

Exploring fragmented visions and uneven capacities in higher education digital transformation: Evidence from stakeholder interviews

Franka Marie Herfurth 

Institute for Business Education, University of Rostock, Germany

How to cite: Herfurth, F. M. (2026). Exploring fragmented visions and uneven capacities in higher education digital transformation: Evidence from stakeholder interviews. In: 12th International Conference on Higher Education Advances (HEAd'26). Valencia, 15-18 June 2026. <https://doi.org/10.4995/HEAd26.2026.21744>

Abstract

Digital transformation is unfolding unevenly across higher education institutions. Based on interviews with stakeholders from multiple universities, the study highlights substantial differences in strategic clarity and the predominance of decentralised, often ad hoc approaches. Respondents pointed to persistent structural constraints, including limited staffing, insufficient resources, and slow governance processes, that hinder coordinated development. While digitalisation is widely viewed to enhance teaching quality and inclusion rather than an end in itself, its success depends on sustainable infrastructures, coherent institutional guidance, and meaningful participation. Without these conditions, universities risk widening disparities in digital readiness and limiting their ability to respond effectively to ongoing technological change.

Keywords: digital transformation; governance; institutional capacity.

1. Introduction

The higher education system has a crucial role in preparing people for a world increasingly shaped by digitisation (Castro Benavides et al., 2020; Gkrimpizi et al., 2023). In response to rapid technological developments, higher education institutions (HEIs) are compelled to develop strategies that enable them to cope with continuous change and to position themselves within an evolving educational landscape. In this context, digital transformation is commonly understood as a “cultural, organisational and operational change [...] through smart integration of digital technologies, processes and competencies across all levels and functions in a staged way” (Gkrimpizi et al., 2023). Accordingly, digital transformation extends far beyond the mere adoption of new technologies and requires fundamental changes at pedagogical, technological, and organisational levels in order to maintain and enhance educational quality (Đurek et al.,

2017). Against this background, digitalisation can be understood as a disruptive force that affects higher education institutions simultaneously at the institutional and the individual level.

The systematic literature review by Castro Benavides et al. (2020) highlights that digital transformation in HEI requires a thorough organisational needs analysis and must be aligned with governance strategies and management models, considering both normative and non-normative contexts. However, empirical evidence suggests that such alignment is often difficult to achieve. In particular, the systematic literature analysis by Gkrimpizi et al. (2023) identifies a lack of leadership for change, the absence of a holistic vision, insufficient strategic planning, as well as attitudes and beliefs as central challenges in the digital transformation of HEIs. Moreover, deficits in coordination and communication, both from university leadership to staff and between organisational units, are reported as barriers (Gkrimpizi et al., 2023, S. 14).

These challenges are closely linked to the specific governance structures of higher education institutions. Academic self-governance typically involves multiple actors and bodies, including rectorates, faculties, councils, senates, and student representatives. While this participatory structure enables broad involvement of different status groups in strategic decision-making, it simultaneously contributes to slow and fragmented implementation processes (Heyde et al., 2025). As a result, tensions frequently emerge between strategic intentions at the management level and their enactment within everyday teaching and learning practices.

Although the literature on digital transformation in higher education extensively addresses changes in teaching and learning, the governance level, and its relationship to pedagogical practice, remains comparatively underexplored (Castro Benavides et al., 2020). This article addresses this gap by an explorative qualitative research methods led small scale study demonstrating precisely how central, yet fragmented, governance processes shape the realities of digital transformation across institutions from the governmental level to the pedagogical level. The study provides detailed insights into highly individual perceptions, logics, and decision-making processes. Against this backdrop, the following research question guides the analysis: How do governance structures and decision-making processes within higher education institutions shape the implementation and pedagogical enactment of digital transformation initiatives?

2. Higher Education institution development in times of digital transformation

The paper examines, as part of a comparative study of higher education institutions in Mecklenburg-Western Pomerania (Germany), the effects of institutional digital transformation strategies, with particular attention to the tensions that arise between management-driven initiatives and processes emerging from teaching practice. The development, implementation, and evaluation of digitalisation strategies, regardless of their point of origin, are embedded in broader change management processes and must be understood within the context of

institutional development. Within this structure, university management, typically comprising the rector, vice-rectors, the chancellor, and the deans of faculties or departments, is responsible for steering and governing the institution (Brahm et al., 2016b).

Building on the need for cultural, organizational, and operational change, the paper draws on Euler's model of "pedagogical HEI development" (Brahm et al., 2016a) to identify the cornerstones of successful institutional transformation. The model serves as an anchor for "learning-related university research and the practical design of teaching and learning" (Brahm et al., 2016a) provided that all dimensions are considered simultaneously. It conceptualizes higher education development across three interdependent levels, 'Learning Environments', 'Study Programmes', and the 'Organisation of the HEI', and integrates these with two cross-cutting, process-oriented fields of action: 'Strategic Goals' and 'Change Management and Leadership' (see Fig. 1).

At the level of learning environments, the focus is on the skills development of teachers and learners and the associated design of teaching and learning spaces. This involves, on the one hand, the definition of learning objectives, the diagnosis of learning requirements and the use of teaching and learning methods and, on the other hand, the professionalisation of teachers. The level of the study programme deals with the question of the extent to which the strategic objectives defined at the level of the learning environments are reflected in the study programs or, conversely, looks at whether the individual objectives of the modules at the end of the program fit in with the strategic objectives and support them. The organisational level deals with the design of the structural and cultural framework conditions for teaching at the university and provides direction. These levels are overlaid by the strategic objectives for teaching and learning, which act as guidelines and enable the university to adopt fundamental positions (Brahm et al., 2016a). To have a lasting effect on quality development in HEI pedagogical development, all levels must always be addressed and interlinked.

Remaining within the framework of Euler's model of 'pedagogical HEI development' but establishing a closer link to *digital* transformation processes, the Digital Maturity Framework for Higher Education Institutions (DMFHEI) is considered. This framework model is the synthesis of 15 frameworks which has been indicated based on a preceding literature analysis (Durek et al., 2017).

The levels from Euler's model of 'pedagogical HEI development' can also be found in the DMFHEI named Leadership, planning and management as well as learning and teaching. These two areas are in turn underpinned by characterising features (see Fig. 1). Selected elements of the two areas as part of the DMFHEI serve as deductive categories (variables) in terms of the 'qualitative content analysis' by Mayring (Mayring, 2022) to focus on governance structures and decision-making processes within higher education institutions that shape the implementation and pedagogical enactment of digital transformation initiatives. The variables mentioned are all equally important and do all influence the implementation of digital transformation at HEI. Of particular significance within this study are the dependencies among

these variables based on the previously described tensions between management level and teaching practice.

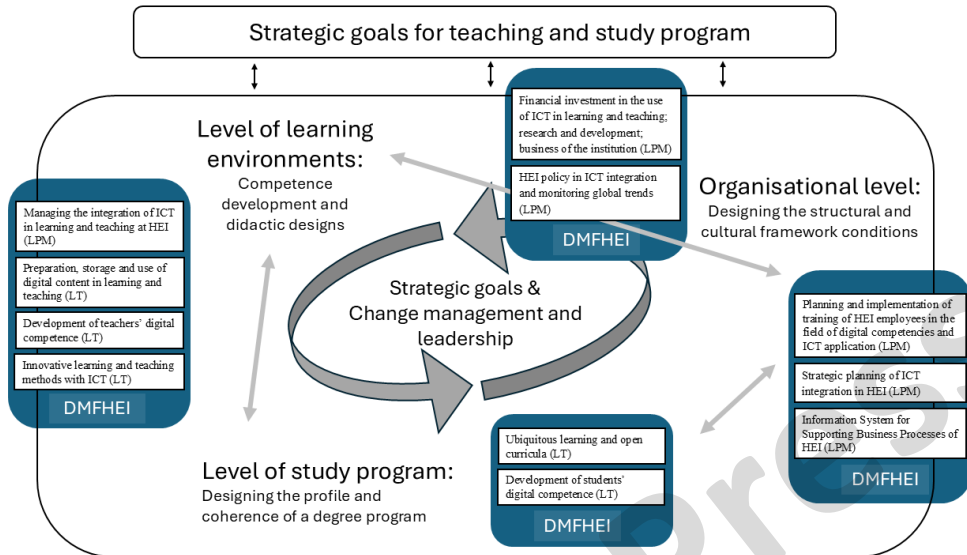


Figure 1: Pedagogical development acquired with Digital Maturity Framework for Higher Education Institutions based on Brahm et al. 2016b; Durek et al. 2017.

3. Methodology of data collection

A qualitative explorative research design was chosen to reveal the complexity of the interrelationships. The expert interviews were conducted to explore and gain initial access to the field. The field access is relatively broad, as five higher education institutions in the federal state of Mecklenburg-Vorpommern were included; however, it is not very deep, since only one to four individuals were interviewed at each institution. A total of 14 interviews with 15 experts were realised. The perspectives represented in this study derive from a diverse group of individuals. These include heads and staff members of units dedicated to e-learning and university didactics, professors from various disciplinary backgrounds, prorectors, and employees from centres for continuing academic education. In addition, the sample comprises research staff working in competence centres as well as individuals employed in third-party funded projects. Together, these respondents offer a multifaceted view of digital transformation processes within higher education, shaped by their respective institutional roles and areas of responsibility.

As research instrument two different versions of semi-structured qualitative interview forms were developed, one for manager and one for lecturers. They consisted of 23 open-ended questions. The instrument addresses organisational governance, strategic development, and

support structures for teaching and learning, before moving to a dedicated section on institutional strategies and decision-making processes.

4. Results & Discussion

The following section highlights the most striking, aggregated and analytically significant four areas of tensions that have emerged from the data. These areas of tension describe different trade-off situations that HEIs are currently facing. The focus here is deliberately placed on those themes that most clearly illuminate the relationship between governance structures and the pedagogical enactment of digital transformation. The most important results are summarized in the table below, followed by a brief discussion of the results presented.

Table 1: Aggregated results regarding ‘Strategic vision vs. Decentralized reality’ at all three levels

Strategic vision vs. Decentralised reality

Level of the organisation	Level of the study programme	Learning environment
Position papers exist but are described as “inconsistent” and “not particularly meaningful” (I06, I12); universities operate without a clearly articulated vision, so decentralised practices effectively function as the implicit strategy; Strategic development appears to be weakly institutionalised and not clearly anchored across stakeholder groups, with limited visibility among teaching staff.	Differences in the degree of digitalisation, e.g. AI integration, arise because individual lecturers, not institutional guidelines, decide how strongly digital transformation is incorporated into curricula; this results in “substantial disparities” in graduates’ digital literacy (I09, I11).	The design of digital learning environments varies considerably because lecturers integrate tools according to individual preference; interviewees noted that contemporary teaching is desired, but unevenly implemented in the absence of an institutional vision (I04, I05, I09).

Table 2: Aggregated results regarding ‘Expansion vs. resources’ at all three levels

Expansion vs. resources

Level of the organisation	Level of the study programme	Learning environment
The IT infrastructure has become “increasingly complex” (I04, I07), while staffing for support and system administration “has not kept pace”; rising licensing costs and dependencies on proprietary systems create a “cost collapse” (I04); modernising teaching and	Curricular updates (e.g. related to AI competencies) are necessary but difficult to implement systematically due to limited resources (I03); the lack of permanent funding leads to innovations often being sustained only through	Selecting appropriate tools becomes a “cat-and-mouse game” (I13) due to technical, financial, and data-protection constraints; universities can provide only a baseline infrastructure, while specialised tools must be

learning spaces increases long-term maintenance needs (I13).	temporary third-party funded projects (I09).	selected according to disciplinary needs (I12, I13).
--	--	--

Table 3: Aggregated results regarding 'Innovation vs. regulation' at all three levels**Innovation vs. regulation**

Level of the organisation	Level of the study programme	Learning environment
Examination regulations must be adapted to digital transformation, but this “takes considerable time”; uncertainties caused by unclear state-level guidelines and data-protection policies hinder innovative decision-making; academic self-governance significantly slows strategic processes (I01, I07, I09, I11).	New competency requirements (especially regarding AI) collide with regulatory structures that cannot keep pace with innovation; this produces different teaching practices between lecturers who innovate and those who remain attached to traditional approaches (I09, I11).	There is a need for fundamentally redesigned assessment formats, which is not primarily about plagiarism but about aligning assessment with digital learning realities; rapid pedagogical change cannot be integrated quickly into existing regulatory structures (I02, I03, I04, I11).

Table 4: Aggregated results regarding 'Culture of risk vs. Need for experimentation' at all three levels**Culture of risk vs. Need for experimentation**

Level of the organisation	Level of the study programme	Learning environment
Respondents expressed the desire for “spaces to try things out” (I04, I09; I12), yet leadership is described as risk-averse and “hesitant” (I06), partly because decisions may outlast their term of office; institutional change processes are perceived as too slow to keep pace with technological developments (I08).	In study programmes, experimentation with new AI-based teaching approaches is limited because governance structures allow little flexibility (I12); varying willingness among instructors leads to unequal opportunities for students to experiment with AI (I09, I11).	Lecturers see potential in digital formats but test them only to a limited extent due to the lack of safe experimentation spaces; instead, institutions engage in a form of “muddling through” (I11), where innovation occurs sporadically and without systematic reflection (I09, I12).

Overall, the data show that the transformation processes of the surveyed higher education institutions are not only highly individual at the institutional level but also depend on the attitudes and mindsets of the individuals involved, depending on the function or role they hold at their respective institution. It also confirms several assumptions proposed in the existing literature. Digital transformation affects the culture, organisation, and operational practices of

higher education institutions. The findings also show the extent to which HEIs struggle to conduct an organisational needs analysis and to meaningfully connect such analyses with their governance strategies (Castro Benavides et al., 2020; Gkrimpizi et al., 2023). Moreover, the results reveal that HEIs are experimenting with different approaches to keep pace with the dynamics of technological progress, yet no proven or standardised processes currently exist. The data further illustrate the presence of communication barriers between the organisational, study programme and learning environment level, which stem partly from the structures of academic self-governance and partly from the personal attitudes and dispositions of teaching staff (Heyde et al., 2025).

Based on the collected data and the selected findings presented above, the research question *How do governance structures and decision-making processes within higher education institutions shape the implementation and pedagogical enactment of digital transformation initiatives?* can be answered as follows:

- Regulatory processes constrain innovation, resulting in misalignment between governance intentions and actual teaching practices. Innovation occurs “ahead” of policy, creating inconsistent learning environments and unequal student experiences.
- The capacity to implement digital pedagogy depends on resource availability rather than pedagogical need. Study programmes with motivated individuals or external funding innovate, whereas others stagnate.
- Digital transformation becomes decentralised, uneven, and dependent on local actors, leading to study programmes and learning environments that differ significantly in their use of digital tools and AI-supported pedagogies.
- Pedagogical enactment remains incremental, hesitant, and uneven because neither organisational culture nor governance structures provide the freedom or security required for experimentation.

Overall, the data reveal a system in which strategic ambiguity, slow regulatory processes, limited resources, and risk-averse institutional cultures collectively produce fragmented pedagogical enactment, one that relies heavily on individual initiative rather than coordinated institutional leadership.

5. Conclusion & Outlook

This study is exploratory in nature and is based on a small sample drawn from a geographically limited context, which restricts the transferability of the findings to other regions or institutional settings, in addition this dataset is not intended for generalization or theory-building. Within each higher education institution, only a small number of individuals participated, specifically those who voluntarily agreed to be interviewed, which may limit the representativeness of institutional perspectives. Moreover, the views of administrative staff and students are absent,

resulting in an incomplete picture of the organisational dynamics surrounding digital transformation. Building on the exploratory nature of this study, future research should seek to include all stakeholder groups within institutions, expand the sample across institutions and regions, and incorporate cross-border comparisons to better account for variations between education systems. Furthermore, a sequential mixed-method design could be adopted, whereby quantitative data is collected on a broad scale and subsequently elaborated and contextualised through qualitative interviews. However, the exploratory design offers a distinct advantage: it allows for the identification of subtle nuances and context-specific dynamics that are less likely to emerge through standardised or predominantly quantitative approaches.

The study offers specific insights into how HEI are responding to the manifold challenges posed by digital transformation and the areas of tension that arise as a result. The data indicate that, even five years after earlier work (Castro Benavides et al., 2020), indicated challenges persist. However, the data also showed that change processes cannot always be controlled from management level, as strategies are sometimes lacking altogether. Rather, it is the interactions between the different areas that stimulate change. Future research could therefore examine how HEI can design more inclusive strategic processes, keep pace with technological advancements without becoming dependent on commercial providers, and create sufficient professional development opportunities so that upskilling does not occur “on top” of existing workloads. The collected data show how higher education institutions, in the context of digital transformation, struggle with fragmented visions and uneven capacities, which in turn shape the implementation and pedagogical enactment of digital transformation initiatives disclosed by university stakeholders.

References

- Brahm, T., Jenert, T. & Euler, D. (2016a). Pädagogische Hochschulentwicklung als Motor für die Qualitätsentwicklung von Studium und Lehre. In T. Brahm, T. Jenert & D. Euler (Hrsg.), *Pädagogische Hochschulentwicklung: Von der Programmatik Zur Implementierung* (S. 19–36). Springer Fachmedien Wiesbaden GmbH.
- Brahm, T., Jenert, T. & Euler, D. (Hrsg.). (2016b). *Pädagogische Hochschulentwicklung: Von der Programmatik Zur Implementierung*. Springer Fachmedien Wiesbaden GmbH. <https://ebookcentral.proquest.com/lib/kxp/detail.action?docID=4189796>
- Castro Benavides, L. M., Tamayo Arias, J. A., Arango Serna, M. D., Branch Bedoya, J. W. & Burgos, D. (2020). Digital Transformation in Higher Education Institutions: A Systematic Literature Review. *Sensors*, 20(11). <https://doi.org/10.3390/s20113291>
- Durek, V., Begicevic, N. & Divjak, b. (2017). Digital Maturity Framework for Higher Education Institutions.
- Gkrimpizi, T., Peristeras, V. & Magnisalis, I. (2023). Classification of Barriers to Digital Transformation in Higher Education Institutions: Systematic Literature Review. *Education Sciences*, 13(7), 746. <https://doi.org/10.3390/educsci13070746>

Heyde, M. von der, Hartmann, A., Goebel, M. & Bochmann, T. (2025). Principles, organisation, and methods of digitally transformed universities. *EPiC series in computing*, 105, 200-185. <https://doi.org/10.29007/s2h9>

Mayring, P. (2022). *Qualitative Inhaltsanalyse.: Grundlagen und Techniken* (13. Aufl.). Beltz.

Article in Press