exerted by European Union (EU) policies and global imperatives, particularly concerning digitalisation, inclusive access, and lifelong learning. Drawing from the ECOLHE (Enhancing Competences for Online Learning in Higher Education) research project, the paper highlights how digital transformation is reshaping the values, missions, and organisational configurations of HEIs. Key findings underscore the persistent gaps between policy aspirations and institutional practices, particularly regarding the integration of digital pedagogies and the alignment of curricula with the needs of rapidly evolving labour markets. The paper concludes by proposing a strategic framework to guide HEIs in designing future-oriented, resilient, and inclusive digital ecosystems, rooted in the foundational principles of the European Higher Education Area (EHEA).*

**Keywords:** Higher Education, digital university, quality assurance, Digitalization

## 1. Introduction

Over the past two decades, higher education has undergone profound reshaping due to the intersecting forces of globalization, technological innovation, and recurring global crises. The COVID-19 pandemic served not as the origin of these transformations but as an accelerant, amplifying pre-existing trends already articulated within various European Union (EU) policy frameworks, particularly those concerning digitalisation and educational reform. A key milestone in this trajectory was the European Commission's adoption of the Digital Education Action Plan 2021–2027 in September 2020, which outlined an ambitious agenda to promote high-quality, inclusive, and accessible digital education across EU Member States [1]. However, despite such institutional commitments, the transition to digitally enhanced teaching and learning remains uneven and fragmented. The persistent misalignment between the competences fostered by HEIs and the rapidly evolving requirements of knowledge-based, technology-driven labour markets has been consistently documented [2, 3]. This skills gap not only undermines graduate employability but also calls into question the capacity of universities to serve as engines of innovation and social cohesion in an increasingly uncertain world. [4] Looking ahead, projections estimate that the global student population will surpass 400 million by 2030 [5]. Addressing the learning needs of this heterogeneous and expansive demographic requires a fundamental rethinking of the missions, structures, and pedagogical paradigms of higher education. In this context, the shift toward lifelong learning (LLL) and the recognition of non-formal and informal learning trajectories have emerged as central pillars of educational reform. Data indicate that nearly 90% of jobs created after 2020 necessitate some form of digital competence, reinforcing the imperative for HEIs to develop robust, forward-looking strategies for digital literacy and competence development [3].

Despite successive waves of reform—such as the New Skills for New Jobs initiative [1] and the Modernisation of Higher Education agenda [6, 7]—the systemic integration of innovative Information and Communication Technologies (ICTs) into the core of academic practices remains limited.[8] The High-Level Group on the Modernisation of Higher Education has repeatedly emphasised the importance of integrating digital pedagogies into institutional strategies, not merely as tools of delivery, but as transformative instruments that enhance teaching quality, support learner-centred approaches, and promote inclusive access [9]. Yet, the inertia of institutional structures and the lack of cohesive governance continue to hinder meaningful innovation.

Building on these premises, the present article aims to explore the organizational transformations taking place within HEIs under the pressure of global digital disruption and supranational policy orientations. Drawing on the multiple case studies conducted within the framework of the ECOLHE project—spanning a diverse array of national contexts and institutional models—the research seeks to provide an empirically grounded analysis of how HEIs are responding to these multidimensional challenges. The central research question guiding this investigation concerned the nature and extent of organizational change within HEIs in light of increasing demands for digital transformation, policy compliance, and societal relevance. Rather than offering a descriptive account of policy impacts, the paper seeks to advance a strategic vision for institutional innovation through the articulation of three key objectives:

The consolidation of a coherent European Higher Education E-learning Area, grounded in the values of the Bologna Process and committed to equity, mobility, and academic freedom; The professionalisation of teaching staff, with formal recognition of digital pedagogical competences and the establishment of structured pathways for continuous professional development.

The promotion of sustainable innovation ecosystems within HEIs, capable of ensuring inclusive access, fostering lifelong learning, and leveraging digital infrastructures to enhance academic quality.

The article is structured as follows: Section 1 outlines the theoretical framework informing the research design, with a focus on organizational change and digital transformation in higher education. Section 2 presents the methodological approach and case selection criteria. Section 3 discusses the key findings emerging from the ECOLHE multiple case studies. For this paper, we will summarize the main results emerging from the comparative report analysis based on the HE case studies involved in the research project,[8] considering qualitative analysis (§4.1) and the students' survey (§4.2). Finally, Section 4 offers a set of evidence-based recommendations to support the strategic evolution of HEIs in the face of complex global challenges.

## 2. Values, Mission, and Goals for the Future of Higher Education Institutions

In the context of the digital and global knowledge economy [10-12], Higher Education Institutions (HEIs) are increasingly operating within a hyper-competitive and dynamic landscape, marked by the growing presence of private technological actors—such as Google, Amazon, and Microsoft—within the educational ecosystem. These global platforms are not merely offering support tools but are actively shaping new credentialing systems and alternative learning pathways that challenge the historical monopoly of universities over knowledge certification and institutional legitimacy [13]). As Raetzsch et al. [14] have noted, the majority of European universities have responded to these challenges with only incremental adaptations, often limited to superficial digital upgrades or the expansion of blended learning options. A systemic transformation toward genuinely student-centred, technology-enhanced education has remained elusive. In this context, redefining the university's social contract becomes imperative—one that aligns not only with the traditional missions of teaching and research but also with broader European Union (EU) objectives, such as social cohesion, employability, and digital innovation.

The ECOLHE research project (Empower Competences for Onlife Learning in Higher Education) situated itself within this evolving scenario by investigating the organisational transformations and policy translation processes that shape digital innovation across HEIs in Europe. Conceptualising universities as complex, adaptive systems [15-17], ECOLHE adopted an epistemological stance rooted in constructivist paradigms [18], acknowledging the multiplicity of actors, logics, and institutional histories that mediate how EU digital strategies are interpreted and implemented at the national and local levels. At the core of the investigation lay the following research question: How do universities foster digital innovation and respond

to the challenges posed by European digital education policies in their organisational and pedagogical practices?

To address this question, ECOLHE employed a multi-theoretical framework grounded in the sociology of translation [19, 20], which views policy implementation not as a linear transmission of directives, but as a contested and context-specific process of negotiation, recontextualisation, and local adaptation. This perspective is complemented by the use of a Meta-Macro-Meso-Micro analytical model [21, 22], which allows for a granular examination of how European policies are translated into national frameworks, organisational strategies, and everyday academic practices. Moreover, the research explored the extent to which HEIs are converging towards the model of the “digital university” envisioned by EU policies, a model that entails not merely technological adoption, but a reconfiguration of institutional culture, professional roles, and pedagogical paradigms. By mobilising insights from organisational theory, sociology of education and critical pedagogy, ECOLHE advanced a transdisciplinary understanding of how digital transformation in higher education unfolds at multiple levels and across diverse cultural and policy contexts. Crucially, the research findings position universities not as passive recipients of top-down reforms but as active arenas of policy negotiation, where institutional actors interpret, resist, or transform digital imperatives in line with their strategic priorities, professional identities, and governance structures.

### 3. Methodology

The ECOLHE research project employed a comparative, multiple case study methodology [23, 24], combining qualitative and quantitative research techniques to capture the complexity of digital transformation across national and institutional contexts. The research design was informed by an interdisciplinary approach that integrated perspectives from education policy, organisational sociology, and digital pedagogy. The empirical investigation was structured according to the Meta-Macro-Meso-Micro framework, which facilitates an analysis of the vertical and horizontal flows of policy translation—from the supranational level of EU directives, through national policy-making, to institutional strategies and micro-level teaching and learning practices.

#### 3.1 Research Components:

**Policy and Organisational Analysis.** At the meta and macro levels, the project conducted a documentary analysis of European and national higher education policy documents, with particular attention to texts guiding the Bologna Process and promoting the integration of ICTs in teaching and learning. Semi-structured interviews were conducted with national policymakers and ministerial representatives in five countries —Spain, Ireland, Finland, Italy, and Greece—to explore how EU strategies are interpreted and translated into national agendas.

**Institutional Case Studies.** At the micro level, six university case studies were conducted: two universities in Italy and one in each of the other countries (Spain, Ireland, Finland, and Greece).

The analysis combined Interviews with academic governance bodies (e.g., rectors, digital innovation officers), Focus groups with academic staff to assess faculty engagement and perceptions regarding digital pedagogy, and surveys administered to students to evaluate their experiences with digital learning environments. Each partner organisation elaborated a detailed country report based on the same shared, detailed index, following the initial shared theoretical and methodological framework and tools. The national report presented the fundamental research findings for comparative analysis, which are briefly illustrated in this contribution. Across all cases, the following thematic domains were explored:

- Institutional micro-policies on online and blended learning;
- The integration of digital tools and resources in curriculum design and classroom practices.
- Faculty professional development pathways related to digital competences;
- Mechanisms for the adoption, evaluation, and assurance of e-learning quality standards.

The Students' Perspective survey. A SurveyMonkey system gathered the questionnaire and data. The total number of complete responses is 1.148 collected by the organizational partners. The main goal of the students' survey was to test the questionnaire.

The findings emerging from this research have been synthesised in the ECOLHE final report [8], offering a robust empirical base for cross-national comparison and policy learning. These results provide crucial insights into the structural tensions, enabling conditions, and promising practices that shape the digital transition of European HEIs in the post-pandemic era.

## 4. Main Results

### 4.1 Digital Transformation of Higher Education Institutions (HEIs)

The preliminary findings of the comparative analysis, based on the national reports prepared by each university partner, indicated that digital transformation (DT) in Higher Education Institutions (HEIs) involves far-reaching changes across various domains. These encompass not only technological infrastructure and administrative modernization but also pedagogical innovation, curriculum redesign, research digitization, alignment with labour market demands, and institutional visibility through digital communication and marketing strategies. Such transformations are influenced by the widespread adoption of emerging technological components, including advanced computing infrastructures, work management platforms, and integrative digital ecosystems. These technological shifts necessitate a fundamental reassessment of institutional models and operational logics. The comparative analysis of multiple case studies conducted within the ECOLHE consortium led to the identification of the following six critical thematic dimensions that characterise the digital transformation of HEIs.

#### 4.2 The Impact of Digital Innovation

Digital innovation has significantly reshaped institutional practices, support structures, and resource allocation. The ECOLHE national reports [8] illustrate that key enablers of digital transformation include a robust technological infrastructure, integrated pedagogical and technical support services, and an institutional culture conducive to knowledge sharing and interdepartmental collaboration. Conversely, systemic barriers continue to hinder progress, notably insufficient time for pedagogical experimentation, uneven digital competence among academic and administrative personnel, and the persistent undervaluation of digital teaching when compared to traditional in-person modes. These findings align with the European Commission's Digital Education Action Plan 2021–2027 [9], which emphasizes the necessity of sustained investment in digital connectivity, tools, and institutional capacities. Transversal analysis across national reports reveals the following interesting issues. An Effective digital adaptation mandates universal access to high-speed internet, resilient digital infrastructures, and the presence of technical staff capable of ensuring uninterrupted service and rapid troubleshooting. Pedagogical innovation further requires structured faculty development programmes, including mentoring, training workshops, and inter-institutional exchanges. Lastly, interdisciplinary collaboration, particularly between IT specialists and educators, is crucial for the effective integration of digital tools in a contextualized manner. Notably, digital skill levels often vary across disciplines; faculty in engineering and informatics typically report higher digital proficiency, while colleagues in the humanities and social sciences may require targeted support.

#### 4.3 Digital Innovation Strategies

At the meso level—corresponding to institutional and system-wide organisational settings—digital innovation strategies differ markedly across national contexts. These divergences reflect variations in digital maturity, policy frameworks, and governance cultures. The Digital Economy and Society Index (DESI; European Commission, 2023 [25]) identifies countries such as Finland and Ireland as leaders in digital policy integration. Finland prioritises bottom-up strategies rooted in autonomy and self-regulation. At the same time, Ireland exemplifies a balance between strategic alignment and institutional independence through the work of its Department of Further and Higher Education, Research, Innovation, and Science. Transversal analysis across national reports reveals five recurrent strategic priorities in institutional digital innovation strategies.

- Enhancement of digital competencies across academic and administrative staff.
- Institutionalisation of high-quality digital pedagogical frameworks.
- Promotion of innovative teaching methodologies to strengthen students' digital literacy.
- Support for autonomous learning and learners' self-management capacities.

- Protection and valorisation of institutional autonomy as a precondition for pedagogical innovation.

The COVID-19 pandemic operated as a structural stress test, accentuating fragilities in digital infrastructure, strategy, and leadership, while also catalysing strategic shifts in national policy environments and quality assurance frameworks.

#### 4.4 The Digital Learning Process

The digital learning process refers to the interactional and experiential dimensions of teaching and learning in digital environments. The ECOLHE analysis reveals heightened sensitivity to this dimension in countries with lower DESI scores—particularly Italy and Greece—where institutions have had to make rapid adjustments in response to the pandemic. Recommendations derived from cross-national synthesis include:

- the institutionalisation of blended learning modalities, promoting asynchronous learning opportunities to ensure inclusivity and temporal flexibility;
- the adoption of clear quality standards for online education through the implementation of pedagogies grounded in the Symbiotic Learning Paradigm (SLP), which emphasises mutual engagement among students and educators;
- the introduction of robust assessment tools tailored for digital environments;
- and the designation of technical tutors responsible for student support and pedagogical troubleshooting.

These measures not only should contribute to pedagogical resilience but also foster sustainable models of hybrid education.

#### 4.5 Institutional Digital Innovation

Institutional digital innovation dimension pertains to how governance structures internalise and translate national and supranational digital agendas into strategic institutional policies. The ECOLHE findings suggest that in most HEIs, pivotal decisions regarding digital transformation are made by central governance bodies, such as rectorates, academic senates, and digital transition units. Fully digital universities, such as Spain's Universitat Oberta de Catalunya, offer valuable insights into governance models suited to lower-DESI environments, where systemic adaptation is urgent. Successful cases reveal common characteristics, including:

- the establishment of institutional e-learning centres responsible for monitoring, evaluation, and support;

- the organisation of formalised feedback loops to foster iterative innovation oriented to the adoption of a .....human-centered approach in building an online learning environment;
- the promotion of validated digital pedagogies into curricula through accreditation and quality assurance .....protocols.

#### 4.6 The Pandemic's Impact on Teaching and Learning

The COVID-19 pandemic constituted an unprecedented turning point for HEIs, compelling the sudden digitalisation of both academic and administrative operations. The pandemic experience demonstrated the critical importance of strategic foresight and institutional preparedness in digital education. This emergency adaptation revealed deep structural asymmetries as follows: summarised.

- Inadequate capacity of digital infrastructures to handle synchronous delivery at scale.
- Fragmented adoption of learning management systems (LMS)
- Deficits in pedagogical design suited to online learning.
- Underutilisation of digital engagement tools, such as gamification and interactive assessments.
- Increased academic dishonesty due to insufficiently reconfigured assessment systems.

#### 4.7 International Quality Standards

While national frameworks remain central to setting quality benchmarks, their operationalisation occurs at the institutional level via Quality Assurance Units (QAUs). A multi-dimensional QA model is proposed, integrating metrics related to administrative efficiency, teaching innovation, learning outcomes, and labour market alignment. Inclusive governance—incorporating faculty, students, administrators, and external evaluators—is essential for legitimacy and continual improvement. In the context of digital transformation, QA systems must undergo significant evolution. The ECOLHE comparative analysis recommends that HEIs:

- Ensure parity or superiority of learning outcomes in digital formats relative to face-to-face instruction.
- Implement transparent, equitable, and secure digital assessment systems.
- Monitor the reputational and employability impacts of digital offerings.

- The authentic educational interaction between teachers and students will always be ensured in digital environments.

#### 4.8 Digital Technologies in HEIs: The Students' Perspective survey

A distinctive feature of the ECOLHE project is its epistemological focus on students' digital maturity<sup>1</sup> conceptualised as the degree to which learners adapt to, engage with, and critically interpret digital learning environments. Data were analysed to answer the following main research questions:

RQ1: Which university partner has the best digital practices? This RQ is addressed to compare universities in terms of digital maturity, so a Principal Component Analysis (PCA) was carried out on a given set of items. PCA has been used for summarising latent concepts underlying a group of variables. Throughout the technique, the dimension of data can be reduced with an insignificant loss of information.

RQ2: Which are the latent factors characterising digital maturity? This RQ is addressed to explore latent dimensions in the questionnaire, so an exploratory factor analysis was applied to investigate how many different latent dimensions underlie the variables through responses.

RQ3: How involved can students be classified? This RQ is addressed to profile students according to latent aspects, so a cluster analysis was adopted to identify groups of units that are meant to be similar to each other with respect to some criteria.

Factor analysis of survey data identified five latent constructs underpinning students' perceptions:

Digital Tuning: Students' familiarity with and navigation of digital platforms, tools, and environments.

Teaching Innovativeness: Perceived novelty, effectiveness, and engagement value of digital teaching .....practices.

Soft Skills: Competencies such as adaptability, communication, and collaboration in virtual settings.

Employability: Perceived relevance of digital learning to career prospects and labour market readiness.

Lifelong Learning Orientation: Disposition towards continuous, self-regulated learning over time.

Cluster analysis delineated seven distinct student typologies, each representing a specific orientation toward .....digital learning:

1 The Digital Maturity Framework for Higher Education Institution, which synthesises the main existing frameworks/models, related to the integration of digital technologies in HE [26] include the following seven sub-dimension of analysis: leadership, planning and management; quality assurance; scientific research work; technology transfer and service to society; learning and teaching; ICT culture; and ICT resources and infrastructure [http://archive.ceciis.foi.hr/app/public/conferences/2017/02/CECIIS-2017\\_paper\\_58\\_final.pdf](http://archive.ceciis.foi.hr/app/public/conferences/2017/02/CECIIS-2017_paper_58_final.pdf).

Self-realisation Focused (26.7%): Exhibit a comprehensive and integrated engagement with digital learning .....across all dimensions.

Socially Oriented (19.6%): Emphasise relational and collaborative aspects of digital environments.

Teacher-Centred (15.6%): Prioritise pedagogical quality but demonstrate limited interest in peer interaction.

Job-Focused (14.1%): View digital education primarily as instrumental to employability.

Lone Riders (10.2%): Disengaged from both peer and faculty interaction, potentially indicating digital .....alienation.

Task-Oriented (8.9%): Functionally engaged but with limited investment in soft skill development.

Analogically Tuned (4.9%): Show a marked preference for traditional, face-to-face formats and resist digital .....adaptation.

This segmentation illustrates the heterogeneity of student responses to digital transformation, highlighting .....the need for differentiated pedagogical strategies that accommodate diverse digital profiles and learner .....expectations.

## 5. Discussion and Conclusion

The empirical and comparative findings of the ECOLHE project offer a rich analytical framework through which to interrogate the contemporary dynamics of digital transformation in Higher Education Institutions. Through the triangulation of students' perceptions, institutional practices, and multi-scalar policy infrastructures, several meta-conclusions emerge, offering both theoretical insights and pragmatic implications for academic bodies and policymakers.

### 5.1 Digital Transformation as a Purposeful, Inclusive, and Systemic Endeavour

One of the most salient themes is that digital transformation must be intentional, inclusive, and systemically embedded within the institutional architecture of HEIs. While technological modernization promises to enhance efficiency, accessibility, and pedagogical innovation, such

benefits remain unevenly distributed unless supported by robust equity frameworks. The works of Selwyn [27] and Warschauer [28] have long argued that the digital divide is not merely a function of access but is deeply intertwined with socioeconomic, cultural, and epistemic inequalities. ECOLHE's findings corroborate this, particularly when comparing countries with varying Digital Economy and Society Index (DESI) scores. Therefore, DT must not be conflated with mere digitalization—the substitution of analog tools with digital ones—but must be understood as a paradigmatic shift that affects governance, teaching and learning paradigms, and institutional mission statements.

## 5.2 Students as Situated and Differentiated Digital Subjects

The identification of seven student clusters in the ECOLHE survey disrupts the monolithic conception of “the student” as a universal and homogenous learner. Instead, the findings underscore the sociotechnical embeddedness of learners, who engage with digital tools based on their prior experiences, disciplinary backgrounds, and aspirations. This reflects a broader theoretical orientation grounded in sociocultural learning theory [29] and contemporary epistemologies of learner identity [30]. The implication for HEIs is the necessity of personalised learning ecologies—modular, adaptable, and inclusive platforms that accommodate different digital maturity levels. One-size-fits-all solutions are increasingly obsolete in the digitally mediated academy.

## 5.3 Digital Maturity as a Relational Construct

ECOLHE proposes a compelling reconceptualization of digital maturity—not as a purely technological capacity, but as a relational assemblage involving affective, cognitive, and social dimensions. This challenges the instrumental logic often underlying institutional investments in technology (i.e., acquisition of platforms, devices, and connectivity), highlighting the centrality of relational pedagogies and social presence. Emerging interdisciplinary literature from educational psychology, critical pedagogy [31, 32], sociology of education and organization, and human-computer interaction supports the notion that meaningful digital learning environments must foster a sense of community, emotional safety, and shared responsibility.

## 5.4 Gamification: Potential and Pitfalls

The ECOLHE project also interrogates the dual potential of gamification as both a motivator and a possible trivialiser of academic learning. While gamified environments can boost engagement and retention [33], their success is contingent upon pedagogical intentionality and alignment with learning objectives. Without such alignment, there is a risk of reducing academic tasks to performative or entertainment-based activities, undermining epistemic depth. Hence, any gamification initiative must be scaffolded by targeted faculty training, inter-institutional knowledge exchange, and continuous evaluation of its impact on students' cognitive and socio-emotional development.

To address the complex ecosystem of digital transformation, ECOLHE proposes a multi-level framework for action, distinguishing between macro, meso, and micro levels of governance and intervention.

### 5.5 Macro-Level (European and National Policy)

**Develop Digital Maturity Benchmarks:** Introduce pan-European benchmarks rooted in ECOLHE's latent constructs and clusters to assess and compare institutional progress across countries.

**Establish Transnational Digital Literacy Frameworks:** Facilitate cross-border recognition of competencies to support student mobility and institutional convergence, aligning with the Bologna Process and the European Digital Education Hub.

**Reduce DESI-based Disparities:** Prioritise targeted investments in countries or institutions with lower digital readiness to ensure structural equity in the distribution of digital innovation capabilities.

### 5.6 Meso-Level (Institutional Leadership and Curriculum Design)

**Use Internal Surveys for Data-Driven Personalisation:** HEIs should regularly assess their digital maturity and student clusters, enabling context-sensitive pedagogical strategies.

**Implement the Symbiotic Learning Paradigm (SLP):** Adopt participatory curriculum co-design involving students as partners in innovation, aligned with the latest ENQA (European Association for Quality Assurance in Higher Education) standards on stakeholder engagement.

**Empower Quality Assurance Units (QAUs):** Institutional QAUs must play a proactive role in monitoring, evaluating, and legitimising digital pedagogical innovations, ensuring alignment with local needs and international standards.

### 5.7 Micro-Level (Educators and Students)

**Promote Foundational Digital Literacy:** Offer preparatory modules and digital literacy courses to build equitable student and staff capacity for engaging with digital platforms.

**Establish Peer-to-Peer Mentorship:** Leverage digitally adept students as digital ambassadors to facilitate knowledge transfer and peer scaffolding within institutions.

**Encourage Educator Communities of Practice:** Foster collaborative spaces where educators can experiment with gamification and share pedagogical innovations.

## 6. Concluding Remarks

The ECOLHE project offers a foundational contribution to understanding the digital transition of higher education from a multi-scalar and transdisciplinary perspective. Its findings affirm that the digital future of HEIs is not a deterministic endpoint but a terrain of negotiated transformation shaped by governance, pedagogical culture, and socio-technical ecologies.

Three structural mediators—national digital readiness, type of institution (online/traditional), and disciplinary field—emerge as crucial variables. For instance:

Students in DESI-leading countries (e.g., Finland, Ireland) display greater confidence in digital learning.

Online university students report higher digital competence due to immersive exposure.

Disciplinary divides persist, with students in the Natural Sciences demonstrating greater digital fluency than those in the Humanities or Social Sciences.

These insights echo Castells' [34] theory of the network society, in which learning, connectivity, and adaptability become the core functions of institutional survival and relevance. HEIs must thus move from reactive adaptation to strategic transformation—technologically agile, pedagogically inclusive, and socially accountable.

Finally, from a theoretical standpoint, the ECOLHE findings intersect with:

Technology Acceptance Models (TAMs) [35] in assessing perceived usefulness and ease of digital tools; Sociotechnical Systems Theory, which underlines the co-evolution of technological and organizational systems; Critical Digital Pedagogy [32] warns against uncritical technologization and advocates for ethically informed, equity-centered innovation.

Regarding the main paper objectives, the research findings help us understand that the adoption of the Bologna Process values and strategy is not a completed process. At the same time, the crucial key to designing the digital university is the professionalization of teaching, technical, and administrative staff, as well as the overcoming of rigid separations among these professional categories.

In conclusion, the digital transformation of higher education is not a question of if, but of how—and more importantly, for whom. Policy responses must therefore be differentiated, evidence-based, and rooted in both pedagogical ethics and institutional realities.

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