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**Barbara Sporn, Tatiana Fumasoli,
René Krempkow & Liudvika Leišytė (Hrsg.)**

**New Models of the University –
Innovative Structures, Adaptive Responses,
and Strategic Behavior**

Alessandro Barberi & Barbara Zuliani (Hrsg.)

Zeitschrift für Hochschulentwicklung

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New Models of the University – Innovative Structures,
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Vorwort

Als zentrales Publikationsorgan des *Vereins Forum Neue Medien in der Lehre Austria* (fnma) kommt der *Zeitschrift für Hochschulentwicklung* (ZFHE) im Rahmen der österreichischen Öffentlichkeit und ihrer wissenschaftlichen Community eine besondere Rolle und Bedeutung zu. Denn der Fokus auf aktuelle Themen der Hochschulentwicklung in den Bereichen Studium und Lehre steht auch direkt damit in Verbindung, eine internationale, vor allem aber auch österreichische Plattform für Hochschulentwicklung zu etablieren. Sie soll auch im interdisziplinären Rahmen dem Austausch von Wissenschaftler:innen, Praktiker:innen, Hochschulentwickler:innen und Hochschuldidaktiker:innen dienen. Damit soll die intersubjektive Überprüfbarkeit aktueller Forschungsergebnisse genauso ermöglicht werden wie die Vernetzung von Kolleg:innen, die sich im allgemeinen Rahmen der Hochschulentwicklung theoretisch und praktisch austauschen wollen.

In diesem intellektuellen Rahmen steht vor allem die konkrete Lage von Sozialisations- und Erziehungsprozessen im akademischen Feld vor Augen, wenn die ZFHE den Anspruch vertritt, durch sozialemprirische Analysen und ihre theoretische Reflexion im demokratiepolitischen Sinne auf diese Prozesse Einfluss nehmen zu können. Deshalb ist auch unsere vierte Ausgabe im Jahr 2025 mit dem Thema *New Models of the University – Innovative Structures, Adaptive Responses, and Strategic Behaviors* als (digitale) elektronische Publikation frei und kostenlos verfügbar, kann aber demnächst auch im Druck bestellt werden, um ein eingehenderes (analoges) Studium der hier präsentierten Beiträge zu ermöglichen.

Etwa 22.000 Zugriffe verzeichnet unsere Homepage www.zfhe.at pro Monat. Unsere Leser:innen verwenden die Inhalte der Zeitschrift gerne in ihrer eigenen Praxis. Das zeigt die hohe Beliebtheit und Qualität der Zeitschrift sowie auch die große Reichweite im deutschsprachigen und auch internationalen Raum. Dieser Erfolg ist einerseits dem international besetzten Editorial Board sowie den wechselnden Herausgeber:innen zu verdanken, die mit viel Engagement und Kompetenz dafür sorgen, dass jährlich mindestens vier Ausgaben erscheinen. Deshalb wollen wir auch darauf verweisen, dass 2025 bereits zwei weitere Sonderausgaben zu *Künstlicher Intelligenz* (KI) erschienen sind.

All dies wäre aber nicht ohne die Unterstützung des österreichischen *Bundesministeriums Frauen, Wissenschaft und Forschung* (bmfwf) möglich, das die Arbeit der gesamten Community durch kontinuierliche Förderung erst möglich macht, wofür wir uns in aller Form bedanken wollen.

Zur aktuellen Ausgabe

Wenn wir *Neue Modelle der Universität – Innovative Strukturen, adaptive Reaktionen und strategisches Verhalten* diskutieren, dann gehen wir davon aus, dass Universitäten sich zunehmend mit dem Paradoxon von Stabilität und Wandel konfrontiert sehen. Während ihre Aufgaben in Forschung, Lehre und gesellschaftlichem Engagement unverändert bleiben, haben sich die Bedingungen, unter denen diese Aufgaben wahrgenommen werden, grundlegend verändert. Der globale Wettbewerb, der digitale Wandel und die Erwartungen an die gesellschaftliche Wirkung zwingen Hochschulen deshalb dazu, ihre Organisationsmodelle und Führungsstrukturen zu überdenken, was mit den Beiträgen unserer Ausgabe auch mehrfach getan wird. Das Humboldt'sche Erbe der Autonomie und akademischen Selbstverwaltung wird durch den Druck nach Effizienz, Rechenschaftspflicht und Innovation in Frage gestellt, weshalb gerade aus der Perspektive der Hochschulentwicklung eine intensive Diskussion notwendig ist.

Insgesamt danken die Herausgeber:innen der ZFHE den Herausgeber:innen dieser Ausgabe für die Zusammenstellung von 10 mehr als kompetenten (und 3 weiteren freien aber durchaus für das Thema relevanten) Beiträgen, die insgesamt ein abgerundetes Bild der derzeitigen Lage vor Augen führen.

In diesem Sinn wünschen wir Ihnen viel Freude bei der Lektüre der vorliegenden Ausgabe mit dem Schwerpunktthema

New Models of the University – Innovative Structures, Adaptive Responses, and Strategic Behavior

und senden Ihnen kollegiale und herzliche Grüße

Alessandro Barberi & Barbara Zuliani

Herausgeber:innen der Zeitschrift für Hochschulentwicklung (ZFHE)
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**Barbara Sporn,¹ Tatiana Fumasoli,² René Krempkow³
& Liudvika Leišytė⁴**

New Models of the University – Innovative Structures, Adaptive Responses, and Strategic Behavior

1 Introduction

Universities are increasingly confronted with the paradox of stability and change. While their missions of research, teaching, and societal engagement remain constant, the conditions under which these missions are pursued have changed profoundly. Global competition, digital transformation, and expectations for social impact compel higher education institutions (HEIs) to rethink their organizational models and governance structures (Fumasoli & Huisman, 2013; Marginson & Considine, 2000; Leišytė, Dee & van der Meulen, 2023). The Humboldtian legacy of autonomy and academic self-governance is challenged by pressures for efficiency, accountability, and innovation.

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- 1 Corresponding Author; Vienna University of Economics and Business;
sporn@wu.ac.at; ORCID 0000-0002-4833-1488
 2. University College London; t.fumasoli@ucl.ac.uk;
ORCID 0000-0001-5623-9983
 - 3 Brandenburgische Technische Universität Cottbus-Senftenberg;
rene.krempkow@b-tu.de;
ORCID 0009-0000-6760-3285
 - 4 TU Dortmund University; liudvika.leisyte@tu-dortmund.de;
ORCID 0000-0001-8757-3781

The *Call for Papers* for this special issue, *New Models of the University: Innovative Structures, Adaptive Responses, and Strategic Behavior*, highlighted these tensions by pointing to a key paradox in contemporary higher education: universities must remain faithful to their core academic missions while simultaneously adapting to external demands that often conflict with those missions. Concepts such as *mission overload* and *mission drift* capture the risk that universities, in striving to be globally competitive and locally relevant, become overextended and lose strategic focus.

As the call emphasized, universities today operate as both social institutions—embedded in cultural and political contexts—and strategic organizations that pursue specific goals and navigate complex stakeholder landscapes. This dual nature implies that neither deterministic models of structural constraint nor voluntaristic notions of managerial freedom suffice to explain change. This tension reflects what Astley and Van de Ven (1983) highlighted as the paradox of environmental determinism and managerial agency. This perspective brings us back to old institutionalism theory, which precisely focuses on the organization as a meso-level social setting where external pressures and internal actions intersect (Clark, 1983; Fumasoli, Barbato & Turri, 2019). The papers in this issue explore this paradox empirically and theoretically. They investigate how universities balance autonomy and accountability, innovation and continuity, competition and cooperation. Drawing on organizational and institutional theory, they illuminate how HEIs act as adaptive, learning systems (Sporn, 2018; Rose, Dee & Leišytė, 2020) embedded in broader policy environments that shape but do not determine their trajectories.

In recent years, digitalization and artificial intelligence (AI) have emerged as transformative forces, accelerating what Gibbons et al. (1994) called the shift toward “Mode 2” knowledge production—context-driven, problem-focused, and socially distributed. Universities are responding to these pressures not only by adopting new technologies but by developing new governance capacities: anticipatory foresight, cross-sector collaboration, and networked forms of organization (Maassen & Olsen, 2007).

Against this backdrop, the contributions in this special issue collectively address a central question: How are universities reconfiguring their organizational architecture, governance systems, and strategic behaviors to navigate complex, multi-level change?

2 Genesis of the Special Issue

The idea for this issue emerged from ongoing scholarly debates and empirical observations of institutional transformation in European and international higher education. The editors invited contributions that would combine analytical depth with empirical rigor, aiming to bridge perspectives from sociology of organizations, higher education research, and management studies.

The Call for Papers proposed several analytical dimensions to guide contributions: (1) funding and resource dependence; (2) digitalization and technological innovation; (3) diversity, inclusion, and internationalization; (4) autonomy and governance; (5) academic freedom and legitimacy; and (6) societal relevance and impact. These themes reflect both long-term trajectories in higher education and new systemic pressures resulting from global crises, AI diffusion, and sustainability imperatives.

The call also invited authors to employ organizational and institutional lenses, particularly resource dependence (Pfeffer & Salancik, 1978), institutional isomorphism (Meyer & Rowan, 1977; Powell & DiMaggio, 1991), and organizational learning (Argyris & Schön, 1978). These frameworks recognize universities as dynamic actors that pursue strategic positioning while operating within regulatory and cultural constraints.

Out of the numerous submissions, thirteen contributions were selected after peer review, reflecting diverse methodologies—qualitative case studies, ethnography, document analysis, and literature reviews—and spanning contexts from Europe to North America and the Middle East. Collectively, they show that organizational change in universities is rarely linear; it unfolds through negotiation, adaptation, and experimentation across multiple levels.

For clarity and coherence, the papers are grouped into four thematic clusters. The guest editors used generative AI to assist in the initial identification of thematic clusters. Specifically, we provided the abstracts of all accepted articles to ChatGPT 5o, version 7 August 2025. The AI was prompted to identify and group the primary recurring themes against the backdrop of the Special Issue Call for Papers. The editors then critically reviewed, validated, refined, and merged these AI-generated suggestions to produce the final thematic clusters presented in this introduction. The final intellectual responsibility for the clusters rests entirely with the editors and they include:

1. Structural and Strategic Innovation – examining emerging governance models and institutional experiments;
2. Adaptive Governance and Crisis Management – addressing resilience, conflict, and technological disruption;
3. Collaborative and Anticipatory Development – exploring cooperation, networks, and AI governance; and
4. Broader Reform and Sustainability Perspectives – discussing reform discourses, climate adaptation, and quality assurance.

3 Overview of Contributions

3.1 Structural and Strategic Innovation

The first cluster examines how universities experiment with organizational structures, leadership models, and strategic tools to manage innovation and maintain academic integrity under conditions of change. These studies focus on the institutional and managerial dimensions of transformation, highlighting both intended and unintended consequences.

Lorenz Mrohs' contribution (*Projects as Agile Innovation Spaces?*) analyzes, on the basis of 20 qualitative interviews with coordinators of digitalization projects in higher education, how innovation-related projects influence structural change within universities. The results show that both intended effects and unintended challenges shape the institutionalization of innovation. Despite these tensions, projects function as agile structures and can serve as central instruments for steering university development and governance.

Lautaro Vilches (*The Rise of the Centre of Excellence: Continuities, Transformations, and Tensions in Governing a New University Model*) analyses the Centers of Excellence in Germany as a new university business model. Unlike the traditional Humboldtian model based on professorial chairs, such Centers are organized as quasi-departments with governance structures inspired by New Public Management. Drawing on interviews with members of three Centers of Excellence in the Social Sciences and Humanities, the paper conducts a micro-level analysis of the continuities, transformations, and tensions in traditional academic collegial governance. The findings suggest that while professors formally retain authority, the model introduces significant changes, such as the introduction of a powerful leader and managerial ethos. Vilches concludes that these competing managerial and collegial values create significant tensions, which overstretch the Humboldtian model rather than forming a stable co-existence.

The study by Jill Swisher, Lori Doyle (*Always reforming: Exploring agile methods for innovating faculty evaluation structures*) aims to explore faculty perceptions of agile methodologies in teaching and evaluation structures within Christian higher education institutions in the U.S. The pilot study reveals that while faculty are open to agile principles, they face challenges integrating them into existing evaluation systems. The paper argues that the theological mission of these institutions offers a unique case study in how Christian higher education institutions balance strategic adaptation with their traditional mission.

The paper by Alexandra Hashem-Wangler and Annika Maschwitz (*There Is Some Sort of New Dynamics: Examining the Impact of European University Alliances*)

looks at the impact of the European University Initiative (EUI) focusing on a recently established European University Alliance, conceptualized as a meta-organization, i.e. an organization whose members are other organizations. Using Stockmann's innovation-diffusion model and qualitative group interviews with academic staff from the nine member universities, the study examines the implementation process of the alliance. The analysis reveals that transformation depends on three key factors: the organizational characteristics enabling trust-building to overcome cross-institutional, national, systemic and cultural differences; the available commitment to foster transformational change towards an international mindset and to secure leadership buy-in; and the coordination needed to enhance transparency and clear communication across all partners. The authors conclude that while new institutional dynamics are detected, the alliance is still in an early diffusion stage, facing significant challenges in engaging the broader faculty and student body.

Anja Westphal's contribution (*Digitalization of HR Management Processes at Universities – A Systematic Literature Review*) focuses on the digitalization of internal university processes in human resource management at German higher education institutions, based on a systematic literature review. The study examines current publications on digitalization in higher education and finds that the majority of existing research concentrates on the digitalization of teaching, future skills, and the technologies required for transforming educational practices. The paper highlights the need for further research into how administrative and HR digitalization can be strategically aligned with institutional development.

Emanuela Dal Zotto, Flavio Ceravolo, and Michele Rostan (*Biodiversity and the Future of Science: The Case of the Italian National Biodiversity Future Center*) analyze the Italian National Biodiversity Future Centre (NBFC), a novel research structure established with extraordinary funding from Italy's National Recovery and Resilience Plan. Focusing on the Centre's multi-level governance, the paper utilizes an ethnographic case study in which the authors were participant-observers. The analysis highlights significant vulnerabilities: severe bureaucratization that exacerbates the administrative burdens of involved university departments; lack of dedicated administrative staff to support the new center; and persistent challenges in achieving

deeper interdisciplinarity. The study also finds that societal and industry engagement remains underdeveloped due to mismatches between academic and business working patterns. The authors conclude that the long-term sustainability of the NBFC is at risk, warning that universities might face political pressure to stabilize the positions of hundreds of researchers hired on temporary positions without being provided the necessary financial means.

Collectively, the six contributions in this cluster reveal that strategic and structural innovation in universities can be paradoxical. Attempts to modernize governance often reproduce traditional hierarchies, while agility initiatives can generate both empowerment and fragmentation. Nevertheless, these studies affirm that innovation emerges not in spite of institutional complexity but through navigating it – a theme that resonates throughout this special issue.

3.2 Adaptive Governance and Crisis Management

The second cluster turns to resilience and adaptation. It asks how universities sustain continuity and legitimacy amid crisis, disruption, and technological turbulence. Both papers here illustrate how institutions learn and adapt under pressure while navigating between compliance and autonomy.

The contribution by Verena Régent, König Avila, Limor Aharonson-Daniel, Dorit Alt, Svitlana Tarasenko, and Anna Vorontsova (*Continuity and Accessibility of Higher Education in Armed Conflict*) examines the adaptation strategies of higher education institutions for maintaining operations and academic activity amid armed conflict, using three examples from different countries (Ukraine, Israel, and Syria). The findings reveal that crises function not only as threats but also as catalysts for innovation. Through necessity, universities develop new forms of decentralized management, digital teaching infrastructures, and transnational cooperation that outlast the crisis context.

Veronika Graceva, Paula Goerke, and Andreas Breiter (*HEIs Under Pressure: AI Policies and Isomorphic Processes in the Higher Education System*) analyze 29 German university AI strategies. Using institutional isomorphism theory, they identify coercive, mimetic, and normative mechanisms that drive convergence. AI policies serve not only as governance tools but also as symbolic artifacts legitimizing universities as “digitally competent” actors. The study highlights the ambivalence of such policies: while they promote innovation rhetoric, they often replicate templates from other institutions or national ministries. The authors warn that policy alignment without reflexivity risks a shallow form of modernization. Effective AI governance, they argue, requires moving from imitation to anticipatory, participatory strategy development.

Together, these studies show that adaptive governance depends on institutional learning. Whether through war or technological disruption, universities develop new repertoires of response that can either institutionalize or dissipate once the immediate threat subsides.

3.3 Collaborative and Anticipatory Development

The third cluster explores cooperation, foresight, and technological complementarity. It highlights how universities build alliances and anticipate futures shaped by artificial intelligence.

Simone Roth, Nicolas De Keyser, Ines Müller-Vogt, and Alexander Arenas Canon (*Designing Collaboration: Building Sustainable Communities in University Alliance CHARM-EU*) investigate the strategic development and implementation of internal networking formats within CHARM-EU, a transnational European University alliance, aiming to foster sustainable community building across diverse institutional contexts. Utilizing theories of Communities of Practice and Networked Improvement Communities, the study co-created and tested Guiding Principles through pilot events involving over 90 participants, with evaluation data informing iterative improvements. Findings highlight key success factors of implementation, such as, clarity in objectives and inclusive participation.

In their study (*Partners or Tools? – Anticipatory Governance for Human-AI Complementarity in Higher Education*), Daniel Autenrieth and Jan-René Schluchter investigate anticipatory governance as a framework for addressing the transformative effects of artificial intelligence (AI) in higher education. It highlights the potential for universities to shift from reactive governance to transformative reimagination through participatory foresight and collaborative responsible human-AI interactions. Building on organizational theory and higher education governance research, the paper offers a framework combining structural governance challenges, the emergence of “shadow AI,” and the concept of complementary intelligence, which positions universities as active shapers of their futures in an evolving technological landscape.

Together, these two contributions conceptualize the university as both collaborative and innovative institutions: alliances build collective capacity, while anticipatory governance prepares them for uncertain futures.

3.4 Broader Reform and Sustainability Perspectives

The final cluster broadens the lens to encompass reform, sustainability, and quality development. These papers show that governance innovation must ultimately serve societal responsibility and enhance institutional legitimacy.

Regina Ahlbrecht, Jana Kirchner, Wanja Kröger, Maya Mankiewicz, and Benjamin Zinger (*Jointly Effective: Network Impulses for Tomorrow's Universities*) address reform discourses in higher education characterized as social arenas in which individuals experience and actively shape change. Drawing on experiences from the *Lehre"network*, they show how the shaping of the university's future can be approached from the perspective of academic actors, assigning a decisive role to new forms of multi-perspective collaboration and co-creation.

Julia Uhde and her colleague's contribution (*Climate-Adapted Universities: Perspectives from Three Campuses*) describes universities as increasingly confronted with climate-related risks. At the same time, there is still little empirical research into

the subjective needs of university members, making such inquiries particularly valuable. Her online survey at three German universities indicates that university members perceive current climate adaptation efforts as insufficient. The findings also reveal priority areas for action in developing institutional climate adaptation strategies (e.g. improvement of infrastructure, home office regulations, hybrid teaching formats).

Christopher Banditt, Juliane Wawrzynek, Johannes Waldenburger, and Margit Reimann (*Between Control and Development? Perceptions of Study Programme Accreditation*) study program accreditation as a potential driver of institutional development. Using a curriculum? case study, they examine stakeholder satisfaction and perceptions of control and developmental functions within an internal accreditation process at a university in Germany? Their findings show that, in this case, stakeholders' perceptions are more positive than commonly assumed, suggesting that accreditation processes can foster constructive dialogue and organizational learning.

These studies converge on the insight that sustainable reform requires participation, reflexivity, and long-term commitment. Whether addressing academic networks, climate change, or quality assurance, universities act as social systems negotiating between regulation and creativity.

4 Synthesis and Outlook

Bringing the four clusters together, a consistent picture emerges of the contemporary university as an adaptive, strategically reflexive organization. Across all contributions, several interrelated themes stand out.

External events—political conflicts, technological disruptions, or funding reforms—serve as catalysts for organizational? learning. The papers in this issue show that crises make institutional routines visible and malleable. Adaptation involves improvisation but can evolve into durable governance reforms when lessons are institutionalized.

Collaboration and anticipation are becoming defining competencies of university institutional capacity? As authors in this issue illustrate, alliances and AI governance frameworks exemplify new forms of “open strategizing” that extend beyond organizational boundaries. Universities act simultaneously as knowledge producers and as co-designers of societal futures.

Sustainability and legitimacy represent a key element of university reform. The contributions in this issue demonstrate that institutional credibility now depends on the capacity to address grand societal challenges while maintaining internal quality and participation. The notion of the university as a “public good” (Marginson, 2011) is being redefined through expectations of environmental responsibility, social inclusion, and transparency.

From a theoretical standpoint, these findings reinforce the need for multi-level frameworks of analysis that bridge structural and agentic perspectives (Astley & Van de Ven, 1983). The *Call for Papers* rightly suggested that organizational theory, institutionalism, and strategic management should not be seen as competing paradigms but as complementary lenses. Together, they illuminate how universities operate in fields characterized by both dependence and autonomy.

In sum, this issue contributes to a growing body of scholarship portraying universities as complex adaptive systems (Maassen & Olsen, 2007). Change is not a sequence of discrete reforms but a continuous process of sense-making, negotiation, and adaptation. Strategic behavior in higher education is less about planning than about navigating uncertainty, building trust, and cultivating foresight.

Looking forward, three implications stand out:

1. Universities must develop anticipatory capacity—institutional mechanisms for foresight, scenario analysis, and ethical deliberation on technology and sustainability.
2. Governance should embrace participatory structures that bridge administrative, academic, and societal stakeholders.

3. Research should further examine the temporal dimension of change—how short-term projects evolve into long-term institutional trajectories.

As higher education systems confront AI integration, climate transition, and global inequality, universities will continue to balance determinism and agency, autonomy and interdependence. These societal demands are not merely external pressures; they are actively mediated, interpreted, and contested within the university as a distinct meso-level social setting. The contributions in this issue provide valuable empirical and conceptual insights for understanding these dynamics.

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Lorenz Mrohs¹

Projects as Agile Innovation Spaces? (Un-)Intended Effects in HE Development

Abstract

In higher education institutions (HEIs), projects are becoming increasingly recognised as agile innovation spaces that facilitate innovation and implement structural change. However, little is known about how innovation-related projects affect structural transformation. This study analyses 20 qualitative interviews with coordinators of digitalization-related HE development projects. The findings indicate that both intended effects and unintended challenges influence the institutionalisation of innovations. Despite these tensions, projects function as agile structures and can serve as pivotal steering instruments in HE development and its academic governance.

Keywords

projects, agile innovation, academic governance, higher education management, higher education development

1 Corresponding Author; Universität Bamberg; lorenz.mrohs@uni-bamberg.de;
ORCID 0000-0003-4866-9734

Projekte als agiler Innovationsraum? (Un-)Intendierte Wirkungen hochschulischer Lehrentwicklungsprojekte

Zusammenfassung

Projekte gelten auch an Hochschulen als agiler Innovationsraum, um Innovationen und (Struktur-)Veränderungen herbeizuführen. Allerdings fehlen Einblicke zu den Wirkungen innovationsbezogener Forschungs- und Entwicklungsprojekte. Für die vorliegende qualitative Studie wurden 20 Projektkoordinator:innen mittels Leitfadeninterviews befragt und die Ergebnisse anschließend ausgewertet. Die Ergebnisse zeigen, dass sowohl intendierte Wirkungen als auch unintendierte Herausforderungen die Verstetigung von Innovationen beeinflussen. Sie zeigen, dass Projekte trotz vieler Herausforderungen als agile Innovationsräume betrachtet werden können und damit ein wichtiges Steuerungselement der Hochschulentwicklung darstellen.

Schlüsselwörter

Projekte, Agilität, Innovationen, Hochschulforschung, Hochschulentwicklung

1 Introduction

In higher education institutions (HEIs), (externally funded) projects have become standard in the organisation of research (Besio, 2009; Torka, 2009) and HE development (Lehmkuhl, 2018; Schmidt, 2017; Seyfeli-Özhizalan et al., 2022). In HE development, projects are increasingly considered as an agile development space for innovations and academic governance. As a temporary organisational form (Bakker et al., 2016; Sydow et al., 2004), projects have the potential to circumvent the inflexible frameworks of organisations. They facilitate the experimental introduction of innovations and modifications within the confines of temporary structures for a predetermined period (Bakker, 2010; Lundin & Söderholm, 1995). The growing reliance on projects reflects broader transformations in the governance of HEIs. As digitalisation has become a key structural condition of action (Stalder, 2018), HEIs are under increasing pressure from external sources to modernise teaching and organisational processes (Mrohs, 2024). While numerous studies have documented teaching innovations and digital tools, little is known about the organisational effects of development projects and the challenges of sustaining their results.

This article addresses this gap by analysing how project coordinators in HEIs assess the effects of their initiatives and their prospects for institutionalisation. It explores how coordinators of digitalisation-related HE development projects perceive the effects of their initiatives. Based on qualitative interviews with 20 project coordinators across German HEIs, this study provides new insights into the tensions between innovation and inertia in HE development. It shows how projects can foster change but also generate structural frictions that challenge their institutionalisation. The results are framed by the concept of HEIs as specific organisations (Musselin, 2007; Weick, 1976). They are further contextualised in terms of the article's guiding question: to what extent can projects be understood as agile innovation spaces?

The article is structured as follows: Section 2 reviews the relevant literature; Section 3 outlines the methodology; Section 4 presents the findings; and Section 5 discusses and contextualises these findings, offering concluding remarks.

2 Literature Review

Research on innovations in HE teaching is wide-ranging, covering early studies on e-competence development (Grote & Dietz, 2008), while more recent work examined HEIs responses to the COVID-19 pandemic (Bils & Pellert, 2021; Deimann, 2021; Hafer et al., 2021). In addition, several studies have addressed teaching strategies (Hobuß et al., 2023) and the implementation of digital innovations at individual HEIs (Kauffeld et al., 2019; Mägdefrau et al., 2017). Numerous teaching concepts have been developed, including virtual reality, teaching-learning labs and digital tools (Hombach & Rundnagel, 2023; Kauffeld & Othmer, 2019; Mrohs et al., 2023, 2025).

The growing number of projects reflects a shift in how innovation is organised within HEIs. Digitalisation acts not simply as innovation, but as a driver for new infrastructures and governance modes. Benz-Gydat et al. (2021) identified key success factors such as personal commitment, organisational connectivity, and support structures for such projects. Daniel et al. (2025) conceptualised implementation as a multi-level process shaped by usability, institutional backing and legal feasibility. They stress the difficulty of sustaining innovation beyond the funding period. Furthermore, Schmidt (2017) examined the role of teaching projects for HE governance and emphasised that their project-based format allows for flexible experimentation and strategic coordination, particularly in structural development contexts.

While projects offer important opportunities for innovation, they also face significant implementation challenges. Graf-Schlattmann et al. (2021b) identified common obstacles and key factors, including collective willingness to change (Graf-Schlattmann et al., 2020) and a strategically framed digitalisation process (Graf-Schlattmann et al., 2021a). In addition, Seyfeli-Özhizalan et al. (2022) explored the structural consequences of development projects: Their findings indicate that such projects can impact internal processes, actor roles, and institutional structures, often in complex and unintended ways.

While existing studies explore implementation and structural effects of HE innovation projects, little is known about how project members themselves perceive the outcome of projects and its effects. This article addresses this gap and explores the (un)intended effects and challenges of innovative HE development projects as reported by project stakeholders.

3 Methodology

This qualitative study focuses on third-party funded research and development projects situated at the intersection of digitalisation and HE teaching. The sample was delineated based on the broader societal relevance of digital transformation and the specific challenges it poses for HEIs.

In spring 2024, a total of 109 projects from four funding programs were identified as situated within this intersection. Multi-institutional project consortia were excluded from the study, as their governance structures and coordination mechanisms differ substantially from those of single-institution projects. The empirical study employed a qualitative research design and focused on interviewing involved project coordinators. They were selected as interviewees due to their pivotal role in project implementation and internal governance (Kretschmer & Bischoff, 2017), making them key actors in the success of innovation processes (Wolff et al., 2025).

A systematic online search identified 54 project coordinators. All were contacted via email, and 20 interviews were conducted based on the responses received until empirical saturation was reached. The interviewees represented eleven universities and nine universities of applied sciences. The data was collected through semi-structured qualitative interviews (Mayring, 2023), using narrative prompts to stimulate reflective accounts (Przyborski & Wohlrab-Sahr, 2021). Each interview began with an open question about the general tasks involved in project coordination. Follow-up questions covered project structure, internal collaboration, challenges, key decision-making processes, expectations, and the intended and unintended effects of the projects.

The interviews were conducted on Zoom, with an average duration of 56 minutes. They were recorded, transcribed verbatim using AI-supported software (f4x), and analysed using qualitative content analysis (Mayring, 2023) with MAXQDA software. An inductively derived coding system was developed to access to the interviewees' explicit knowledge. The code book that resulted from this process captured a variety of themes that emerged from the data. The present paper focuses on the primary category of project effects, which comprises three subsidiary categories derived from the interview material.

4 Findings of the Interview Study

The presented results focus on the topic of perceived project effects, showing not only the *intended effects* (Section 3.1), but also *unintended outcomes* (Section 3.2). At the same time, a range of *challenges* (Section 3.3) emerged which have significant impact on the institutionalisation of project outcomes within the HEIs.

4.1 Intended Effects of the Projects

The HE development projects examined primarily aimed to advance the digital transformation of HE teaching. The core objective was to implement the innovations outlined in the project objectives and ensure their institutionalisation beyond the project's funding period. The intended effects of the projects are captured in the category "*Intended Effects*", which is further differentiated into several sub-categories (Figure 1).

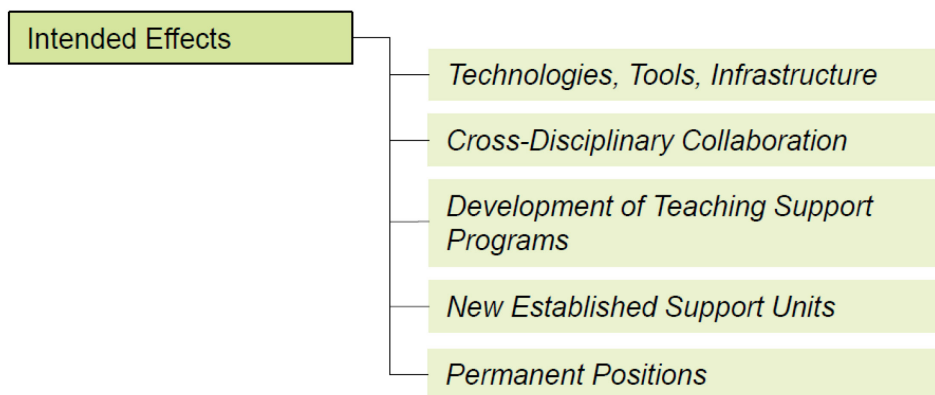


Figure 1: Subcategories of the category “Intended Effects” (own illustration)

These intended effects were derived directly from the project goals and aimed at fostering changes in HE teaching practices. According to the project coordinators, these changes were most often observed at the decentralised level, particularly within individual faculties and departments. Here, the introduction of *new technologies, tools, and digital infrastructures* was seen as a means of addressing and innovating discipline-specific teaching needs:

“We also did various things in terms of infrastructure with the project funds, that we simply purchased various items for lecture recordings and hybrid teaching. Of course, that remains there” (Interview8, Pos. 113).

This process was frequently accompanied by *cross-disciplinary collaboration*:

“What is also increasing over the course of the project, which is great, is that interdisciplinary expertise is being actively sought across teams. For example, the lab where qualitative research is taught [...] is now being approached by the interdisciplinary companion research, and then there is an exchange. The colleague himself also occasionally collaborates with the lab and explores how it might be used somehow” (Interview6, Pos. 116).

This collaboration can be attributed to the often interdisciplinary nature of the project work and is expected to continue beyond the project period. These collaborative structures are further supported by the expansion and *development of teaching support programs*, typically housed within third space service units that were involved in the projects:

“We have created handouts, which will eventually be available to everyone on our website. The aim is to preserve the experiences we have gained. [We] are currently working on a concept for how the whole thing can be designed in a sustainable way” (Interview7, Pos. 96).

From the perspective of the interviewed coordinators, these enhanced service structures offer realistic prospects for institutionalisation, particularly when they are backed by *newly established units* or *permanent positions* within the third space: „For example, we have now set up a service center for digital learning formats, which basically emerged from the project“ (Interview2, Pos. 8) and „this part-time position will then be increased to a full-time position (Interview5, Pos. 153). Such developments are seen as essential to ensuring long-term institutional support for the innovations generated by the projects.

The findings suggest that decentralised changes at the departmental level are most frequently perceived as intended outcomes of the teaching-related projects. These are often supported through enhanced didactic support structures and interdisciplinary collaboration.

4.2 Unintended Effects of the Projects

Over the course of implementation, projects often trigger developments that go beyond their initial scope. These effects are captured in the category of *Unintended Effects* (Figure 2), which were neither part of the original project goals nor intended in this specific form.

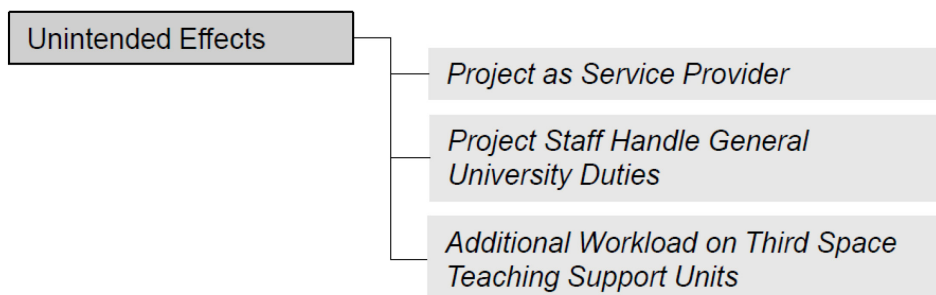


Figure 2: Subcategories of the category “Unintended Effects” (own illustration)

The interviewed coordinators report that their projects are often seen as pioneers of teaching innovation. Their teams are often regarded as primary sources of assistance for digitalisation-related inquiries. Consequently, they unintentionally assume the role of institutional *service providers*. In many cases, this leads them to take on permanent responsibilities that should ideally be provided by the HEIs itself, but which are often passed on to the projects due to a lack of resources. This situation is especially apparent when university leadership delegates all matters relating to digitalisation and teaching to the projects. Alternatively, project teams may be assigned with hosting, supporting, and training users for university-wide digital applications. One project coordinator critically reflects on this development, stating:

“Strictly speaking, it’s a misuse of project funds. [...] And I understand why universities do this in order to make progress, because the internal resources simply aren’t there. But of course it is not really in the spirit of things [...] to use project funds for positions that actually need to be permanently established at universities.” (Interview20, Pos. 55)

A similar issue arises when *project staff handle general university duties* that should be part of the administrative structure. These range from preparing for system reaccreditation to familiarising themselves with public procurement law. One coordinator recounts:

“That meant I had to handle it myself and was required to familiarize myself with procurement regulations [...]. That was essentially the core of my work for at least six months” (Interview13, Pos. 6).

The increased demand for support, also results in an *additional workload on third space teaching support units*. Although these units were expanded with additional staff through project funding, the interviewees reported increased pressure on third space structures:

“At the beginning, there was this expectation that a lot would happen in the support units. And then you realize that the volume of requests is so great that it becomes difficult to meet them [...], even with the additional staff that has been financed.” (Interview10, Pos. 94)

These findings suggest that projects not only pursue their defined objectives but also need to address unintended effects that arise as a result of their integration into the HE environment.

4.3 Challenges to the Institutionalisation of Project Outcomes

The objective of institutionalising the outcomes is to ensure that the projects innovations are successfully transferred into the broader HEI structures. However, this process is accompanied by a range of challenges, captured in the category *Challenges to Institutionalisation* (Figure 3).

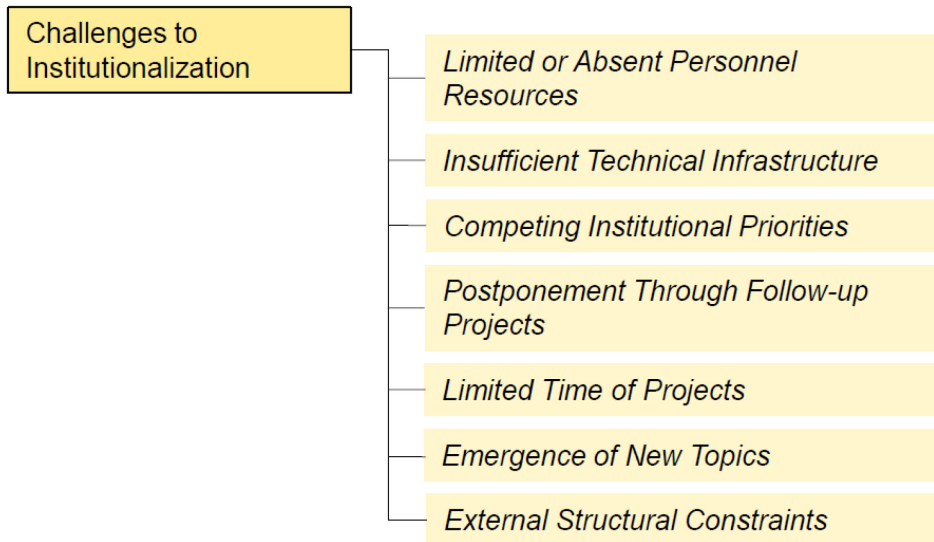


Figure 3: The category “Challenges to Institutionalisation” with its subcategories (own illustration)

A central challenge perceived by the interviewees are *limited or absent personnel resources* in support units, which are expected to take over new tasks from the projects without additional resources:

“We have little financial leeway to institutionalise positions. [...] We will try in many places to ensure that [...] what was developed, is carried forward [...] – but by relying on existing positions at the university.” (Interview6, Pos. 26)

In addition, some HEIs have *insufficient technical infrastructure* required to sustain project-based innovations:

“What we discovered [...] was that the server capacity is simply not sufficient to support a university-wide digital examination system” (Interview9, Pos. 96).

These challenges are not only due to resource constraints but also reflect a lack of strategic support from university leadership. *Competing institutional priorities* – such as research excellence or IT security – often result in lower prioritisation of innovating HE teaching:

“We had a IT security incident, and [...] many of the staff in our IT service center were caught up in dealing with that. [...] In such situations, unfortunately, we don’t rank high on the priority list” (Interview11, Pos. 88).

In response to staffing challenges and limited executive support, some HEI attempt to secure the continuation of innovations through follow-up projects funded by additional third-party grants. This practice is captured in the subcategory *postponement through follow-up projects*:

“To lose that expertise [...] all of a sudden – I think that would be a major mistake [...]. So, we’re now trying to continue things through other third-party projects” (Interview16, Pos. 67).

Another structural challenge is the *limited time of projects*, typically three to five years, which is viewed as insufficient for achieving institutional change:

“In the beginning, we faced a lot of resistance from colleagues who are deeply rooted in tradition and refused to engage with the tools. [...] We would have liked to achieve more – especially in terms of changing the learning culture” (Interview13, Pos. 22).

Beyond internal factors, external conditions may also impact institutionalisation processes. The rapid pace of digital change has led to the *emergence of new topics* (e.g., AI tools) that were not foreseeable at the project’s outset but now demand attention and cause delays. In other cases, external hurdles must also be considered, for example professional laws at universities of applied sciences, which were seen as a hurdle to new teaching opportunities.

5 Projects as Agile Innovation Spaces?

Using the example of research and development projects in the context of the digital transformation of HE teaching, this study suggests that despite various challenges projects act as innovation spaces and a new model for academic governance.

In summary, projects in HE development can fulfill the following functions:

- Projects provide spaces for creative activity, enabling both control and flexibility (Sahlin-Andersson & Söderholm, 2002). This is reflected in decentralised implementation and interdisciplinary collaboration, which were reported as intended effects.
- Projects can coordinate innovation (Besio, 2021) and create the necessary organizational leeway, as seen in the establishment of third-space support structures and mobilisation of otherwise unavailable resources.
- Projects enable the development and implementation of innovation and may have structural effects on HEIs.
- Projects may expose structural deficits in HEIs, such as insufficient HE structures. These deficits, however, may not always be addressed and can hinder institutionalisation.

The observed effects in the examined projects reflect the concept of HEIs as specific organisations (Huber, 2012) and the logic of loosely coupled systems (Weick, 1976; Musselin, 2007). This concept explains why decentralised developments in particular are considered to have good prospects of becoming established. This is because the weakly integrated connections between faculties, departments, and institutes – coupled with their substantial autonomy in teaching and research – foster localised innovations at the departmental or chair level (Weick, 1976). Here, actors often have the autonomy to choose and implement digital tools independently (Graf-Schlattmann et al., 2020). However, this loose coupling simultaneously limits the capacity for central steering (Kleimann, 2016; Pasternack et al., 2018), making structural change at the institutional level more challenging.

As a result, a dual dynamic becomes evident in HE innovation spaces, where innovative, often bottom-up processes are in contrast to institutional inertia (Graf-Schlattmann et al., 2021b). Projects amplify the structural tension between the widely noted organisational resistance to change (Schimank, 2005; Stock, 2004) and the more agile working modes within HEIs (Baecker, 2017). Addressing – or at least reducing – these structural contradictions appear to be essential: not only for realising the potential of agile innovation spaces in the form of projects, but also for enabling meaningful organisational transformation in HEIs.

Looking forward, several important questions remain. First, how can project closure processes better support institutionalisation and help enable HEIs to adopt and continue innovations beyond the funding period without excessive “loss”? Second, what motivates HEI decision-makers to apply for development project funding: genuine interest in structural change, compensation for resource constraints, or external funding as a performance indicator in academic competition? Answering these questions could provide valuable insights into the functional role of projects in HE development and offer new explanations for project-based academic governance.

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Lautaro Vilches¹

The Rise of the Centre of Excellence: Continuities, Transformations and Tensions in Governing a New University Model

Abstract

This study characterises *Centres of Excellence* (CoEs) in Germany as a new *university business model*. Unlike the traditional Humboldtian model, based upon chairs, the CoE is organised as a quasi-*department* with governance arrangements inspired by the New Public Management. Yet, little is known about the features that define this new model and its implications for collegial governance. Drawing on interviews with members of three CoEs in the Social Sciences and Humanities, the study undertakes an intra-organisational, micro-level analyses of the continuities, transformations, and tensions in collegial governance. It concludes by discussing the implications of these findings for our understanding of organisational change in the German context.

Keywords

governance, collegiality, leadership, organisational change, centres of excellence

1 Corresponding Author; vilchesl@hu-berlin.de; Department of Educational Sciences, Humboldt-Universität zu Berlin, Berlin, Germany & Department of Research System and Science Dynamics, German Centre for Higher Education and Science Studies, Berlin, Germany, Humboldt-Universität zu Berlin;
ORCID 0009-0000-1055-8575

Der Aufstieg des Exzellenzclusters: Kontinuitäten, Wandel und Spannungen in der Governance eines neuen Universitätsmodells

Zusammenfassung

Diese Studie charakterisiert Centres of Excellence (CoE) – oder Exzellenzcluster – als ein neuartiges university business model. Im Gegensatz zum traditionellen Humboldt'schen Modell, das auf Lehrstühlen basiert, ist das CoE als Quasi-Department organisiert, dessen Governance-Strukturen vom New Public Management geprägt sind. Dennoch ist wenig darüber bekannt, welche Merkmale dieses neue Modell definieren und welche Auswirkungen es auf die kollegiale Governance hat. Basierend auf Interviews mit Mitgliedern von drei CoEs in den Sozial- und Geisteswissenschaften führt die Studie eine intraorganisatorische Mikroebenen-Analyse hinsichtlich der Kontinuitäten, Transformationen und Spannungen in der kollegialen Governance durch. Abschließend werden die Ergebnisse im Hinblick auf die Dynamiken organisationaler Veränderungen im deutschen Hochschulkontext diskutiert.

Schlüsselwörter

Governance, Kollegialität, Leadership, organisationaler Wandel, Centres of Excellence, Exzellenzcluster

1 Introduction

Germany has been described as a latecomer in the introduction of New Public Management (NPM) reforms. Accordingly, the old Humboldtian university model remains strong and the university is collegially self-governed by professors, based on core values and beliefs of university autonomy and academic freedom (Gerhardt et al., 2023; Hüther & Krücken, 2013; Schimank & Lange, 2009). However, in 2006, the federal government established an excellence scheme (nowadays called Excellence Strategy) aimed at strengthening competition among universities, whose main funding line is dedicated to the creation of Centres of Excellence (CoEs) (Flink & Peter, 2018; Krücken, 2021; Möller & Hornbostel, 2023). They exhibit one particularly distinctive organisational feature. Unlike the traditional Humboldtian model, organised around chairs each led by a professor, the CoE is organised as a quasi-department, not based on disciplinary chairs but on multidisciplinary ‘research areas’. The CoE can therefore be regarded as a new university business model that seeks to modernise the German university by fostering its ‘departmentalisation’ alongside more efficient governance arrangements.

However, little is known about the features that define this new university model and its implications for collegial governance. Thus, this paper asks: what are the elements that characterise this model? What are the implications for collegial governance? Based on the narratives of CoE members, this study offers an intra-organisational exploration of governance (Fumasoli & Stensaker, 2013), which in its traditional, collegial form is composed of “decision-making structures within a formal organization and a set of rules”, which are underpinned by values, beliefs and ideas (Sahlin & Eriksson-Zetterquist, 2024, p. 5). Governance is therefore concerned with definitions of purposes, leadership and decision-making processes, patterns of authority and hierarchy, and the relation to the world outside the university (Marginson & Cansidine, 2000).

Through the lens of archetype theory (Bruckmann & Carvalho, 2018; Greenwood & Hinings, 1988, 1993), this study aims to contribute to the literature on organisational change in higher education contexts, providing insights into a national case that

stands demonstratively for the local variations of reforms inspired by the NPM (e.g. Bleiklie et al., 2015; Hüther & Krücken, 2013).

2 Understanding the Centre of Excellence Through Archetype Theory

Through the lens of archetype theory (Greenwood & Hinings, 1988, 1993), university models can be understood as ‘ideal types’ (in the Weberian sense). Models (or archetypes) are composed by organisational structures as well as ideas, values and beliefs. In other words, organisational structures are based on the “intentions, aspirations and meanings or ‘interpretive schemes’” (Greenwood & Hinings, 1988, p. 295), the latter being a “set of ideas, beliefs and values that shape prevailing conceptions of what an organization should be doing, of how it should be doing it and how it should be judged” (p. 295). This study conceptualises two different models in order to understand how change occurs at the intra-organisational level: The old Humboldtian model of the *university of chairs* and the new university business model of the CoE, organised as a *quasi-department* (Bruckmann & Carvalho, 2018; Greenwood et al., 2014; Greenwood & Hinings, 1996).

In the Humboldtian university of chairs, collegial governance is based on the authority of chair holders, that is, the professoriate, who make decisions autonomously. They dominate collegial boards, which offer only limited representation to lower ranks, students, and professional staff (Bieletzki, 2018). Within these boards, chair holders possess equal rights and must reach consensus, avoiding decisions that could harm the interests of fellow professors. As a consequence, formal democratic majority rule becomes “a structure of informal veto-powers” (Schimank, 2005, p. 364). The main leadership positions (such as university presidents and deans) are elected by chair holders as *primus inter pares* but they remain weak, as their decisions require the approval of other professors. The predominance of the chair as the main organisational unit results in a highly compartmentalised university structure and

several “small hierarchies” (Bleiklie, 1998, p. 306). Professors have no direct superiors (Enders, 2001, p. 16), and can therefore

„direct the research activities of their research staff and make unilateral decisions about appointing PhD students and hiring postdocs, who are directly subordinate to a professor” (Hamann, 2019, p. 924).

This steep hierarchical system nonetheless fosters close working relationship between professors and their subordinated academic staff (see also Wilkesmann & Wagner, 2024).

The new university business model of the CoE, by contrast, adopts a quasi-departmental shape and governance arrangements inspired by the NPM, acting as “moderniser” (Bleiklie, 2018, p. 2) of the old Humboldtian university. The CoE model is characterised, first, by its ability to operate within a highly competitive environment – namely the race for excellence (Krücken, 2021) – as a complete organisation “with clear goals and managerial capacities to operate as strategic actors” (Bleiklie, 2018, p. 2), positioning itself both locally and internationally (Bloch, 2021; Fumasoli & Huisman, 2013; Krucken & Meier, 2006). Indeed, CoEs are based on ambitious multidisciplinary research programmes, deployed by more than a hundred affiliated members, who are physically co-located in dedicated facilities. Thanks to long-term funding, they seek to attract and train outstanding early career researchers and to become international hubs for renowned scholars worldwide, strengthening the visibility and prestige of the host university and the national research system as a whole (Vilches, 2025).

Second, the CoE is characterised by its novel, “efficient-collegial” governance arrangements (Bruckmann & Carvalho, 2018), which seek to manage efficiently the CoE’s multidisciplinary programme and ambitious goals, while maintaining authority and autonomous decision-making in the hands of the professoriate. These governance arrangements include one or two ‘spokespersons’, the key figure(s) leading the CoE and a ‘general board’ that meets annually or bi-annually and is dominated by up to 25 professors acting as Principal Investigators (PIs). However, it is within

the smaller ‘executive board’ and the ‘management office’, headed by a higher education professional, that everyday decisions and activities are made and coordinated. A ‘strategic board’ (also dominated by PIs) is in charge of more specific tasks and aims, such as steering the internationalisation of the CoE. Postdoctoral and doctoral researchers, as well as the professional staff, are represented in these board.

Central to this arrangement is, third, a stronger hierarchisation of decision-making processes, exemplified in the authority of the CoE leader (or spokesperson). Relying on NPM ideas according to which “higher education institutions cannot ‘afford’ the traditional collegial and procedural academic leadership (the *primus inter pares* model)” (Askling & Stensaker, 2002, p. 115), the CoE leader not only plays a key role in leading the CoE, but it is also part of a broader effort to strengthen the internal hierarchy of the university and the formal decision-making power of central authorities (Hüther & Krücken, 2013, p. 2), such as the university president, deans or, in this case, the CoE leader, who is ultimately legitimised by the presidency since CoE projects are submitted institutionally and not, as other research grants, by a single PI. Moreover, obtaining funding for two CoEs is a precondition for becoming eligible for the second funding line funded by the excellence scheme (called ‘Future Concepts’), which confers the title of excellence on a selected number of universities.

Given its importance and responsibilities, the CoE leader embodies a new type of leadership that evokes “the sense of a powerful and dynamic individual capable of bringing about change” (Macfarlane et al., 2024, p. 1383). Indeed, this figure may even gain representation on the university’s main governance board (Kosmützky & Krücken, 2023), which reflects the strategic importance the CoE – and its leader(s) – holds for the university as a whole.

Fourth, these more hierarchical and managerial governance arrangements are complemented by the ‘international advisory board’, composed of internationally renowned senior academics. They are aligned with NPM approaches of “steering at a distance” (Bleiklie, 2018, p. 4), which aims at strengthening mechanisms of evaluation “to ascertain the achievement of efficiency and quality goals” (Bleiklie, 2018,

p. 4). Such boards provide evaluative feedback, but they may also contribute to circumventing collegial decision-making (Stensaker et al., 2021).

3 Research Design

This is a small-N study based on interviews conducted with members of three CoEs in the SSH, funded by the German Excellence Strategy in 2019 for a six-year period. The CoE funding line accounts for 70 % of the total funding. One CoE had already received funding in a previous excellence round, while two began operations in 2019 but were based on previously obtained smaller collaborative grants. They were selected with the aim of achieving the broadest possible disciplinary heterogeneity within the SSH. On an imaginary continuum, at one extreme, one CoE integrates disciplines within the Humanities; at the other, a second CoE integrates a Social Science discipline with one from the Natural Sciences; and in the middle, the third CoE integrates a discipline in the Humanities with one in the Social Sciences.

The 16 participants in this study represent a subset of a larger project on research collaboration in CoEs and were chosen because of their involvement in decision-making processes. The sample includes six professors, all of whom are PIs in leadership positions (as spokespersons, research area co-leaders or board members) and five of whom participated in the formulation of the research programme; four post-docs (two in roles as research area co-leaders, one as scientific coordinator, and one as representative); four doctoral researchers (all in roles as representatives); and two professional staff members acting as managing directors. The interviews lasted an average of 55 minutes and were conducted online between 2021 and 2022, in German or English.

Methodologically, this study is rooted in constructivist Grounded Theory methodologies (Charmaz, 2014). The interview guide was designed following Döringer's (2021) variation of the 'problem-centred interview' approach, which encourages the development of narrative accounts. The participants' heterogeneous roles and positions in the academic hierarchy allowed the triangulation of perspectives, leading to

“broader, deeper, [and] more comprehensive understandings” (Bryant & Charmaz, 2019, p. 16). The data was coded twice using MAXQDA (Saldaña, 2021). Passages that contained rich descriptions of collegial relations and interactions were then re-analysed through three forms of collegiality: as governance, as research practice, and as allegiance to the institution. For this, I applied fine-grained analytical techniques (Bethman, 2019). Following the abductive logics of GT (Timmermans & Tavory, 2012), I then positioned and compared the accounts within two ideal types: the Humboldtian model (deduced from the literature) and the new CoE model (emerging from the interplay of findings and prior knowledge).

The participants’ truthful answers rely on the trust in the interviewer and assurance of anonymity. I avoid disclosing disciplinary details that could make them recognisable and use generic designations to describe both their roles and the CoE’s organisational arrangements.

4 Empirical Findings

The following analysis explores participants’ experiences in governing the CoE and highlights the interplay between the governance arrangements that characterise the CoE and the interpretive schemes upheld by the participants. It first identifies continuities with the Humboldtian model, then considers the transformations, and finally addresses the tensions, providing a nuanced picture of the micro-level implications of the CoE model for governance.

4.1 Continuities: Retaining Professorial Authority and Autonomy

The findings confirm that the professorial rank retains, in the formal sense, full authority and autonomy in governing the CoE, as the collegial-efficient governance arrangements suggest. In this respect, there is no significant transfer of authority to other academic ranks or professional staff. This aligns with the collegial aspect of the CoE model, where authority remains anchored in the professoriate. Ultimately,

decisions are made by the PIs on the various boards, with the support of professional staff, in a relationship characterised as respectful. Felicitas, managing director, observes that “there is still this fear that administrative roles take up too much space compared to research and project work”. Her comment indicates a considerable awareness of the importance of maintaining the traditional idea of collegiality.

Moreover, there is no observable transfer of formal authority to postdoctoral researchers, despite their status as the most senior researchers with full-time commitment to the CoE (in contrast, professors remain bound to their chairs). They play a key role in the daily functioning of the CoE, co-leading research areas and research seminars with the PIs. Yet, despite their commitment, they have not been granted additional formal authority.

Thus, there is no *internal* redistribution of authority across academic ranks or towards the professional staff. But is there any *external* threat to professorial authority and autonomy? In this regard, the international advisory board does not fundamentally threaten the autonomy of professors, nor does it introduce the kind of “steering at a distance” favoured by NPM approaches (Bleiklie, 2018; Maassen et al., 2017). Rather, it assumes a ‘soft’ evaluative and consultative role. Its tasks vary across CoEs but generally include periodic assessments. In one CoE, the advisory board has assumed more specific tasks, such as supporting the evaluation of internal research grants. Sara (professor, deputy spokesperson) comments that proposals are first evaluated by a working group and the “... smaller pool goes to the advisory board and sometimes the really crucial issues are discussed there”. Nevertheless, the board is far from constituting a new form of “controlled collegiality” (Stensaker et al., 2021). One professor remarks that the influence of such boards ultimately depends on the willingness of professors to accept evaluation, which is why they can quickly become “a tiger without teeth” (Tobias, professor).

4.2 Transformations: The CoE Leader and the Managerial Ethos

Alongside to the continuities described above, significant transformations can be observed, that align with the NPM approaches and managerial values underpinning the CoE model. The professoriate, as rank, retains formal authority and autonomy, but within the professoriate a clear hierarchisation can be observed, which breaks the egalitarian Humboldtian collegial tradition (Hüther & Krücken, 2013). The emergence of the CoE leader is a noteworthy development. This professor is widely recognised by professors, early career researchers and professional staff as someone with evident leadership abilities, and as the figure who took the “initiative” to build the CoE (Lea, managing director). They clearly embody the prestige gained from the successful application to the most renowned German grant. Their formal authority, complementing their symbolic status, is granted by the university presidency. Evidence shows that a small group of professors played a key role during the project’s formulation process, with one or two of them later becoming the CoEs’ spokesperson(s). Antonia (professor and spokesperson) comments that “it was the initiative of the university president ... who approached a colleague and me ... so that we formulated this centre”.

This hierarchisation within the professoriate is accompanied by values and beliefs reflecting the emergence of a managerial ethos, according to which the CoE is to be managed effectively to achieve its ambitious strategic objectives. Participants are aware of the highly competitive nature of the excellence race, the symbolic relevance of the CoE both as a standalone centre *and* for the university as a whole, and the importance of prevailing in the next excellence round. In that regard, while the lack of a strong advisory board – as shown above – and the absence of regular evaluative visits from the funding agency, as occurs in Scandinavian countries (Alnor et al., 2023), may create the impression that the CoE’s autonomy and professorial authority are unaffected, a different interpretation is possible. The steering at a distance does not occur through collegial feedback from the advisory board, or committees

of experts, but by the ability to renew funding after six years, which creates a situation of winner/loser: either retaining the excellence status or losing it entirely.

To demonstrate performance and quality, participants provide several examples of how the CoE records outputs and stimulates the production of multidisciplinary work, for instance by publishing co-edited books, organising conferences, fostering the incoming mobility of renowned international scholars, and providing funding for outgoing sojourns.

It is also possible to identify an example of change in the CoE's governance arrangements. Participants explain how the recruitment process for early career researchers was made more efficient: a special committee was created to lead and control the recruitment process and decide on appointments. The final decision could then only be approved or rejected by the main board – but not modified. This reform introduces a new decision-making process while retaining elements of collegial control and representation, in an efficient-collegial vein (Bruckmann & Carvalho, 2018).

These examples illustrate how the competitive pressures in which the CoE is embedded have created a strong stimulus for the emergence of a managerial, performance-driven ethos within the CoE, alongside the integration between academic and professorial staff, “which embraces planning, resource management, personnel policy, productivity measures, as well as public relation” (Bleiklie, 1998, p. 308).

4.3 Tensions: Overstretching Collegial Governance

One interpretation of the continuities and transformations described above is that they underpin the collegial-efficient governance arrangements that characterise the CoE. According to Bruckman and Carvalho, in such a model/archetype the two key values of “efficiency and democratic decision-making” co-exist (Bruckmann & Carvalho, 2018, p. 643). However, the tensions described below suggest a different relationship: collegial and managerial values stand more in tension than in complementary co-existence. Overall, traditional collegial values appear stronger than managerialism, which correlates with the maintenance of authority by professors. Yet the

quasi-departmental and multidisciplinary shape of the CoE, alongside competitive pressures, creates several tensions that overstretch the old Humboldtian ideas, values and beliefs that sustain collegial governance, while expectations of efficiency and effectiveness are not always met.

One tension concerns the relations within the professoriate and the upholding of democratic values in the CoE. Martin (professor, research area co-leader) explains that making reforms to the CoE entails a “democratic process. I am just one of 25 [PIs]. I am single discipline ... In smaller structures, things could certainly be done differently or more simply”. His observation highlights the difficulty of applying democratic values – rooted in disciplinarily more homogenous chairs and institutes – in the large, multidisciplinary department-like CoE. Professional staff share this view. Felicitas notes that “consensus-building in the general assembly is the biggest challenge. This is, of course, an important democratic principle, but it makes strategic processes difficult”, whilst Lea (managing director) cautiously suggests that to “respond quickly I would make some adjustments to the board structure – though not radical ones”. These participants do not fundamentally question the democratic values underpinning collegial governance but are aware that the formal maintenance of authority in boards dominated by professors overstretches collegial governance, making it less effective in managing both every day and strategic decisions-making processes.

Another tension concerns the professorial self-understanding of leadership within the CoE. While the figure of the CoE leader is clearly identifiable and their leadership abilities praised, other professors seem to struggle with their roles as PIs, highlighting a tension between their traditional roles as chair-holders – with the corresponding ideas and values – and the new expectations of leadership set by the CoE. Professorial participants provide examples suggesting a lack of confidence in their ability to lead the CoE effectively. They acknowledge that the role of PI demands skills not typically required in the traditional chair structure. For example, Sara reflects that leading the CoE “... it often really does require diplomatic tact [and], honestly, you would actually need training in something like this”, whereas Tobias adds

“... there are really outstanding young people involved but we, at the leadership level, are basically unable to manage it properly. Why? Because none of us has ever been trained to do it”.

Martin, in reflecting on potential improvements to the doctoral training programme, resigns himself to the fact that “... I wouldn’t know how it could be done better or differently”.

Hence, the managerial ethos has not permeated all professors. These professors appear closer to the figure of the “reluctant leader” who tries to be a “good citizen” (Deem et al., 2003, p. 9) by engaging as a PI in the CoE, while their authority – strong in the chairs – becomes less effective in the CoE. Although the authority of the professoriate, as a rank, is not at risk, the fact that professors themselves – who constitute the very basis of Humboldtian collegial governance – question their own individual leadership abilities strongly underpins the idea that collegial governance is being overstretched in the CoE.

This leads to a third tension regarding the relations across academic ranks. Unlike the small hierarchies and relations of dependency that characterise the university of chairs (Schimank, 2005), in the CoE a single, large hierarchical gap emerges between professors and early career researchers. Professors acknowledge the difficulties this gap poses for collegial decision-making, which limits the representation of non-professorial academic staff but facilitates dialogue across ranks within each chair. Sara (professor) emphasises that

“... personally, I always prefer diplomatic approaches ... and involving everyone in the discussions, but, of course, that’s difficult in a centre the size of the Titanic”.

She further comments that in smaller structures “... if there is an issue, then you just sit down together and talk about it” (Sara).

This gap is particularly pronounced between professors and the doctoral rank. One doctoral representative describes a discussion at the CoE’s main board concerning her rank as “... well, unfortunately, I experienced it more as being against each other

rather than working together” (Christiane, doctoral representative), whereas another representative describes decision-making processes as “non-transparent [and] strongly hierarchical” (Maike, doctoral representative).

This gap reflects the unresolved tensions created by the CoE’s quasi-departmental structure and its governance arrangements. The CoE has only a very thin layer of intermediate leadership with formal, effective authority, operating at the interface between professors and lower academic ranks, and between governance bodies at the top and the challenging multidisciplinary research practice on the ground. As mentioned above, postdoctoral researchers do not possess the formal authority to effectively bridge the gap between professors and early-career researchers, especially doctoral researchers. Another consequence of this tension is the emergence of new sense of allegiance towards the doctoral or postdoctoral academic rank *and* to the multidisciplinary CoE – and not towards the professor as chair-holder and the discipline represented by the chair.

5 Concluding Remarks and Policy Implications

This paper has characterised the CoE as a new university business model. The empirical findings have explored the micro-level experiences of CoE members in governing the CoE, highlighting the continuities, transformations, and tensions this model creates. I suggest two different readings of the findings.

The first interpretation focuses on the CoE model itself, noting that it exemplifies a new university business model that introduces a quasi-departmental structure within the Humboldtian university of chairs, alongside collegial-efficient governance arrangements and values inspired by the NPM. This interpretation suggests that the Humboldtian idea of collegial governance prevails over hard managerialism: the authority of professors and key values such as democratic decision-making in collegial boards are largely maintained. However, managerial approaches promote stronger

central leadership (Askling & Stensaker, 2002, p. 115) and hierarchisation of decision-making processes, underpinned by the emergence of a managerial ethos, as anticipated by NPM approaches (Bleiklie, 2018; Krucken & Meier, 2006). This creates tensions that are indicative of an overstretching of collegial governance, rather than a stable and balanced co-existence of collegial approaches and values with managerial hierarchy and efficiency. On the one hand, this highlights the strengths of NPM approaches in modernising organisations (Bleiklie, 2018), while simultaneously reshaping the organisational and disciplinary foundations of collegiality through the creation of a multidisciplinary department. On the other hand, the findings underscore the professoriate's resistance to delegating power and its commitment to maintaining key elements of the Humboldtian model.

The defence of the Humboldtian model constrains the “range of likely organisational designs” (Greenwood & Hinings, 1993, p. 1057), limiting therefore the influence of NPM approaches, for example, by hindering the introduction of stronger external evaluative devices or by resisting the creation of a new layer of middle leadership with formal authority, as professors continue to dominate governance bodies, contrary to what a comprehensive NPM-inspired departmentalisation would require. In this sense, the CoE represents a new university business model anchored in the local German context, which has selectively adopted NPM approaches while maintaining core Humboldtian governance arrangements and values, adopting a collegial-efficient model/archetype that, however, is underpinned by significant tensions (Bruckmann & Carvalho, 2018; Hüther & Krücken, 2013).

A second reading situates this new university business model in the context of broader, university-wide organisational change. From that point of view, university models within an organisation can compete (Greenwood & Hinings, 1993, 1996) or become hybrids (Bruckmann & Carvalho, 2018). When the CoE model – with its associated transformations, tensions and overstretching of collegial governance – is set against the Humboldtian model, the two appear clearly incompatible. Remarkably, this new university business model introduces managerial elements alongside a multidisciplinary departmentalisation that reshapes “disciplines, and the collegial cultures and networks which sustain them” (Marginson & Cansidine, 2000, p. 10).

Thus, the significance of this managerial departmentalisation for the Humboldtian university should not be underestimated. One tension is particularly crucial. The absence of a middle layer of leadership within this quasi-department emphasises the need either to concede greater authority to professional staff – a stronger form of managerialisation – or to reform the academic career – the softer variant – by transferring formal authority to non-professorial academic ranks. Either scenario would ultimately lead to a recomposition of governance bodies, which in turn, increases the likelihood of a complete overhauling of the Humboldtian university and the chair system on which it is based. From this perspective, the findings provide valuable insights into the transformations, continuities, and tensions in governance that a university-wide departmentalisation of the Humboldtian university would unleash.

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Jill Swisher¹ & Lori Doyle²

Always reforming: Exploring agile methods for innovating faculty evaluation structures

Abstract

Christian higher education institutions in the U.S. face a challenge in reconciling traditional faculty evaluation with the need for an agile, adaptive response to a changing educational landscape. This is complicated by wider debates over prestige, mission drift, and governance. A pilot study found that while faculty are open to agile teaching methods, they are hesitant to incorporate them into formal promotion and tenure processes. The paper argues that the theological mission of these institutions offers a unique case study in how they balance strategic adaptation with mission identity.

Keywords

agile, evaluation, promotion, mission, higher education

1 Northwestern College (Iowa); jill.swisher@nwciowa.edu; ORCID 0000-0002-3926-8747

2 Concordia University Irvine; lori.doyle@cui.edu; ORCID 0000-0002-0680-1760

Ständige Reformen: Erforschung agiler Methoden zur Innovation von Strukturen zur Bewertung von Lehrkräften

Zusammenfassung

Christliche Hochschuleinrichtungen in den USA stehen vor der Herausforderung, die traditionelle Bewertung von Lehrkräften mit der Notwendigkeit einer agilen, anpassungsfähigen Reaktion auf ein sich wandelndes Bildungsumfeld in Einklang zu bringen. Dies wird durch breitere Debatten über Prestige, Missionsdrift und Governance erschwert. Eine Pilotstudie ergab, dass die Fakultät zwar offen für agile Lehrmethoden ist, jedoch zögert, diese in formelle Beförderungs- und Berufungsverfahren zu integrieren. Der Artikel argumentiert, dass die theologische Mission dieser Einrichtungen eine einzigartige Fallstudie dafür darstellt, wie sie strategische Anpassung mit ihrer missionarischen Identität in Einklang bringen.

Schlüsselwörter

agile, evaluation, promotion, mission, higher education

1 Introduction

“*Ecclesia reformatata, semper reformanda*”, a Latin phrase that emerged from the Protestant Reformation and made popular by Swiss theologian, Karl Barth, is a reminder that the church at large should embrace a willingness to change its practices to stay true to scripture (Perisho, 2017). Translated as “the church reformed, always reforming,” the idea is that the church needs to be consistently moving back to God’s Word while the world consistently draws away from it (Buice, 2021). Many Christian higher education institutions (HEIs) are church-related and have mission statements that reflect their faith-based purposes, often rooted in some way to advancing the kingdom of God. HEIs can be considered engines of innovation (Shahsavari et al., 2020), yet it is unclear whether Christian HEIs are willing to be “always reforming” in that sense. This echoes wider organizational theory debates about whether higher education institutions, particularly those with religious mandates, innovate in ways that reinforce or erode their core identity (Marginson & Considine, 2000). This paper focuses on the areas of faculty evaluation and promotion structures as potential processes to reform by considering the adoption of agile methods. The adoption of agile methodologies, which prioritize flexibility, continuous improvement, and student-driven application, directly challenges the reliance on standardized, high-stakes, end-of-cycle metrics that dominate traditional faculty evaluation processes. Considering agile methods for evaluation necessitates a shift from metrics focused solely on individual output and fixed objectives to a collaborative, process-based evaluation that incorporates evidence of adaptability and mission-aligned innovation.

The U.S. has a vast and diverse higher education landscape, which includes approximately 900 religiously affiliated colleges and universities. Within this landscape, Protestant Christian HEIs represent a distinct subculture, with many often perceived as politically and socially conservative and often grappling with how to integrate traditional beliefs with modern academic and cultural demands. This study is situated within this context, examining how a theological commitment to “reforming” might

facilitate or hinder the adoption of innovative pedagogical and organizational practices. Christian HEIs, while distinct in mission, operate within a prestige economy like secular institutions in which rankings, research outputs, and funding competitiveness shape institutional reputation (Bastedo & Gumport, 2003). One question is whether agile-inspired reforms to evaluation might support or undermine an institution's position in this prestige hierarchy or whether adherence to prestige is even relevant at all.

In the context of Protestant Christian higher education in the United States, faculty rank, promotion, and tenure have typically followed traditional practices as outlined by the *American Association of University Professors* (AAUP), primarily to safeguard academic freedom (American Association of University Professors, 2025b). Yet, a study of tenure criteria found that there is a “discrepancy between traditional success criteria and faculty’s understanding of worthwhile labor” (Dengate et al., 2019, p. 1).

Recently, there has been an emerging call for educational organizations to consider unique educational pathways rooted in agile methodologies (Avdoshin et al., 2021). Agile methods in education

“place high value on the principles of adaptability, collaboration, achievement of learning outcomes, student-driven inquiry, demonstration and application and continuous improvement” (Krehbiel et al., 2017, p. 109).

Agility is simply the ability for the professor to adapt pace or structure quickly to help students learn (Hulshult & Krehbiel, 2019). Specifically, researchers have called for educators to “take the risk and experiment with agile principles in the area of teaching/learning, evaluation and administration” (Kamat & Sardessai, 2012, p. 55). While agile concepts have been translated to education settings (e.g., Otero et al., 2020; Krehbiel et al., 2017; Stewart et al., 2009) and are often described in terms of teaching and learning, there remains a gap in understanding how faculty could be evaluated when implementing these principles.

This study connects the theological call to be “always reforming” with the organizational mandate for strategic adaptation. By focusing on faculty evaluation, this paper explores the core tension of organizational theory. Specifically, whether Christian HEIs will allow the pressures of the prestige economy to dictate their structures, or whether they will enact an agile-inspired institutional reform that re-centers their evaluation practices around their missional identity.

1.1 Purpose

The purpose of this study was to explore the following research questions:

RQ1: *What are the perceptions of agile values and principles from the faculty’s perspective?*

RQ2: *Are faculty open to a new rank and tenure process, especially one that is based on agile pedagogical methodologies within the context of their institutional mission?*

1.2 Theoretical framework

Organizational theory offers the essential lens to analyze how higher education institutions (HEIs) adapt and manage change (Astley & Van de Ven, 1983). HEIs are specific, complex organizations whose strategic direction often emerges from the tension between their mission and operational enterprises (Siegel & Leih, 2018). Strategic management in HEIs demands continuous capacity building by aligning resources and processes with the institutional mission (Toma, 2010). Observable variations in practice are necessary for organizational change (Van de Ven & Poole, 1995).

This study is situated within this organizational theory and strategic management framework to understand the paradox of adopting agile pedagogical methodologies as a new practice within traditional promotion and tenure structures. Specifically, organizational theory informs RQ1 by focusing on faculty buy-in as a prerequisite for true organizational shift (Van de Ven & Poole, 1995) as faculty are key participants whose understanding of agile directly influences its adoption as a variation in

practice. This lens is crucial for examining faculty perception and willingness to change, noted in RQ2, as it considers whether the adoption of agile is viewed as a coherent strategic adaptive response or merely an isolated innovation. Further, the study is positioned within organizational theory debates about prestige competition and mission drift (Brewer et al., 2002).

2 Research context

There are challenges associated with the processes for promotion and tenure, and the concept of evaluation elicits stress for many HEI faculty members. The promotion structure often lacks alignment with the institutional mission and there is room for innovative practices rather than strict adherence to a traditional approach.

2.1 Faculty evaluation in the United States

Nezhad (2019) argued that the faculty promotion structure

“is one of the most important components of vitality and performance improvement, training and retention of faculty members and also is an essential part in the academic success of faculty members, institutions and universities” (p. 119).

Per the American Council on Education et al. (2000), annual faculty reviews are common for non-tenured faculty, with more rigorous, high-stakes assessments conducted during a promotion review typically occurring in the sixth year. The process generally involves a hierarchy of assessing bodies such as a status committee, the dean and or department chair, and ultimately the provost (American Council on Education et al., 2000). In terms of tenure and promotion, the higher education reward structure has historically placed great value on individual research excellence which has therefore influenced how work time is allocated and informed faculty perceptions of which parts of their work are valuable (Dengate et al., 2019). Yet, there is an overarching sense of trepidation felt by many regarding the pressures associated

with advancing in rank and obtaining tenure in higher education (Vaishya et al., 2025). It is important to note other systems of tenure vary greatly from North American models in terms of terminology, requirements, and timelines, with some European countries having multiple pathways and others having no legal tenure at all (Enders, 2015). These contrasts emphasize the degree to which U.S. promotion practices are bound up with prestige signaling (Altbach, 2016). By situating Christian HEIs within this comparative framework, it becomes clear that their reliance on traditional U.S.-style models of evaluation may inadvertently tether them more tightly to standards of prestige than to their stated missions.

2.1.1 Challenges

One of the most prevalent sources of stress reported by higher education faculty is the expectation of research and its dissemination (Vaishya et al., 2025). Kwon and Denlinger (2020) called for a change in incentive structures and wrote,

“Perversely, publications also function as a crucial metric of success in the academic community because of their direct links to notoriety, academic advancement, and recognition by extramural funding agencies and are responsible for the publish-or-perish mindset pervasive in the academic community” (p. 730).

The concept of inconsistency between what a faculty member’s evaluator expects and what they are evaluated by or against can be another area of frustration for academic faculty. For instance,

“over the last few decades, RPT [review, promotion, and tenure] processes have generally increased the value placed on research, at the expense of teaching and service, which often results in an incongruity between how faculty actually spend their time vs. what is considered in their evaluation” (Schimanski & Alperin, 2018, p. 1).

Bass (2022) argued that traditional administrative structures, shaped by history and tradition, operate in silos that are misaligned to the needs of the current digitally immersed generation of students, and others have contended that the tenure system

“is outdated, and even potentially detrimental to the academic enterprise” (Helms, 2015, p. 3). Ultimately, promotion processes pay partial attention to activities like teaching and scholarship yet neglect the importance of other activities, indicating the need for a comprehensive and balanced approach to advancement processes to more effectively cover the various types of participation in institutional activities (Shahsavari et al., 2020). An agile-inspired evaluation, for example, would offer a framework for better covering the various types of institutional activities by valuing the faculty’s adaptability and demonstration of learning application. It would offer a structural means to align the reward system with the multifaceted nature of faculty work.

2.2 Mission, strategic management, and organizational change

An organization’s mission is central to the implementation of any strategic initiative (Susanto et al., 2023). Good governance based on a well-defined mission is a key factor in strategic management, leading to organizational sustainability (Oliveira et al., 2021). In any vision for organizational change, there must be clear alignment with the mission (Errida & Lotfi, 2021) as well as buy-in from the change participants and recipients – in this context, faculty – who are instrumental in the change process (Counts et al., 2021). The results of a 2019 study exploring mission statements across 250 HEIs worldwide found some missions are more student-focused and some are more society-oriented, yet all focus in some way on the institution’s specific values (Breznik & Law, 2019). For Christian HEIs particularly, there is risk of mission drift in which theological identity succumbs to external prestige pressures. This is well articulated in Burtchaell’s (1998) classic, *The Dying of the Light*, in which the author describes catastrophic outcomes for institutions who drifted from their Christian missions. Agile-informed evaluation structures might provide a way of resisting such drift by tying professional advancement more explicitly to mission enactment rather than to conventional markers of status.

2.3 Agile methodologies in education

The original agile concept includes a list of values and principles created as a framework for software development (Beck et al., 2001). With proven effectiveness in software development, educators sought to adapt the principles to teaching and learning contexts and initially found them effective for teaching subjects such as engineering and math (Duvall et al., 2017). In the educational context, this translates into concrete pedagogical and organizational practices such as iterative projects, flexible course structures, and responsive feedback (Krehbiel et al., 2017). Therefore, the key operational principles being explored for faculty evaluation include adaptability, collaboration, achievement of learning outcomes, student-driven inquiry, application of learning, and continuous improvement. Early attempts at agile pedagogies resulted in a high level of acceptance and compliance by students (Ranjeeth et al., 2014). Indeed, a 2023 study of agile practices in university classroom settings found that students find the approach to be flexible and beneficial to their learning (Kampa & Bakke, 2023). Importantly, a measure of faculty perceptions also expressed high levels of satisfaction with student performance and an intent for continued use of agile in their teaching (Krehbiel et al., 2017). Ultimately, agile teaching methods enhance student learning (Poe & Mew, 2021; Hulshult & Krehbiel, 2019).

Pedagogically, agile methods sit at the crossroads of constructivism and ecological approaches in education theory (Fitsilis et al., 2023; Ranjeeth et al., 2014). That is, agile is a student-centered approach where students work collaboratively and reciprocally in project- and problem-based learning. Institutions that are responsive and flexible in their curriculum design are better prepared for changing market demands (Dhir et al., 2024). Despite proven effectiveness and strong support for agile methods in education from both students and faculty, there remains a gap in understanding whether faculty would be willing to be evaluated by these principles.

3 Methods

This pilot study was designed to explore faculty perceptions of agile methodologies in teaching and evaluation. A small-scale, convenience sample of 18 participants was recruited from various HEIs across the US, having used social media links to generate a snowball effect. The methodology is best described as a qualitative exploratory study to provide insights and initial perspectives that can inform a larger, more robust study. A limitation of convenience sampling is the possibility of selection bias, and the findings reflect the perspectives of a self-selected group of participants. The data were collected via a 22-question Google Form survey that included both Likert-scale questions and open-ended qualitative questions. That is, “agile methodologies” in the context of teaching and evaluation were defined and operationalized for survey participants drawing statements from Stewart’s et al. (2009) Agile Manifesto in Education and Krehbiel’s et al. (2017) Agile Teaching and Learning. Specifically, they were presented with statements described in section 3.1.2. This study was approved by the principal investigator’s Institutional Review Board and all participants provided informed consent before participating.

While the sample size of 18 is not generalizable in quantitative statistical research, it can be considered adequate saturation for exploratory qualitative research (Henink & Kaiser, 2022). Therefore, quantitative data was used to increase the usefulness of qualitative findings (Sauro, 2015). Almalki (2016) supported this dual approach provided a suitable process is designed in the direction of a specific purpose. The authors utilized computer-assisted data analysis by using artificial intelligence (Google, 2025) to complete the qualitative coding as outlined by Bryda and Sadowski (2024).

3.1 Results

The findings are a result of qualitative open-ended questions. Themes emerged and, when analyzed together with quantitative results, informed the following discussion section.

3.1.1 Demographics

There were 18 participants in the study, 12 of which were female. The faculty rank of all participants was as follows: 61.1 % associate professor, 27.8 % full professor, and 11.1 % instructor. Of all participants, 55.6 % were tenured. Their years of experience as faculty ranged from eight years to 40 years. Over 60 % of participants had some degree of non-instructional or administrative release time in their credit load.

3.1.2 Quantitative questions

Table 1 shows the average score, based on a 5-point Likert scale, with five being the highest, for the extent to which participants agree with agile value statements about teaching and learning in higher education.

It's important to prioritize student-centric learning (e.g. group activities) over traditional lectures for active participation and exploration.	4.06
Iterative projects with deliverables throughout the semester are more effective than end-of-semester projects.	3.89
Student-centric learning prioritizes student activity and effective pedagogy. Said differently, flexible syllabi and increased instructor access, like email feedback, foster collaboration and active learning.	4.17
Rigid course structures, schedules, and delivery methods hinder adaptation to diverse student needs and class dynamics. Said differently, flexible teaching, responsive feedback, and adaptation are crucial for effective learning.	3.89

Table 1: Agile values

Table 2 shows the average score, on a 5-point Likert scale, with five being the highest, for the extent to which participants would prefer to be evaluated (and promoted) by adherence to agile principles (as opposed to traditional measures of teaching, scholarship, service).

Adaptability over prescriptive teaching methods	3.78
Collaboration over individual accomplishment	3.39
Achievement of learning outcomes over student testing and assessment	3.94
Student-driven inquiry over classroom lecturing	3.56
Demonstration and application over accumulation of information	4.22
Continuous improvement over the maintenance of current practices	4.06

Table 2: Agile principles

The mean score for the extent to which participants agree with all agile value statements about teaching and learning in higher education was 4 on a 5-point scale. The mean score for the extent to which participants would prefer to be evaluated by adherence to all agile principles was 3.82 on a 5-point scale.

3.1.3 Qualitative questions

Several themes were identified from the results of each open-ended question. When asked about the pros and/or cons of agile values and principles regarding faculty evaluation and promotion, participant answers yielded the following themes: challenges and opportunities in adopting a student-centered adaptability, complexity of measuring teaching effectiveness, and the flexibility in applying agile principles. For example, one participant said,

“Faculty would have to agree with leadership that these values and principles align with the university’s vision and mission. I think universities would have to redo Tenure/Promotion standards, which in my experience is easier said than done.”

When asked about what they like or dislike about a traditional approach to their own evaluation and promotion, the following themes appeared: the mismatch between evaluative metrics and the multifaceted nature of their work, transparency in the evaluation process, and the impact of the current system on institutional values. For example, one participant said,

“Dislike most everything. Current practice at my school lacks multiple touch points, lacks review on in-person and online content, and much more.”

When asked about what kind of evaluation measures they envision working well, participant answers yielded the following themes: faculty agency in the evaluation process, comprehensive and holistic evaluation, and enhanced transparency and lower-stakes evaluation. For example, one participant said,

“A more holistic approach where everything you do counts towards promotion. For instance, my administrative tasks such as accreditation and running the entire program, don’t fit into one of the three traditional roles.”

When asked to describe how their institution’s mission is used in the evaluation process, the following themes were put forward: the wide spectrum of missional integration, the prominent role of faith-based missions, and the potential for increased accountability. One participant said, “I think we focus on our mission of learning and service a lot but could hold faculty more accountable.”

4 Discussion and limitations

The results will be discussed within the context of the research questions and limitations associated with the study.

4.1 Research question 1

The first purpose of this research was to explore faculty perceptions of agile values. Are faculty embracing a willingness to adapt and reform their teaching methodologies? The faculty did indicate that there are perceived benefits for learning when engaging agile methods, envisioning positive impacts on creativity and a variety of ways to demonstrate student understanding. This was supported by the mean scores presented in Table 1 and Table 2 which did not contradict any open-ended responses. However, they also recognized that a change in the way they approach teaching to be more flexible or student-centered would increase the complexity in measuring the effectiveness of those approaches. While most faculty did appreciate the avoidance of rigid course structures and the value of varied pedagogies and assessments that come with an agile approach, they emphasized that there would need to be flexibility in applying agile methods since there are already widely accepted best practices for teaching and learning that are especially dependent on the context of each discipline.

4.2 Research question 2

The second purpose of this research was to investigate whether faculty would be open to a new rank and tenure process, especially one that is based on agile pedagogical methods and within the context of their institutional mission. The faculty did, firstly, express their frustrations with the current system for promotion and tenure across all three traditional measures of teaching, scholarship, and service. For teaching, participants noted a lack of formal recognition of innovative teaching practices. Regarding scholarship, participants highlighted a disparity in the perceived value of certain types of scholarship. For service, respondents were concerned with

the ambiguity in its weight toward promotion despite its importance for shared governance and institutional operations.

As to whether they would be open to a process based on agile methodologies, results were not as specific. Agile methods are related to pedagogy, yet there is a perception that teaching is not generally as highly regarded as scholarship. So, participants relayed a desire for alternative models of evaluation that could include specialized tracks or self-defined weighting to emphasize their individual contributions to teaching innovations.

As to whether they would be open to an evaluation process within the context of their institutional mission, the findings were nuanced. A significant portion of participants experienced only superficial engagement with the mission in faculty evaluation, but for faculty at faith-based institutions, the faith-based tenets of the mission served as a central criterion. The data highlighted an opportunity for institutions to foster greater accountability and deeper engagement with their stated missions. Mission-aligned contributions for tenure seemed to be meaningful for participants but there is a potential for more consistent application in evaluation processes. Indeed, “it would be better to negotiate publicly-supported innovations on the basis of agreed institutional mission” (Marginson & Considine, 2000, p. 296).

Based on these findings, it was apparent that while faculty may embrace the spirit of “always reforming” in their individual teaching practices, the institutional structures of promotion and tenure remain a significant barrier. This reflects a broader paradox in organizational theory in that institutions espouse innovation and adaptability yet remain constrained by legacy systems tied to prestige and external legitimacy (Meyer & Rowan, 1977). Although agile methods can be seen as an adaptive response that has the potential to engender new structures, the findings reveal a disconnect from strategic behavior, as faculty do not perceive the adoption of agile methods as part of a broader institutional strategy for change. This gap indicates that the innovation is currently pedagogical, not institutional. Bridging this disconnect requires leveraging the theological culture and promotion structures of Christian HEIs to drive a

more cohesive strategic change toward a new model of the university that consciously resists the external pressure of secular prestige norms and is instead structured around the mission of *semper reformanda*, resulting in a distinctive competitive strategy. The new model is therefore defined not by its mechanism, but by its internal coherence where evaluation, mission, and pedagogy are tightly aligned.

4.3 Limitations

The most significant limitation was the small sample size as it limits generalizability. Likewise, the use of convenience sampling could have introduced biases in the participant pool, such as faculty already frustrated with tenure processes or more interested in innovation.

5 Implications and future research

This exploratory study underscores the enthusiasm for a student-centered approach to learning. The perceived mismatch between faculty evaluation metrics and the broad scope of faculty work, the undervaluing of teaching relative to research, and the inconsistent consideration of administrative roles all contribute to a widespread dissatisfaction with traditional promotion and tenure processes. While an agile, mission-focused approach is one potential pathway, HEIs would need to consider its implementation. It is acknowledged that continuous adaptation places additional demands on educators (Perry et al., 2021), so it would be important to appreciate such challenges in the evaluation process. Likewise, while agile approaches to teaching appear to be efficacious across the globe, “teachers need to have enough professional experience and confidence when they start collaboration in this format” (Holvikivi & Hjort, 2017, p. 616). One opportunity would be to intentionally align promotion criteria with missional objectives across teaching, scholarship, service, and administration. In addition to self-reflection on mission integration, measurable criteria could include any innovation or project that advances the mission. Such an alignment

would not only resist mission drift but also offer Christian HEIs a distinctive competitive strategy within the global higher education market by differentiating themselves through mission-consistent innovation rather than pursuit of secular prestige norms. This transition toward a new model also implies a fundamental shift in governance, moving faculty evaluation and institutional management toward more agile, responsive, and expertise-driven structures, ultimately aligning with a strategic vision for institutional adaptation.

Faculty status decisions are typically made by the faculty themselves as part of the shared governance structure in which academia operates (American Association of University Professors, 2025a). Researchers have argued that management of education and research should be left to those savvy in management to be agile in a rapidly changing environment (e.g., Bass, 2022; Marginson & Considine, 2000). Part of becoming an agile institution, beyond teaching and learning, may mean going beyond faculty evaluation practices and reimagining the governance structure entirely. Institutions are already innovating pedagogical strategies and policies as part of their approach to the integration of artificial intelligence (Alqahtani & Wafula, 2024), so now may be an opportune time to consider innovations in faculty evaluation or governance as well.

5.1 Future research

Various avenues for future research emerged from this study. While the research questions were approached from an exploratory perspective, a future large-scale study could consider a regression analysis to investigate how faculty perceptions vary (if at all) depending on variables like age, years of experience, rank, and whether or not they are tenured. A larger and more representative sample is crucial to validate this initial exploration. Research examining the impact of explicitly mission-aligned promotion criteria on faculty morale, retention, and institutional effectiveness would also be valuable. If they exist, exploring case studies of institutions that have implemented innovative systems could provide practical models for reform for institutions considering strategic organizational change.

6 Conclusion

This exploratory study offered interesting initial insights into faculty perceptions of agile methods in the context of Christian HEIs. It highlighted a tension between institutional mission and institutional practice. Although limited by a small sample, this study suggested that while faculty embrace the principles of student-centeredness inherent in agile methodologies, a true reformation of promotion structures requires a willingness to move beyond traditional metrics. Embracing a mission-focused approach can help Christian HEIs align their evaluation processes with their core values and strategic direction. The admonition toward *semper reformanda* in faculty advancement structures calls for an innovative reimagining of how contributions are valued, or even governed, ultimately empowering institutions to more effectively advance their distinct missions in a changing educational landscape. The connection between the concept of continuous reformation and the adoption of innovative methodologies provides a compelling launchpad for future, larger-scale studies to provide the depth of insight needed to achieve thematic saturation and offer a nuanced investigation of this topic. Ultimately, the study contributes to organizational theory in higher education by demonstrating how Christian HEIs can serve as test cases for balancing prestige-seeking behaviors with missional identity, highlighting opportunities that are relevant beyond faith-based institutions.

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Alexandra Hashem-Wangler¹ & Annika Maschwitz²

“There is some sort of new dynamics”: Examining the impact of European University Alliances

Abstract

The *European Universities Initiative* (EUI) marks a significant transformation in the European higher education landscape. Yet, in the fifth anniversary of the first EUI alliances only a few scientific studies examine the practices for building and sustaining successful alliances. This article provides a framework for analysing EUI alliances from a meta-organisational perspective where individuals are not just agents of their member organisations but also contribute to the meta-organisation’s strategic direction, requiring continuous negotiation to balance member and meta-organisation interests. In line with the EUI’s aim for innovation and transformation, using the innovation-diffusion model allows to grasp the impact on member universities and its potential for longevity. Based on qualitative group interviews with academic staff from nine *Higher Education Institutions* (HEIs), it presents a descriptive, impact-oriented analysis of the strategies and challenges within a European alliance along three dimensions: characteristics, commitment, and coordination.

Keywords

European university alliances, meta-organisations, impact-oriented, organisational development

1 Corresponding Author; Hochschule Bremen; alexandra.hashem@hs-bremen.de; ORCID 0009-0009-7308-0340

2 Hochschule Bremen; annika.maschwitz@hs-bremen.de; ORCID 0000-0002-7509-537X

„Es gibt eine Art neue Dynamik“: Untersuchung der Auswirkungen europäischer Hochschulallianzen

Zusammenfassung

Die *European Universities Initiative* (EUI) markiert einen bedeutenden Wandel in der europäischen Hochschullandschaft. Doch auch fünf Jahre nach Gründung der ersten EUI-Allianzen gibt es nur wenige wissenschaftliche Studien, die sich mit den Praktiken zum Aufbau und zur Aufrechterhaltung erfolgreicher Allianzen befassen. Dieser Artikel bietet einen Rahmen für die Analyse von EUI-Allianzen aus einer meta-organisatorischen Perspektive, in der Einzelpersonen nicht nur Vertreter ihrer Mitgliedsorganisationen sind, sondern auch zur strategischen Ausrichtung der Meta-Organisation beitragen, was kontinuierliche Verhandlungen erfordert, um die Interessen der Mitglieder und der Meta-Organisation in Einklang zu bringen. Im Einklang mit dem Ziel der EUI, Innovation und Wandel zu fördern, ermöglicht die Verwendung des Innovationsdiffusionsmodells, die Auswirkungen auf die Mitgliedsuniversitäten und das Potenzial für Langlebigkeit zu erfassen. Basierend auf qualitativen Gruppeninterviews mit akademischen Mitarbeitern aus neun Higher Education Institutions (HEIs) präsentiert er eine deskriptive, wirkungsorientierte Analyse der Strategien und Herausforderungen innerhalb einer europäischen Allianz entlang dreier Dimensionen: Merkmale, Engagement und Koordination.

Schlüsselwörter

Europäische Hochschulallianzen, Meta-Organisationen, wirkungsorientiert, Organisationsentwicklung

1 Introduction

The *European Universities Initiative* (EUI) – involving more than 570 higher education institutions in 65 alliances – marks a significant transformation in the European higher education landscape. Launched under the Erasmus + programme, key long-term goals include establishing a European higher education inter-university campus, promoting student and staff mobility, offering joint and flexible curricula, and forming research teams to address societal challenges. For the implementation, the alliances are bound to a joint activity work plan that requires the

“design of relevant and efficient shared management structures [...], a shared pool of physical and virtual administrative resources, [...] joint provision of infrastructure, data and services [...] and joint digitalised processes” (Estermann et al., 2021, p. 6; see European Commission, 2025).

While forming university alliances is a global trend (Stensaker, 2018), EUI alliances stand out in that they are the result of an *external* initiative rather than the universities involved joining forces independently. To deliver on their mission, particularly the member universities are confronted with the need to adjust their internal governance model addressing the interests of their diverse university community as well as the requirements for fostering international cooperation and adapting a long-term joint EU strategy for education. Implementation occurs across multiple levels, reaching from leadership and administration to staff and student participation, leading to new institutional structures and strategies.

Various analytical perspectives have recently been used to examine alliances and strategic partnerships between universities. Reaching from examining the rationales and interconnected mechanisms that lead to strategic pathways between universities (Fehrenbach & Huisman, 2024; Gunn, 2020), the aspects of inclusiveness and exclusion (Lambrechts et al., 2024; Rensimer & Brooks, 2023) to more general studies that examine university alliances with regard to internationalisation, digitalisation and its impact on higher education policy in general (Frame & Curylo, 2025; Stensaker, 2018) and on national level (Poszytek & Budzanowska, 2023). Yet, there has

been little contribution to the examination of the transformation processes within the participating HEIs in the *European Alliances Initiative* (EUI) that refer directly to the variety of challenges and reforms involved. Palmowski & Angouri (2025) examined European university alliances as communities of practice and sites of mutual learning. Also, first analyses of the pedagogical models developed within alliances are published (Angouri et al., 2024) as well as reports on the outcomes and transformational potential of European university alliances, which are mostly rather project reports than scientific analyses (see Craciun et al., 2023; De Schepper et al., 2023; European Commission 2025).

Hence, this article applies an impact-oriented innovation diffusion approach to examine how meta-organisations (Ahrne & Brunsson, 2008; Maassen et al., 2022), such as EUI alliances, can be institutionally designed and evolved. Therefore, drawing on qualitative interviews with academic staff from different faculties of an EUI alliance comprising nine member universities, the article provides an initial overview of the process of creating structures within the first year of an EUI alliance and analyses relevant governance challenges at the executing actors' level of the institutions.

2 Analysing strategies, challenges and impact within meta-organisations

While universities are generally considered as organisations characterized by formal structures and rules as well as social norms and informal rules (Maassen & Olsen, 2007), university alliances represent a new organisational form, as their mechanisms link macro and micro levels in the European higher education sector. In line with this, Maassen et al. (2022) suggest to analyse university alliances from the meta-organisation perspective, as has formerly been elaborated by Ahrne & Brunsson (2008), since meta-organisations are entities characterized by the fact that other organisations, and not individuals, account for their membership (ibid., p. 43). Stemming from the institutionalist approach, meta-organisations are viewed as “drivers

of ideas, interests and identities that make up the ingredients of institutional environments” (Maassen et al., 2022, p. 956). As such,

“alliances have the potential to form new institutional logics within the field of higher education [...] where new knowledge is developed through specific practices and initiatives within the network they constitute” (ibid., p. 957).

Our analysis is structured around the processes and mechanisms that individuals carry out in meta-organisations as actors on project level, as they introduce innovations into universities through their engagement. As they navigate the complex relationship between their own organisations’ interests and the collective goals of the meta-organisation, they shape its collective identity and strategic direction. This paper examines the *specific processes* involved in negotiating and implementing innovations within both the alliances and individual universities. For this purpose, the innovation diffusion model by Stockmann (2022) is used to analyse both processes and effects at the project level as well as their unintended and intended consequences.

Focusing on the assessment of service provision in non-profit organisations, Stockmann (2022) relies on diffusion research (see García-Avilés, 2015; Rogers, 2003) to understand aspects such as “external sustainability” or the spread of innovations by projects or programmes. His “innovation-diffusion-model” examines a programme’s – here: an alliance’s – potential for longevity, reach, system change and the ability to further develop innovations (Stockmann, 2022, p. 67). Associating the impact of a programme with its sustainability – which is achieved when the new organisational structures and behavioural changes outlast the end of the support measures (ibid., p. 67) – he distinguishes four dimensions:

The first dimension (project/programme-oriented type) includes the element common to all definitions of sustainability – that of *long-termism*. It is given when the target group continues to implement the project’s innovations independently *on a long-term basis*. *The second dimension* (output/performance-oriented type) considers *the scope* of impact, whether other groups beyond the original target group have adopted the innovations for their own benefit. *The third dimension* (system-oriented

type) includes the *change in the whole system* in which the innovation was introduced (e.g., in the education or economic system). This evolution of the system leads to an increase in the performance of an entire system via diffusion processes (Stockmann, 2022, p. 67). *The fourth dimension* (innovation-oriented type) takes into account that services are not simply reproduced in the same way, but that a target group, a provider or even a system can *adapt flexibly and appropriately* to changing environmental conditions (ibid., p. 68).

Our analysis suggests that this approach focusing on different dimensions of *project* implementation allows assessing the mechanisms involved in processes related to cooperation and work in meta-organisations such as EUI alliances. Moreover, distinguishing levels of implementation enables an assessment of the current phase of a project with regard to its potential for longevity, reach, system change and the ability to further develop innovations.

3 Data and methods

Based on eight group interviews (R1-R8) conducted in November 2024 in the work package groups of an EUI alliance project, the article presents results from the accompanying study on the project's first-year implementation. Interviewees were chosen based on the operative groups comprising academic staff from different faculties and institutions, as they form the executive level of the project. Eight groups, each of 7 till 15 participants comprising representatives from each participating university, were interviewed during their annual work session meeting. In this project, interviews are conducted on an ongoing basis during the regular project meetings and will include in future also other samplings with different actor groups, allowing for more comparisons regarding temporal and group-related development. The interviewer is not related to the alliance and works in a separately financed accompanying study. The alliance consists of nine HEIs characterized by their regional orientation in non-capital cities/regions. The research questions for grasping the mem-

bers' first-year experiences within the ongoing alliance project and the transformation processes at their universities included the following aspects: changes since the start, reasons for successful implementation, hindering factors, next steps.

For determining programme effects and conditions, the condition matrix of Grounded Theory was used (Strauss & Corbin, 1996). This analysis system, also called transactional system, allows action and interaction to be examined in relation to its conditions and consequences as well as context and interactional strategies (Strauss & Corbin, 1996, p. 78). Leaning on the axial coding presented by Strauss & Corbin (1996), the data was openly coded, continuously compared, conceptualised and categorised by using a data and text analysis software. Previously broken-down data has been recombined into categories and finally thematically grouped into four systematic categories (see Table 2):

Implementation in year 1	Conditions and factors	Project and work perceptions	Project and work perceptions
1. description of implementing general tasks	3. enabling conditions	5. perception of the alliance	7. next steps (at university)
2. process descriptions	4. hindering conditions	6. perception of work processes (on work package level, university level, general perception)	8. strategic ideas (for the project)
characteristics, commitment, coordination			

Table 1: Categories of the Codes

5 Results: EUI alliances and the impact on its member institutions

The open data coding revealed three crucial – cross-category – key dimensions for the implementation of EUI alliances: characteristics, commitment, and coordination (see Table 2). They put forward the processes of negotiation of strategies and solutions in order to implement the EUI alliance in the respective universities. At the same time, they show the effects of implementation on the universities involved.

5.1 Categorizing characteristics

Most of the 65 alliances consist of universities with similar profiles – for example in strategic focus, research intensity, or regional orientation. Despite the similarities, the interviewees highlight the importance of “knowing each other” for effective collaboration. Groups that already knew each other put forward the importance of trust-building encounters and their effect on a functioning cooperation. Different levels of trust lead to uneven collaboration and in some cases to a perceived lower status as partner within the alliance. Knowing each other means to have a better understanding of the other universities and “to understand the skills of the different partners, the competencies and the orientation [...] and to complete the other part” (R2: 6) for starting new projects together and initiate cooperation.

“To know each other” is all the more necessary as the universities are characterized by cultural differences and different university systems. The group interviews show that much common work is needed to bring the differing backgrounds and views to a common denominator, with regard to communication, task fulfilment, understanding of research and mobility. Cultural differences between the partner universities are associated with different ways of working, which renders the implementation of the project much more difficult than expected:

“Over time, I realized that, you know, this saying that in theory and practice are the same, but in practice they are not. [...] cultural differences, differences in the university systems, also differences the way people do things” (R2: 17).

Therefore, a successful implementation of an alliance requires also a turn in the way of thinking and understanding. The code “mindset changed”, as the most used aspect in the interviews, describes how the general mindset at the universities has changed within the first year of the alliance. Comprising different aspects, it mostly refers to “thinking internationally”, adapting to the idea of close networking within the alliance and embracing the possibilities and benefits that it offers. It is described as “becoming aware” of the extent of the project, to spread this awareness in each participating university and thus, fully implement the project in all activities and processes of the universities:

“We have developed the mindset change and understanding of what is the alliance, what is this kind of structure and what could be the benefits for the future. ... we have to convince the people that this is more than a project, it’s a transformation plan” (R4: 8).

Here, also the meaning of “internationalization” changes from merely comprising the exchange of students, to also include the exchange of knowledge, joint degree programmes and curricula.

5.2 Commitment

Motivation is crucial for cooperation in projects. It directly impacts how effectively team members work together and achieve common goals. The study shows that participants are primarily driven by the idea of exchange, learning from each other and forming a “learning community” to “reflect what you are doing right or wrong” (R3: 27). Exchange is referred to aspects like “being united and moving each other” (R2: 25), “forming another perspective, without necessarily seeing the same picture” (R2: 25), staying connected, “try to commit, have the opportunity to share, to interchange, to open the door to the people to move” (R4: 18). Motivated by these benefits, also new possibilities and perspectives that open up particularly for smaller universities are put forward: “We together are able to go on a higher level” (R4: 21). Participation in international projects is described as much easier “as we know everyone” (R2: 6), including the skills and competencies of the partner universities in

the “new network where we are strongly connected” (R8: 6). Moreover, participants from the group interviews refer to the alliance project as something that is not going to end after four years. It is associated with the positive future of the participating universities and the need to endure in the European competition at higher level. The interviewees associate the sustainability of the project with institutional commitment and governance, academic integration and innovation, as well as social and regional impact.

Furthermore, being part of the alliance has contributed to increasing the visibility of the participating universities and the alliance itself. Participants note that the “brand” (R3: 4) is becoming more present within their institutions. “The logo of the alliance” (R3: 9) circulates internally; more people get involved and curiosity grows, creating “some sort of new dynamics” (R3: 14). As a consequence, cooperation between the faculties at university level has been widely increased. New positions have been created specifically for the alliance. Moreover, a heightened visibility of the universities’ participation in the alliance has mobilized cooperation with other stakeholders and improved the status of the participating institutions in the competition with other universities that are part of similar alliances.

At the same time, involving teachers and students into the alliance is described as the most difficult part of implementation in the first year. In many cases, the interviewees talk about being “a small group involved, but larger than it was before” (R3: 7). The reasons include limited time for combining teaching duties with alliance tasks and the lack of English-language courses – which in turn requires extra time effort for preparing and promoting the courses and for the students to adapt. The majority of the interviewees said that they are still advertising the benefits of the alliance and refining their strategies to engage staff and students.

Accordingly, the interviewees call for a more concrete “strategic plan” from the leadership of each university that actively demonstrates the value of the alliance (R1: 40) and integrates the project “inside of our daily routine” (R1: 35). Putting it strategically on a high priority level at each university would include, among others, equal resources for additional staff in order to simplify the project work and to render it

more visible and attractive, despite the workload. Hence, the involvement of a university's leadership is seen as a precondition for implementing the alliance in the universities.

5.3 Coordination

Efficient communication and coordination are essential for a project's success, ensuring shared understanding of goals, expectations, and progress. Respondents report improved communication within their tasks, primarily due to regular meetings. These meetings enhanced discussion quality, facilitated the development of joint curricula, and fostered a better understanding of partners' working methods and competencies, thereby strengthening overall cooperation and communication "as we know everyone" (R2: 6). Physical meetings in particular "boost the energy of the project" (R8: 34), contribute to get a better idea of "knowing where we are going" (R3: 10) and "to identify that it's possible to do it" (R4: 18). It also helps to transmit outcomes to stakeholders, teachers and students to raise interest and engagement. Some work packages faced challenges from staff turnover at both institutional and alliance levels. To address this, efforts were made to form a stable group of competent members to ensure consistent meeting quality and reduce disruptions caused by continually onboarding new participants. Furthermore, effective communication between work package groups is considered as crucial for the alignment of efforts. Most interviewees reported lacking insight into other work packages, and stressed the importance of promoting a collaborative environment where team members can share ideas and provide feedback to achieve project objectives, as "it's connected everything all together, and all together makes some sense" (R6: 23).

Clarity of goals, expectations and structure, in other words transparency, helps all team members to understand their roles, objectives, and deadlines. Some work packages communicated the need for more transparency and clearer communication with regard to their tasks and responsibilities. Lacking clarity and direction, the participants feel "lagging behind the other work packages", "being dependent on them" and "being limited" (R5: 8). They expressed the need for more clarity and exchange

with the steering committee with regard to expectations and prioritization. In addition, some participants see a discrepancy between the deliverables and their own ideas about a successful and valuable task execution:

“I’m kind of torn also because I kind of feel that we are guided in the project plan to the things that we have to do, but are not necessarily, in my mind, the things that would bring the most value to the project, to the alliance” (R5: 22).

6 Discussion: Institutionalisation of alliances and transformation within the HEIs

The descriptive retrospective analysis of the selected alliance shows how in the beginning phase of the alliance’s project’s first year actors from the meta-organisation engage to implement the measures in the participating universities and how their engagement slowly leads to innovation within the university structures. Similar to Maassen et al. (2022), our analysis reveals three central dimensions in which specific instrumental logics are processed by individual actors within an alliance, namely the handling of attributes, commitment, and coordination (see also Berkowitz, 2022). First, the core group itself, the members of the work packages consisting of academic staff from different faculties and central institutions, must go through and create changes. Here, *coordination strategies* aim to standardise meetings, ensure efficient information exchange between the work packages by setting clear agreements with the focus on eliminating or preventing information asymmetries (see Fontanari, 1996) and expecting transparency – as a prerequisite for trust (Schnackenberg & Tomlinson, 2014) – particularly from the management level with regard to providing clarity, direction and prioritisation. Theories that describe how projects develop into systems also emphasise the importance of some essential elements on the relationship level (trust, communication and information as well as leadership and commitment) for the design of cooperation (Maschwitz, 2014, p. 89; Schweer, 2012, p. 107).

This is particularly important when, as in EUI alliances, different interests and cultures clash. For cooperation, generalised trust (built on experiences over a long period of time) and specific trust (generated through recurring encounters with the same people) seem to be of particular interest, as the analysis confirms (see Maschwitz, 2014; Ripperger, 1998). Thus, with regard to the current level of project implementation in the frame of Stockmann's innovation-diffusion model, the project is currently situated at a program-oriented dimension, where participants continue the innovations in their own interest and for their own benefit (Stockmann, 2022). The first-year engagement of the work package groups has been first and foremost concentrated on meeting the deadlines within the tasks.

At the same time, the implementation has also started to spread in the output-oriented dimension, where also other groups have started to adopt the innovations in their own interest and for their own benefit (*ibid.*), e.g., departments and students. Here, the mindshift mechanism is key: members must recognize their commitment, motivation, and openness to change, which then helps inspire staff and students to engage. These processes of spreading innovations put forward the importance of *commitment* and strategies for a sustainable adaptation of the alliance and prove the centrality of individual actors within meta-organisations. They result from fundamental decisions and actions (Berkowitz et al., 2022, p. 2) with adoption processes starting in international teams and continuing through staff and students at the respective universities. Fostering awareness and interest among staff and students alters practices, boundaries and identities within the universities (see Lupova-Henry et al., 2021) by means of the respective actor groups. Interview data suggest that actors actively shape the alliance's value or brand, "so that their audiences perceive them as legitimate actors in given contexts" (*ibid.*, p. 38).

By discussing and negotiating new adoptions of understanding mobility, research and internationalization, actor groups constantly "create, shape, and disrupt boundaries" (Zietsma & Lawrence, 2010) and create a form of category work (Berkowitz et al., 2022, p.5). However, this requires an active exchange and adjustment also with other university leadership and the project's steering committee.

Overall, the interview data align with a normal system development (Schweer, 2012). Participation in the alliance requires a far-reaching transformation and adaptation from leadership, participants, staff and students – thus, different actor groups. There is a difference between the ways in which core academic activities were organised before and the new ways of organising them within the alliance (Maassen et al., 2022, p. 965). The future will determine the extent to which the project content and forms of organising will take root and to what extent whole systems will be affected by the innovations.

7 Conclusion

EUI alliances help universities respond to growing demands for internationalisation and digitalisation but face the challenge of implementing changes across all member institutions simultaneously. Transformations occur along three key dimensions—characteristics, commitment, and coordination—driven by actors at the work package level. These actors play a crucial role in institutionalising the alliances as meta-organisations, supported by leadership and steering committees. Further analysis of coordination could reveal how actors, governing bodies, and institutions negotiate goals and strategies. Using an impact-oriented approach based on Stockmann's innovation-diffusion model (2022), the analysis reveals that a strong project orientation remains after the first year. This model helps assess the implementation progress of innovations and understand their broader system-level impacts. Applying it to alliance research allows for a step-by-step evaluation of innovation diffusion. Future studies will need to examine the sustainability of EUI programmes beyond the initial four-year phase, explore mechanisms for more effective adaptation, and assess whether and how systemic changes occur in higher education and beyond. Overall, alliances are shown to support innovation development.

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Anja Westphal¹

Digitalization of HR Management Processes at Universities – a Systematic Literature Review²

Abstract

This paper examines the digitalization of internal university processes to assess the state of digitalization in HR management at German universities by means of a Systematic Literature Review. The analysis of recent publications on university digitalization reveals that conceptual and empirical data are available for only a few areas, and that concrete implementation measures at the process level remain scarce. The reviewed studies highlight key aspects of digital transformation while underscoring the necessity of technological change. Accordingly, this paper provides a previously underexplored academic perspective on the process level of universities in the context of digitalization.

Keywords

digitalization, digital transformation, processes management, HR

1 Corresponding Author; Technical University of Dortmund, Chair of Higher Education Didactics and Higher Education Research; anja.westphal@tu-dortmund.de; ORCID 0009-0007-9783-7980

2 This article was translated with the assistance of a translation tool to ensure linguistic accuracy and clarity. Translated quotes were checked against the original German quote by the author.

Digitalisierung von Personalmanagementprozessen an Universitäten – eine systematische Literaturrecherche

Zusammenfassung

Dieser Beitrag untersucht die Digitalisierung interner Hochschulprozesse, um den Stand der Digitalisierung im Personalmanagement an deutschen Universitäten mittels einer systematischen Literaturrecherche zu bewerten. Die Analyse aktueller Publikationen zur Digitalisierung an Hochschulen zeigt, dass nur für wenige Bereiche konzeptionelle und empirische Daten vorliegen und konkrete Umsetzungsmaßnahmen auf Prozessebene nach wie vor rar sind. Die untersuchten Studien heben wichtige Aspekte der digitalen Transformation hervor und unterstreichen gleichzeitig die Notwendigkeit des technologischen Wandels. Dementsprechend bietet diese Arbeit eine bisher wenig erforschte akademische Perspektive auf die Prozessebene von Universitäten im Kontext der Digitalisierung.

Schlüsselwörter

Digitalisierung, digitale Transformation, Prozessmanagement, Personalmanagement

1 Introduction

Higher education development is a field undergoing significant transformation due to various reforms and external influences. The technological expansion of teaching and learning environments, which has been established in universities since the COVID-19 pandemic, has not only initiated a wave of positive change but also revealed the need for a comprehensive perspective on higher education development. Research on the digitalization of higher education has shown that the existing digital solutions implemented across different institutional areas lack unified, comprehensive, and fully integrated processes (Becker, 2011, p. 11). *Tsupari et al.* (2024, p. 261) refer to this as „[...] it should have a processoriented perspective that may be largely neglected in the education digitalization literature“.

The process perspective has so far been insufficiently analyzed across various areas of higher education (Castro Benavides et al., 2020, p. 19; Tsupari et al., 2024, p. 260). In particular, within the administrative domain – characterized by complex process structures – there is still a lack of methodologically grounded analyses (Torres Bermúdez et al., 2024, p. 158). Against this background, the present review examines the state of digitalization of processes in the field of human resource management (HRM). These digital transformations set new standards, particularly with regard to competency requirements, work environments, infrastructure, communication, and collaboration among different stakeholders within universities (Onnen et al., 2022, p. 2). This becomes especially evident when considering the diversity of departments within a university. Accordingly, the HRM domain, with its specific areas of responsibility, occupies a central role in the digital transformation of universities (Machwörth et al., 2020, p. 28). In this domain, not only are areas of activity shaped and new staff recruited, but measures for personnel development and retention are also strategically designed. Consequently, HRM assumes a dual role in the course of digitalization: it not only drives its own further development but also contributes to the strategic transformation of the university – for example, through new qualification programs or the use of digital communication tools (*ibid.*, p. 28). The focus thereby lies on the implementation of digital processes that enable university

staff to successfully navigate digital change. A future-oriented university requires the deliberate integration of HRM into organizational development and, thus, into strategic institutional governance (Schramm & Zeithöfler, 2004, p. 8; Schulz, 2014, p. 5). However, previous research has shown that both HRM and the process-oriented perspective have received little attention within the context of digitalization (Torres Bermúdez et al., 2024, p. 158).

By means of a *Systematic Literature Review* (SLR) following Boland (2024), this paper aims to systematize the current state of research and to derive key insights with regard to the following research questions:

- (1) *What is the impact of digitalization on the process level of HRM in German universities?*
- (2) *What impact does digitalization have on HRM at universities, in particular on HR development processes?*

This article is structured into five sections. The first section briefly addresses the key concepts of processes, HRM and digitalization, providing the foundation for the subsequent part, which outlines the Systematic Literature Review approach and identifies the research gap. The third section presents the methodological procedure applied in this study. The fourth section focuses on the presentation of the results and the discussion of the research questions. Finally, the paper concludes with a summary of the main findings and a critical reflection on the conduct of the SLR.

2 Processes in Higher Education

According to Becker, processes are defined as a logically and temporally structured sequence of activities that are necessary for handling an economically relevant object (2011, p. 9).

When examining university processes, an analogous classification to that of business organizations can be applied, distinguishing between core, management, and support

processes (cf. Becker, 2011, p. 10; Berglehner et al., 2014, p. 7). Core processes encompass all activities that have a direct impact on the success of a university, such as processes related to the student-life-cycle (Berglehner et al., 2014, p. 7). The underlying management processes pertain to both strategic and operational activities and primarily involve the planning, control, and monitoring functions within the university organization (Becker, 2011, p. 10). Support processes serve to facilitate and ensure the efficient execution – and thus the success – of the core processes (*ibid.*, p. 10). In principle, the digitalization of universities occurs through a continuous evaluation of process innovations, in which analog processes are replaced or complemented by new digital solutions (Gilch et al., 2019, p. 10).

3 HRM processes in Higher Education

HRM processes are classified as support processes, as they ensure the necessary framework conditions for the execution of core processes (Becker, 2011, p. 10). Consequently, analyses of a university's process levels can provide insights into both its "organizational design" (Ditzel, 2013, p. 114) and the specific characteristics of the HRM department, including its interfaces and interconnections with other departments (Lindner-Lohmann et al., 2023, p. 319).

This paper focuses exclusively on the internal processes of staff development within universities. Staff development can be defined as a subdomain of HRM that deals with the

“systematic qualification of individual employees (= individual staff development) or employee groups (= collective staff development) at all hierarchical levels, moving from a current state towards a defined target” (Rischar, 2003, p. 1, translated).

In general,

“staff development encompasses methods of education (staff development in the narrow sense) and promotion (staff development in the broader sense)” (Lehner, 2014, p. 159, translated).

Thus, it represents an important support process for the success of universities, as the employee is placed at the center of all process-related activities and actively supported (Lindner-Lohmann et al., 2023, p. 197).

The field of HRM, and particularly staff development, has steadily expanded within universities in recent years; however, it is still far from being comprehensively embedded across the higher education system (Schulz, 2015, p. 39). Owing to this, and in light of continuous influences and transformations – such as those brought about by the Excellence Initiative in Germany (ibid., p. 33), institutional profiling, the emergence of new types of higher education institutions, as well as the introduction of new digital solutions and the resulting changes in staff qualification requirements (Alonso, 2019, p. 332; Pellert & Widmann, 2008, p. 108) – together with the increasing competition within the sector, the necessity of analyzing support processes in staff development becomes particularly evident.

4 Definition of Digitalization

Due to the increasing research intensity in the field of digitalization, multiple definitions have emerged. In academic discourse, a distinction is made between three related concepts: *digital transformation*, *digitalization*, and *digitization* (in the narrower sense). Unlike digitalization, the field of *digital transformation* focuses on processes of organizational change that rely on digital technologies to further advance the development of universities (Harwardt, 2019, p. 10). In this context, fundamental transformations of process structures and the technological reimplementation across the entire organization are at the forefront (ibid., p. 10). Within the higher education context, *digitalization* generally refers to the application and use of digital technologies to establish new research, administrative, and teaching and learning

processes (Gilch et al., 2019, p. 12). In contrast, *digitization* denotes the conversion of analog information or structures into digital formats (Loebbecke & Picot, 2015, p. 149).

This paper adopts the definitions of *digital transformation in conjunction with digitalization*, as it aims to examine both the deeper processual changes driven by digitalization and their implications for organizational structures.

5 Systematic Literature Review – Research gap and methodology

5.1 Definition and Research Gap

The increasing research intensity in the field of digitalization within the higher education sector, as well as the heterogeneity of previous studies, provide the rationale for conducting a *Systematic Literature Review* (SLR) (Boland et al., 2024, p. 2). This approach enables a structured, specific, and objective overview of the current state of research on digitalization in higher education – particularly within the field of HRM and its associated process landscape. According to A. Fink, a SLR is defined as

„[...] a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners“ (A. Fink, 2014, p. 3).

To identify the previously described research gap, an initial search was conducted in Scopus on the topic of digitalization in universities and university processes, applying inclusion and exclusion criteria adapted from *Castro Benavides et al.* (2020). The keyword combination (“Systematic Literature Review” AND “Digitalization” AND “Higher Education”) yielded a total of 33 results. These articles were subsequently narrowed down to the publication period between 2020 and 2025, resulting in 24 articles included in this first stage of analysis.

The analysis of these articles revealed that eight studies focused exclusively on the digitalization of teaching, seven on learning outcomes, and one each on examinations and the general needs of students. Furthermore, four articles examined changes in competencies resulting from digitalization, while only four specifically addressed university processes.

The four articles presented in table 1 revealed that a considerable number of publications address technological developments in teaching and changes in competencies, often supported by the introduction of new models (Tsupari et al., 2024, p. 261). The same conclusion was reached by the SLR conducted by Castro Benavides et al. (2020), which illustrates the trend development since 2016 and shows that digitalization efforts in universities have primarily increased in these areas. Both SLRs also identified existing digital solutions as isolated applications, indicating that a comprehensive institutional integration has not yet been achieved (Castro Benavides et al., 2020; Tsupari et al., 2024). As Tsuparis et al. (2024, p. 261) note:

„Therefore, a comprehensive perspective is needed, with digitalization being implemented in educational institutions at the process level rather than the task (i.e. lecture) level”.

Deutsch et al. (2021) focused their SLR on the digital representation of e-government processes and their adaptation within higher education institutions. The SLR by Torres Bermúdez et al. (2024, p. 163) examined the application of models and frameworks in the course of digital transformation in universities, analyzing the extent to which these serve a practical purpose in avoiding isolated solutions. This study concluded that there is currently a lack of scientific work addressing the use of such models for digital transformation, and consequently, that the overall degree of digitalization in universities has not yet been systematically assessed. Overall, the analyses of the reviewed SLRs demonstrate that the digitalization of process levels in universities remains a significant research gap.

Code	Autor	Title	Year	Journal	Digitalization area	Country	Focus	Study type	Methods
S003	Tsapari, K.; Lagstedt, A.; Kauppinen, R.	Revealing the digital transformation, uncovering hidden process dimensions of education	2024	Business Process Management Journal	Processes & Education	Finland	Education processes	SLR + Case Study	Mixed-Methods
S019	Torres,A.; Collazos,C.; Mon,A.;	A Review of the Literature on models or frameworks for Implementation of Digital Transformation Processes	2024	Journal of Computer Science and Technology	Processes		Digital transformation, models for implementing digital processes	SLR	quantitative
S027	Deusch,C.; Gottlieb,M.; Pongratz,H.	Adoption of E-Government Requirements to Higher Education Institutions Regarding the Digital Transformation	2021	International Federation for Information Processes	Processes	USA, Europa	E-Government processes in universities	SLR & Case Study	Mixed-Methods
S031	Castro Benavides,L.; Tamayo Arias,J.	Digital Transformation in Higher Education Institutions: A Systematic Literature Review	2020	Sensors	Processes		Implementation processes for digital transformation at universities	SLR	quantitative

Table 1: SLR to identify research gap

5.2 Methodology

5.2.1 Research Strategy

The following databases, publisher and journals were included in this study:

Database	Publisher	Journals
FIS (Fachportal Pädagogik)	Universitätsverlag Webler	Journal Higher Education
GoogleScholar	Hochschulforum Digitalisierung	Journal Studies in Higher Education
Universitätsbibliothek Dortmund	Zeitschrift Hochschule und Weiterbildung	Journal Higher Education for Future
	Zeitschrift für Hochschulentwicklung	
	Die neue Hochschule	
	die hochschule	
	MedienPädagogik	

Table 2: Research Outlets

The selection of databases was based on the most relevant scientific literature databases in the fields of digitalization, higher education development, organizational development, and human resource management. The identification of publishers was carried out on the basis of a preliminary literature search in the Scopus database. The publication outlets were selected based on a comparison of the average score reached in three recognized scientific rankings, namely the Scimago Journal Rank, ScienceDirect, and the Journal Citation Reports (Web of Science).

The systematic literature review subsequently conducted in 2024 and included publications in both German and English language. It was carried out using predefined keyword combinations, which enabled a targeted filtering of available articles, while ensuring transparency and replicability (Boland et al., 2024; Castro Benavides et al., 2020). The search string for the entire study included the following combinations:

(„Personalentwicklung“) AND („Hochschule“)
(„Personalentwicklung“) AND („Digitalisierung“)
(„Personalentwicklung“) AND („Transformation“)
(„Personalentwicklung“) AND („Fachhochschule“)
(„Personalentwicklung“) AND („Hochschulsystem“) AND („Strategie“)
(„Personalentwicklung“) AND („Hochschulsystem“) AND („Fachhochschule“)
(„Personalentwicklung“) AND („Maßnahmen“)

(„Digitalisierung“) AND („Fachhochschule“)
(„Digitalisierung“) AND („Hochschule“)
(„Digitalisierung“) AND („Hochschulentwicklung“)

(„Higher Education“) AND („Digitalization“)
(„Personal“) AND („Digitalization“)
(„Process development“) AND („Digitalization“)
(„Digitalisierung“) AND („Hochschulentwicklung“); („Digitalisierung“) AND („Personalentwicklung“)
(„Digitalisierung“) AND („Personalentwicklung“) AND („Hochschule“)
(„Digitalisation“) AND („Higher Education“)
(„Digitalisation“) AND („Higher Education“) AND („Processes“)

Table 3: Search strings

Search stringsFor the systematic search across publication outlets, particular attention was paid to ensuring that the following keywords appeared in the title and/or abstract of the article:

Digitalization	HRM
Higher Education	Personalentwicklung
Higher Education Processes	Personalmanagement
Hochschulentwicklung	Personalentwicklungsmaßnahmen
Hochschule	Prozesse
Fachhochschule	Digitalisierung
Hochschulstrategie	Digitale Transformation
Hochschulprozesse	

Table 4: Keywords used for SLR

5.2.2 Inclusion and Exclusion Criteria

To systematically conduct the review, it was necessary to define fixed content-related inclusion and exclusion criteria to guide the selection of relevant studies. These criteria were established according to the *PICO framework* (Population, Intervention, Comparator, and Outcome) (Boland et al., 2024, p. 51).

-
- **Population:** German universities – the study aims to compare different types of higher education institutions in Germany.
 - **Intervention:** technologically and digitally modified HRM-Processes
 - **Comparator:** Traditional processes are not considered
 - **Outcome:** Characteristics of changes in HRM processes due to digitalization – aims to depict a current-state vs. target-state comparison.
 - **Time frame:** 2000 to 2024
 - **Language:** English and German
 - **Setting:** Only fully available articles, conference papers, and publications classified as grey literature are analyzed
-

Table 5: Inclusion and Exclusion Criteria

5.2.3 PRISMA-Method

To enhance the transparency and reproducibility of the SLR process, the PRISMA methodology was applied (Cramarenco et al., 2023). Accordingly, five procedural steps were followed: (1) the formulation of the research question, (2) the identification of publications, (3) the evaluation of the selected studies, (4) a coded synthesis, and (5) the interpretation of the results (Cramarenco et al., 2023).

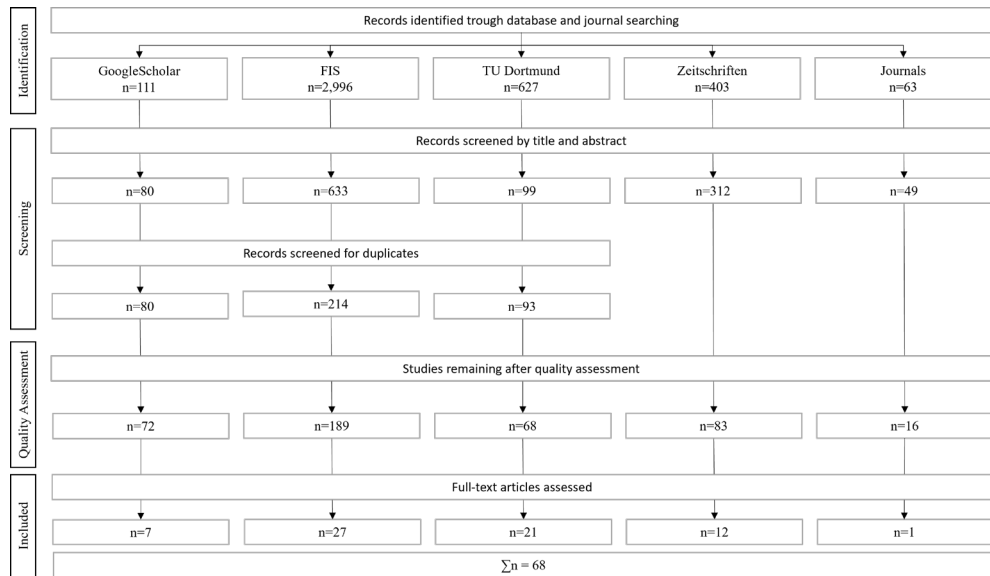


Figure 1: PRISMA Flow Chart

Based on the implementation of the PRISMA approach, a total of 3,734 articles and 466 journal publications were initially identified across the databases. During the screening phase, 3,347 articles were excluded based on their title, abstract, or duplication, leaving 387 publications for further consideration. Within the journal screening process, 105 articles were excluded, and 361 were retained for detailed analysis.

5.2.4 Quality assessment

In the subsequent quality assessment, the remaining $\Sigma 748$ *articles* were further evaluated using a quality assessment questionnaire. This questionnaire comprised five in-depth research questions related to the field of digitalization in higher education and HRM, designed to determine the methodological and thematic quality of each study:

- Does the article address digitalization in higher education within a scientific context?
- Are digitalization and/or HRM processes examined?
- Are process developments described within the context of universities?
- Do the article present strategies that contribute to the digital transformation of universities?
- Does the article provide insights into funding initiatives for digitalization in the higher education sector?

Each question carried a score of one point, resulting in a maximum quality score of five per publication. Consequently, a total of 68 articles – comprising 55 database entries and 13 journal publications – received the highest quality rating of five points and were therefore classified as Priority-A-articles, which were subsequently included in the analysis.

For data analysis and management, Microsoft Excel and Citavi were utilized. Excel was employed to document all SLR search iterations, retrieved publications, and quality assessments, while Citavi was used to conduct content analysis, including the coding of keywords, thematic categorization, geographical focus, and methodological approach.

6 Results

Figure 2 presents a trend analysis of publications within the research fields of *digitalization*, *HRM*, *higher education development*, and *process transformation*. Up to the year 2020, publications in these research areas appeared at a steady rate. However, beginning in 2020 – the first year of the COVID-19 pandemic – a significant increase in the number of publications can be observed. During this period, universities were compelled to develop short-term digital solutions for teaching and learning environments and to maintain academic operations under newly imposed conditions.

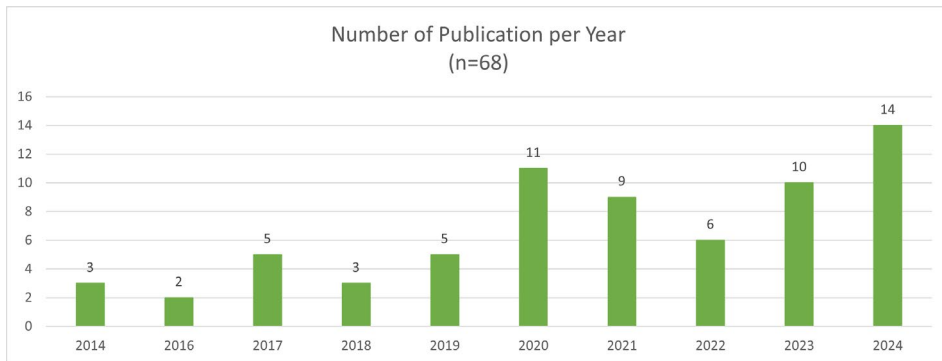


Figure 2: Analysis of publication trends

The 11 articles published in 2020, as presented in table 6, focus on analyses and conceptual approaches to comprehensive and complex transformation processes across entire higher education organizations and their potential for structural and procedural change (Henke & Pasternack, 2020; Rehm & Schulz, 2020). Moreover, these studies examine the shifts and focal developments within human resource development (HR development) in universities in the course of digitalization (Grübler, 2020; Machwörth et al., 2020), as well as the need to reconceptualize research within the context of digital transformation (Hofhues et al., 2018).

Database	Quality Assessment	Quality Score	Code	Author	Year	Country	Title	Research Field	Methodology
FIS	A	5	C042	MacWhirth, S.; Nixemmann, F.; Ramminger, B.	2020	Germany	Zweithelische Herausforderung Digitalisierung.	Human Resource Management & Digitale Transformation	Online Census Survey
FIS	A	5	H076	Mayreger, K.	2020	Germany	Digitalisierung und Digitalität in der Hochschulbildung.	Digitalization in Education and Higher Education	Literature Review and Model Development
FIS	A	5	H229	Schulenburg K.; Gento, B.	2020	Germany	Digitalisierung als Querschnittsaufgabe der Hochschule	Higher Education Research and Digitalization	Modellentwicklung, Conceptual Contribution
FIS	A	5	H230	Rehm, S.; Schulz, H.	2020	Germany	Digitalisierung durchdenken und gestalten. Ein Plädoyer für strategisches Handeln.	Digital Transformation and University Administration	Conceptual Contribution, Case Study
GoogleScholar	A	5	GS008	Hofhues, S.; Schiefer- Rohs, M.; Altmann, S.	2020	Germany	Forschungsperspektiven auf Digitalisierung in Hochschulen	Higher Education Research and Digitalization	Metanalyse & konzeptionelle Reflexion
GoogleScholar	A	5	GS037	Henke, J.; Pasternack, P.	2020	Germany	Wie die Hochschule durch das Zentrieren des Frühdigitalismus kommen	Higher Education Research	Synthesis and Overview Study, Heuristic Framework
J-Higher Education	A	5	JHR015	Finasoli, T.; Barbato, G.	2020	n.a.	The determinants of university strategic positioning: a preappraisal of the organisation	Higher Education Research and Digitalization	Literature review, Cross- Sectional Analysis
Tu Dortmund	A	5	TU007	Mikhailina, E.; Chernova, O.; Gozalova, A.	2020	Russia	Digitalization and the principal-Agent Problem in the higher education	Digital Transformation and University Administration	Conceptual Contribution,
Zeitschriften	A	5	POE081	Grübler, D.	2020	Germany	Digitalisierung und Personalentwicklung - ein Status Quo aus der Sicht einer Personalentwicklerin	Human Resource Management and Digital Transformation	Experience Report – Expert Qualitative Reflection
Zeitschriften	A	5	POE084	Kemmer, B.	2020	Germany	Herausforderungen digitaler Transformation in Hochschulen	Digital Transformation and University Administration	Qualitative Expert Interview, Practice-Based Reflection
Zeitschriften	A	5	ZHE007	Graf-Schlattmann, M.; Meister, D.; Wilde, M.	2020	Germany	Kollektive Veränderungsbereitschaft als zentraler Erfolgsfaktor von Digitalisierungsprozessen an Hochschulen	Higher Education Research	Development Change- Management-Model

Table 6: Identify Literature in 2020

In comparison, the 14 articles published in 2024 (table 7) place a stronger emphasis on state-level and political strategy development (Schütze, 2024; Shermaine & Williams-Shakespeare, 2024; Tooka et al., 2024). Furthermore, several publications address the new digital infrastructure and the process level of universities, illustrating how different institutional areas can be aligned and integrated within digital transformation processes (J. Fink & Dietinger, 2024; Gernler, 2024; Gilch & Jungermann, 2024). It is noteworthy that 11 of the 14 articles are international studies, thereby providing a broader and more comprehensive insight into the global context of digitalization in higher education.

Database	Quality Assessment	Quality Score	Code	Author	Year	Country	Title	Research Field	Methodology
GoogleScholar	A	5	GS019	Müller, U.	2024	Germany	Informationsinfrastrukturen in Zeiten von Digitalisierung und Pandemie: Zusammenarbeit in Feld der baden-württembergischen HAW	Digital Transformation and Organizational Development	Qualitative Case Study, Interviews, Document Analysis
TuDertmund	A	5	TU023	Abelaw, Y. A.	2024	Ethiopia	Digitalization of higher education in ethiopia	Digitalization in Education and Higher Education Development	Qualitative Document Analysis, Secondary Data Analysis
TuDertmund	A	5	TU057	Chakraborty, T.; Natarajan, A.	2024	India	Digitalization of higher education	Digitalization in Education and Higher Education Development	Empirical and Conceptual Contribution
TuDertmund	A	5	TU028	Liljeblad, F.; Liljeskold, J.	2024	Schweden	Tensions in Digitalization in Higher Education: Learning from the Past to Guide Digital Transformation	Digital Transformation and Higher Education Research	Case Study, Document Analysis, Qualitative Interviews
TuDertmund	A	5	TU022	Nherera Muchemwa, C.; Przytula, S.; Sukowski, L.; Kulikowski, K.	2024	Zimbabwe	Digitalisation of higher education in Zimbabwe: A Challenging Necessity and Emerging Solutions	Higher Education Research and Digitalization	Qualitative Document Analysis, Conceptual Contribution
TuDertmund	A	5	TU006	Kulikowski, K.	2024	International	Human Resource Management in Higher Education Institutions	Human Resource Management and Digital Transformation	HRM Trends, Case Studies
TuDertmund	A	5	TU021	Schütze, H.	2024	Germany	Digitalization of german higher education and the role of europe	Higher Education Research and Digitalization	Document Analysis, Sekundäranalyse
TuDertmund	A	5	TU008	Shchokin, R.; Semenets Orlova, I.; Tsedenko, V.; Shermaine, A. B.; Williams-Shakespeare, E.	2024	n.a.	Digitalization Trends in higher Education	Higher Education Research and Digitalization	Conceptual Contribution, Case Study
TuDertmund	A	5	TU024		2024	Caribbean	A Study of Digitalization of higher education institutions in the caribbean	Higher Education Research and Digitalization	Qualitative multiple Case Study, Document Analysis
TuDertmund	A	5	TU026	Thanh Thu Le, Thi	2024	Vietnam	Digitalization of Higher Education in Vietnam	Digitalization in Education and Higher Education Development	Document Analysis
TuDertmund	A	5	TU027	Toolsa, T.; Uchida, N.	2024	Japan	Digitalization of Higher Education in Japan: Challenges and Reflections for Education Reform	Higher Education Policy and Digital Transformation	Qualitative Case Study, Policy Analysis, Secondary Data Analysis
Zeitschriften	A	5	ZHE019 I.	Giehl, H.; Jungermann,	2024	Austrian	Vernetzung und Kooperation als Erfolgsfaktor für die Digitalisierung an österreichischen Hochschulen	Digital Transformation and University Administration	Case Studies
Zeitschriften	A	5	ZHE020	Fink, J.	2024	Austrian	digital blueprint: Die Entwicklung eines interuniversitären IT-Budgetkerns	Digital Transformation and University Administration	Developing a Modular IT Toolkit – considered a best-practice model for inter-university digitalization
Zeitschriften	A	5	ZHE021	Fink, J.; Dietinger, T.	2024	Austrian	Austrian University Toolkit: Entwicklung eines digitalen Backends aus IT-Tools und Applikationen für die Digitalisierung der Hochschulverwaltung	Digital Transformation and University Administration	Development Project (Design-Based Research) - Modular IT Toolkit

Table 7: Identified Literature in 2024

In a further stage of analysis, the 68 articles were examined according to their type of publication (figure 3) and categorized by country of origin (figure 4). It becomes evident that between 2022 and 2024, an increasing number of journal articles was published both in the German and international contexts. Among the leading journals, the *Journal of Comparative & International Higher Education* can be identified as a key international outlet, while the *Zeitschrift für Hochschulentwicklung (ZFHE)* represents a central publication outlet in the German-speaking context.

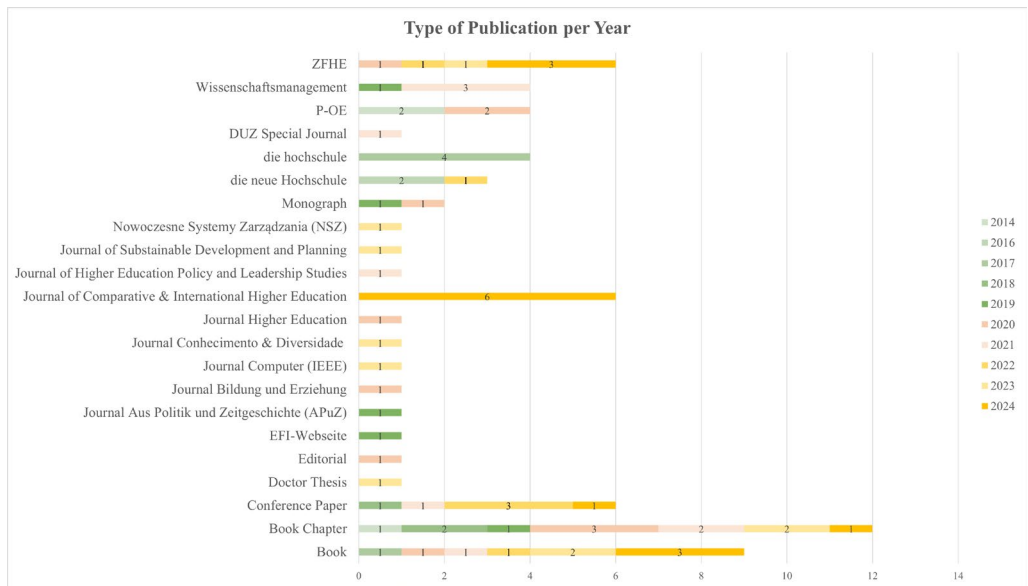


Figure 3: Type of Publication per Year

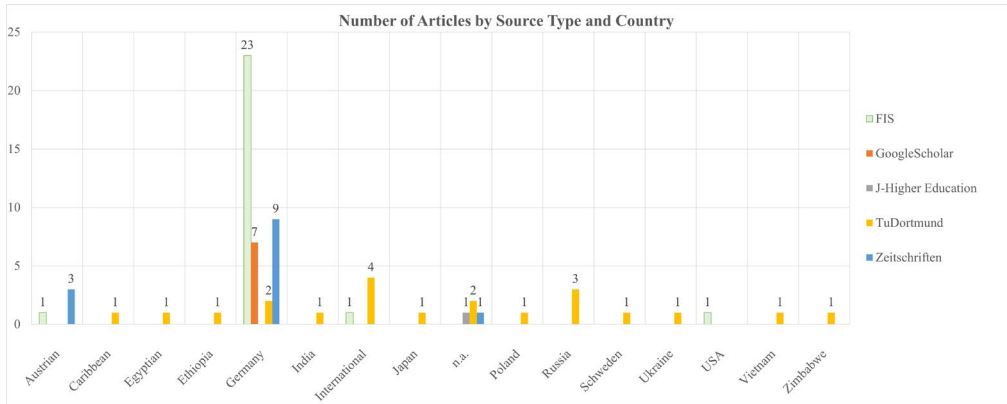


Figure 4: Publication by Country

Building on the previous selection step, which categorized the articles by type of publication and corresponding frequency, table 8 presents the articles published in the *ZFHE* and the *Journal of Comparative & International Higher Education*. The articles published in *ZFHE* address research topics such as collective readiness for change and organizational culture transformation (Graf-Schlattmann et al., 2020); the digital transformation of workplaces and the resulting changes in employees’ tasks and workflows (Wassmer, 2022); as well as the adaptation of administrative process structures to create comprehensive digital solutions for universities (J. Fink & Dietinger, 2024; Gilch & Jungermann, 2024). These contributions demonstrate a strong focus on the increasing digitalization of universities, particularly on process design, strategic transformation, and the diversity and transferability of technical solutions. In contrast, the articles published in the *Journal of Comparative & International Higher Education* – all released in 2024 – primarily investigate the influence of political frameworks and governance on the digitalization of the higher education sector. Accordingly, it can be concluded that the journal exhibits a deliberate focus on the trend development emerging from the ongoing digital transformation.

Database	Quality Assessment	Quality Score	Code	Author	Year	Country	Title	Vol / Issue	Type of Publication	Research Field	Methodology
ZFHE	A	5	ZHE007	Graf-Schlattmann, M.; Meister, D.; Wilde, M.	2020	Germany	Kollaborative Veränderungsberetschaft als zentraler Erfolgsfaktor von Digitalisierungsprozessen an Hochschulen	15 1	Paper	Higher Education Res	Development Change-Management-Model
ZFHE	A	5	ZHE009	Wassner, C.	2022	Germany	Folgen der digitalen Transformation für das Personal und die Raumgestaltung an Hochschulen. Ein Blick in die Zukunft	17 2	Paper	Higher Education Research and Organizational Development	Document Analysis, Expert Interviews
ZFHE	A	5	ZHE017	Kritzing, S.; Pfaff, K.; Barta, J.; Bernhard, J.; Boomgard, H.	2023	n.a.	Digitize! - Computational Social Science in der digitalen und sozialen Transformation	18	Paper	Digital Sociology	Empirical Study on Data Science Methods, Method Development
ZFHE	A	5	ZHE019	Gick, H.; Jungermann, L.	2024	Austrian	Vernetzung und Kooperation als Erfolgsfaktor für die Digitalisierung an Österreichischen Hochschulen	19	Paper	Digital Transformation and University Administration	Case Studies
ZFHE	A	5	ZHE020	Fink, J.	2024	Austrian	digital blueprint: Die Entwicklung eines interuniversitären IT-Baukastens	19	Paper	Digital Transformation and University Administration	Developing a Modular IT Toolkit - considered a best-practice model for inter-university digitalization
ZFHE	A	5	ZHE021	Fink, J.; Detsinger, T.	2024	Austrian	Austrian University Toolkit: Entwicklung eines digitalen Baukastens aus IT-Tools und Applikationen für die Digitalisierung der Hochschulverwaltung	19	Paper	Digital Transformation and University Administration	Development Project (Design-Based Research) - Modular IT Toolkit
Journal of Comparative & International Higher Education	A	5	TU023	Abebe, Y. A.	2024	Ethiopia	Digitalization of higher education in Ethiopia	16 2	Paper	Digitalization in Education and Higher Education Development	Qualitative Document Analysis, Secondary Data Analysis
Journal of Comparative & International Higher Education	A	5	TU022	Nhera Muchemwa, C.	2024	Zimbabwe	Digitalisation of higher education in Zimbabwe: A Challenging Necessity and Emerging Solutions		Paper	Higher Education Research and Digitalization	Qualitative Document Analysis, Conceptual Contribution
Journal of Comparative & International Higher Education	A	5	TU021	Schütze, H.	2024	Germany	Digitalization of German higher education and the role of Europe		Paper	Higher Education Research and Digitalization	Document Analysis, Sekundäranalyse
Journal of Comparative & International Higher Education	A	5	TU024	Shermaine, A. B.; Williams-Shakespeare, E.	2024	Caribbean	A Study of Digitalization of higher education institutions in the Caribbean		Paper	Higher Education Research and Digitalization	Qualitative multiple Case Study, Document Analysis
Journal of Comparative & International Higher Education	A	5	TU026	Thanh Thu Le, Thi	2024	Vietnam	Digitalization of Higher Education in Vietnam		Paper	Digitalization in Education and Higher Education Development	Document Analysis, Qualitative Case Study
Journal of Comparative & International Higher Education	A	5	TU027	Tooka, T.; Uchida, N.	2024	Japan	Digitalization of Higher Education in Japan: Challenges and Reflections for Education Reform		Paper	Higher Education Policy and Digital Transformation	Policy Analysis, Secondary Data Analysis

Table 8: Articles published in ZFHE and Journal of Comparative & International Higher Education

Figure 5 illustrates the distribution of research fields represented in the analyzed articles. Out of the 68 publications, 19 focus on the research area of *Higher Education Research and Digitalization*. In contrast, only 6 articles address HRM, while 17 publications examine the administrative domain of universities.

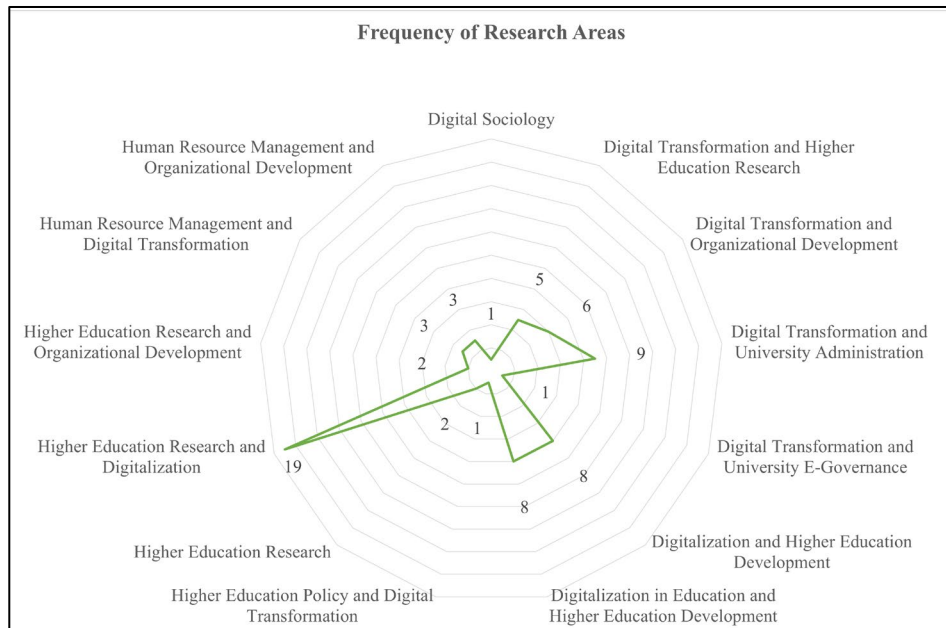


Figure 5: Frequency of Research Areas

7 Discussion

The aim of this paper was to examine the impact of digitalization on the process level of universities. The preceding analyses demonstrated that recent literature no longer focuses solely on teaching and learning contexts, but increasingly addresses more complex solutions for institutional transformation processes in universities. In doing so, it develops practical recommendations and conceptual models to guide these transformations (J. Fink & Dietinger, 2024; Henke & Pasternack, 2020; Rehm & Schulz, 2020). Recent international studies frequently explore the political influence on digitalization in the higher education sector (Le Thu Than, 2024; Schütze, 2024;

Shermaine & Williams-Shakespeare, 2024), in some cases providing cross-country comparisons (Nherera & Mukora, 2024).

Over the years, the research focus has shifted, bringing other areas of universities such as HRM – increasingly into focus. The skills required for both digital teaching applications and transformed processes and job roles have thus become a central aspect managed through HR development in universities (Grübler, 2020; Machwörth et al., 2020; Shchokin et al., 2024). In addition, changing forms of work pose particular challenges for universities, as different employment groups require distinct working conditions (Grübler, 2020). This, in turn, necessitates the creation of new staff development initiatives, which must be more individualized and context-specific, tailored to particular fields of activity (Grübler, 2020; Schulz, 2014). Ultimately, the analyzed articles describe a transformation of universities that is not merely technical in nature, but also encompasses organizational and cultural dimensions of change, both of which are integral components of digitalization (Shchokin et al., 2024).

Moreover, the impact of digitalization on the field of HRM, particularly on HR development, should be examined more closely. Several of the selected studies address the dynamic transformation of HRM, illustrating how competencies and areas of responsibility are changing (Grübler, 2020; Przytuła et al., 2024). Furthermore, they emphasize the close interrelation between HRM, organizational development, and the strategic orientation of universities (Machwörth et al., 2020; Mehrtens Martin, 2014; Schulz, 2014). The literature suggests that HR development, as a central domain within universities, exerts a substantial influence on the organizational and cultural transformation of institutions and can thereby affect their competitive position (Machwörth et al., 2020; Schulz, 2014).

8 Conclusion

This study aimed to generate new insights into the progress of digitalization in universities and serves as a foundation for a subsequent research project focusing on the modeling and implementation of a digitalized HR development process within the context of HRM. The results of the SLR reveal that the process level of HRM functions as a supportive domain, facilitating the achievement of strategic objectives by enhancing the core processes of universities. The analysis of the 68 publications demonstrates that various areas of digitalization have been explored – including administration, HRM, teaching, research, infrastructure, social sciences, and governance. Collectively, these studies illuminate key dimensions of digital transformation and contribute to a more comprehensive understanding of the phenomenon.

However, none of the analyzed articles addresses the concrete implementation or development of digitalized processes within universities. Therefore, future research should adopt more practice-oriented approaches to identify transferable strategies and measures that can effectively support higher education practice.

9 Research Limitation

A limitation of this study is that the data collection was conducted by a single researcher, which may have introduced potential subjective biases. Despite the inclusion of multiple databases and publishers in the search process, it is possible that not all relevant publications were captured due to the specific keyword combinations applied.

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Emanuela Dal Zotto¹, Flavio Ceravolo² & Michele Rostan³

Biodiversity and the Future of Science: the Case of the Italian National Biodiversity Future Center

Abstract

This article explores the functioning, governance and sustainability of the Italian National *Biodiversity Future Center* (NBFC) – a novel research structure established under the *National Recovery and Resilience Plan* (PNRR) – using an ethnographic case study focused on one of its organizational units. The analysis highlights the strengths and weaknesses of the Center and suggests some possible implications for Italian universities and higher education policy.

Keywords

biodiversity, NBFC, higher education, multilevel governance of science, third mission

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- 1 Corresponding Author; Università degli Studi di Pavia; emanuela.dalzotto@unipv.it; ORCID 0000-0003-4367-8594
 - 2 Università degli Studi di Pavia; flavioantonio.ceravolo@unipv.it; ORCID 0000-0002-8143-1886
 - 3 Università degli Studi di Pavia; michele.rostan@unipv.it; ORCID 0000-0001-9030-6481

Biodiversität und die Zukunft der Wissenschaft: Das Beispiel des italienischen Nationalen Zentrums für Biodiversität der Zukunft

Zusammenfassung

Dieser Artikel untersucht die Funktionsweise, Governance und Nachhaltigkeit des *Italian National Biodiversity Future Center* (NBFC) – einer neuen Forschungsstruktur, die im Rahmen des *Nationalen Aufbau- und Resilienzplans* (PNRR) gegründet wurde – anhand einer ethnografischen Fallstudie, die sich auf eine seiner organisatorischen Einheiten konzentriert. Die Analyse hebt die Stärken und Schwächen des Zentrums hervor und weist auf einige mögliche Implikationen für italienische Universitäten und die Hochschulpolitik hin.

Schlüsselwörter

Biodiversität, NBFC, Hochschulbildung, Mehrebenen-Governance der Wissenschaft, Dritte Mission

1 Introduction

This article is framed as an institutional research contribution, developing an academically grounded analysis of the *Italian National Biodiversity Future Center* (NBFC). The NBFC is conceived as a national center established within the framework of the *Italian National Recovery and Resilience Plan* (PNRR).

The paper's goal is to provide a research-based developmental perspective on a systemic issue within the Italian research system: functioning, governance, and sustainability of newly established large-scale centers. In this regard, the NBFC is examined as a case study, through which to explore the opportunities and criticalities of this institutional innovation. Specifically, we analyze the NBFC in terms of its multilevel governance, interdisciplinary collaboration, socio-economic impact, and educational role for future generations. By critically assessing its strengths and weaknesses, the paper aims to contribute to the broader debate on how to design, govern, and sustain complex research centers in the national and European landscape.

2 The National Biodiversity Future Center

2.1 Framework

The *National Biodiversity Future Center* (NBFC) finds its regulatory references within the framework of the *National Recovery and Resilience Plan* (PNRR), the instrument through which Italy has adhered to the *NextGeneration EU* (NGEU) program made available by the European Union to member states to address the economic and social consequences of COVID-19. The program focuses on digitization and innovation, ecological transition, and social inclusion.

Within the Component 2 of the PNRR's Mission 4⁴ dedicated to education and research, the Ministry of University and Research funded, with an investment of 1.6 billion euros, the creation of five National Centers to enhance research structures and create national champions of research and development in certain Key Enabling Technologies.

2.2 The PNRR general scenario and the specific mission of NFBC

The new National Centers focus on strategic themes set by the Ministry of University and Research, including biodiversity. Biodiversity encompasses multiple natural elements, spatial scales, and human contexts (Conference on Biological Diversity, 1992). Its importance for human life and well-being is widely acknowledged (Robinson, 2024), as are the risks of loss due to climate change and pollution (IPBES, 2019). Italy, holding Europe's richest biodiversity heritage (Ercole et al., 2021), amended its Constitution in 2022 to protect it (Articles 9 and 41).

The NBFC pursues two goals: monitoring and restoring biodiversity in ecosystems, and valorizing it as a resource for sustainable development. It aims to become a center of excellence in research, technology transfer, and training, while raising public awareness and supporting biodiversity policies. This requires the involvement of universities, research centers, associations, and private actors.

Structured according to a "Hub & Spokes" model under the National Research Council, NBFC included six Spokes addressing ecosystems, one focuses on communication and public engagement (Einsiedel, 2005), and one on innovation. Its structure includes the Gateway, a large "virtual and physical infrastructure" designed as a "portal between research and society where the products of research and innovation will become valuable for citizens, innovators, and institutions"⁵. It is a space for

4 <https://www.mur.gov.it/it/pnrr/pnrr-misure-e-componenti>, retrieved June 1st 2025

5 <https://www.nbfc.it/en/presentation>, retrieved June 1st 2025

sharing information and discussing biodiversity with various stakeholders, also addressing the emerging need for their active participation in biodiversity issues. An Intellectual Property Board oversees IP. With over 2,000 researchers (53.7 % women, 60 % among PhDs), participation is concentrated in the North (65–70 %).

The experience of the NBFC resonates with a broader international debate on how national and transnational centres for biodiversity research are organized, funded, and sustained. Looking at comparable experiences helps to better situate the NBFC within this landscape and to assess both its potential and its systemic vulnerabilities.

In this perspective, the NBFC should not be interpreted merely as a thematic centre on biodiversity, but as a potential national hub within the Italian research system, designed to connect universities, public research bodies, private institutions, and companies in a coordinated framework. Similar international experiences, such as Germany's iDiv, the US NCEAS, France's FRB/CESAB, Australia's NESP hubs, and the UKCEH, demonstrate both the potential and the fragility of such institutional innovations. On the one hand, these centres highlight the capacity of hub-and-spoke models to foster interdisciplinarity, accelerate knowledge synthesis, and strengthen science–policy interfaces (Hooghe & Marks, 2003; Gornitzka & Maassen, 2017; Lepori, Usher & Montauti, 2013). On the other hand, comparative evaluations consistently point to structural vulnerabilities: high coordination and transaction costs, the bureaucratisation of research work, and the difficulty of ensuring long-term financial sustainability (Capano, Regini & Turri, 2016). Situating the NBFC within this wider family of institutional arrangements thus reinforces the importance and timeliness of our research problem: to analyse the governance of complex national centres as a systemic challenge in the Italian context, where the promise of integration and innovation is inseparable from the risks of inefficiency and fragility.

3 Research Design Methodology

This study builds on three main sources of information:

- a. the materials documenting the implementation of the *Italian National Recovery and Resilience Plan* (PNRR) as part of the Next Generation EU program and the creation of its National Research Centers, including the NBFC;
- b. the active participation in and direct observation of the creation and functioning of the NBFC by the authors;
- c. the active participation in and direct observation of the research project on *Biodiversity Management, Restoration Economy, and Societal Impact*, an activity included in Spoke 6 of NBFC *Biodiversity and Human Well-being*.

The documentary materials include project proposals, internal reports, and the institutional websites of the PNRR and NBFC. Direct observation draws on online communications between the HUB and the Spokes, as well as participation in national and local events, such as the two National Forums on Biodiversity (Rome, May 2023; Palermo, May 2025) and the Spoke 6 meeting held in Pavia in November 2023, where four thematic workshops were organized (Completed Projects, Ongoing Projects, External Communication, and Companies and Territory).

Given the sheer size and complexity of the Center, it is premature to attempt a systematic evaluation of the overall operational model. For this reason, we focus on Spoke 6 as a representative organizational section, under the assumption that many of the strengths and weaknesses identified here are distributed throughout the wider structure. This choice is justified by the cross-cutting mission of Spoke 6, which directly addresses the systemic relationship between biodiversity and human well-being, thereby reflecting the interdisciplinary and governance challenges that characterize the NBFC as a whole.

From a methodological perspective, the research design is best understood as an ethnographic case study, in the sense of a systematic and reflexive engagement with organizational practices through direct involvement and interpretive analysis (Van

Maanen, 2011; Ybema et al., 2009). The study employs multi-method triangulation (Flick, 2018), combining: documentary analysis of institutional and project reports; direct observation of national-level meetings and events; and participant observation within a specific organizational activity. Triangulation strengthens the credibility of the findings by cross-validating insights across different sources and levels of observation.

Our positionality as participant-observers is both a resource and a potential source of bias. Insider status provides privileged access to data, processes, and informal interactions that are rarely available to external researchers, enabling a more fine-grained analysis of organizational dynamics. At the same time, it entails well-known risks such as over-identification, selective perception, and reduced critical distance (Brannick & Coghlan, 2007). To mitigate these risks, we adopted a reflexive stance, systematically documenting observations, engaging in team-based discussions to cross-check interpretations, and validating ethnographic insights against documentary evidence. These practices are intended to preserve analytical rigor while capitalizing on the advantages of insider research (Alvesson, 2003).

The last activity constitutes the privileged observatory of the authors, involving five researchers (three professors from the University of Pavia and two early-career researchers in sociology and economics funded through NBFC). Importantly, our group was the only one representing the social sciences in a context otherwise dominated by natural and life sciences. Furthermore, the team was formally assigned the task of supervising the external communication of Spoke 6. This dual role positioned us internally within the organizational structure while simultaneously being perceived by many colleagues as somewhat external and service-oriented. Such a hybrid positionality – at once insider and outsider (Dwyer & Buckle, 2009) – proved to be particularly productive for ethnographic inquiry, as it enabled us to access relational dynamics and collect valuable observational material precisely because of this altered, and sometimes ambiguous, perception of our role.

Spoke 6, on which our analysis focuses, involves around 300 researchers from universities, research institutes, and companies, coordinated by the National Research

Council, and is structured into four distinct but complementary working groups on: (1) how Nature-Based Solutions modulate the urban exposome; (2) how biodiversity can be enhanced to obtain new sources of food, drugs, nutraceuticals, and (bio)materials; (3) how biodiversity can be leveraged by redesigning industrial production processes in line with the principles of the circular economy; and (4) how biodiversity conservation and restoration can generate significant economic and social impacts.

4 NBFC as Innovative Research Coordination Structure: some general findings

To analyze the NBFC, we adopted a SWOT approach. While similar problems may occur across all Spokes, focusing on Spoke 6 enables closer examination of specific inefficiencies. Two main themes guide our analysis: first, the governance features of the hub-and-spoke model; second, the third mission activities, especially the Center's role in mediating between academia and enterprises and in fostering cultural change on biodiversity at social, economic, and political levels.

4.1 Multilevel governance of science: complexity both as an opportunity and a problem

The NBFC represents an unprecedented initiative in the Italian context due to its distinctive organizational model. It can be considered a relevant case study for examining the multi-level governance (MLG) of science (Maassen & Olsen, 2007; Fumasoli, 2015). In line with the broader understanding of MLG as the interplay of decision-making across vertically and horizontally differentiated arenas (Hooghe & Marks, 2003; Scharpf, 1997), NBFC's governance is articulated through several layers: the European and national policy levels, the implementation level coordinated by the Ministry and the central Hub, and the local level where Spokes develop their activities.

Importantly, NBFC governance unfolds not only vertically but also horizontally, involving collaboration among a diverse set of actors, including universities, research centers, associations, private companies, and non-profit organizations. While such arrangements may foster integration and interdisciplinarity, the literature highlights their structural limitations, particularly in contexts characterized by fragmented institutional capacities (Bleiklie, Enders & Lepori, 2017). One critical issue is bureaucratization. The administrative requirements associated with PNRR-funded projects add to the existing procedures of the institutions involved—most notably universities—thus multiplying reporting obligations and creating inefficiencies. As also noted in European and comparative studies, researchers often find themselves personally responding to administrative requests at the expense of their core scientific activities.

This problem is particularly acute in Italy, where the PNRR has introduced a substantial but highly regulated funding stream. Recent analyses emphasize both the opportunities and the risks associated with these investments, pointing to the weak administrative capacity of universities and research organizations to absorb additional bureaucratic tasks (Regini & Ghio, 2022). The absence of dedicated administrative staff within many institutional structures exacerbates this situation, further transferring the burden of project management to researchers themselves (Capano, Regini & Turri, 2016).

The coordination of NBFC is challenged by the multiplicity of governance levels, which often makes the clear identification of roles and responsibilities difficult. Within the Spokes, however, coordination appears more effective: the case of Spoke 6 demonstrates that smaller size, clearer leadership, and a more direct chain of responsibility contribute to more efficient decision-making and operations. Yet professionals engaged in Spoke activities cannot dedicate themselves fully to NBFC, since most hold academic or managerial responsibilities in their own universities or research institutions.

This inevitably produces inefficiencies and gaps in coordination. Dedicated NBFC recruits, specifically hired to sustain organizational and research tasks, mitigate some

of these shortcomings, but this redistribution of effort also means diverting time from research—the very activity that constitutes the Center’s primary mission.

Another central characteristic of the NBFC is multidisciplinary, which is essential but also demanding in practice. Investigating biodiversity’s ecological, social, and economic dimensions requires broad disciplinary integration (Farinha-Marques, 2011). While the NBFC project envisioned multidisciplinary as a distinctive strength, turning it into effective collaboration has proven complex. As emphasized in the literature (Schijf et al., 2022; Rhoten & Parker, 2004), interdisciplinary work requires epistemological and linguistic negotiation, long before empirical cooperation can be consolidated. The predominance of natural and life sciences within NBFC reduces some difficulties, as many researchers share a common epistemological basis. Nonetheless, developing shared projects with distant disciplines demands time and resources that are often scarce. For this reason, cross-disciplinary working groups have been established, allowing researchers to converge around specific themes. An illustrative case is the collaboration between the authors, all sociologists, and two colleagues in business studies within Activity 4 of Spoke 6. This cooperation enriched the analysis of biodiversity and social innovation, offering complementary perspectives on business models and societal impacts. Yet challenges persist: disciplinary definitions, theoretical frameworks, and methodological traditions are not always easily reconciled, and publishing interdisciplinary results remains problematic, as academic advancement still depends on disciplinary journals.

The difficulties intensify when broader synthesis is required. Cross-disciplinary groups present their results in common meetings, but the very limited time allocated to individual contributions constrains exchange. While these interactions foster a desire to understand and sometimes inspire new collaborations, they are not sufficient to consolidate systematic integration. At the level of Spokes or the NBFC as a whole, where hard sciences are dominant, the challenge of establishing dialogue with the social sciences becomes even more pressing. Nevertheless, evidence from Spoke 6 meetings and national Forums suggests that disciplinary distance also stimulates curiosity, opening opportunities for unexpected collaborations. In this context, the social sciences demonstrate a transversal potential, particularly in mediating with local

communities and policymakers, providing a crucial link between biodiversity research and its societal uptake.

4.2 A research coordination structure

According to the Triple Helix Systems model (Ranga & Etzkowitz, 2013), the NBFC integrates state, academia, and industry in a collaborative framework. In line with PNRR objectives, it involves businesses, universities, and research centers in producing knowledge and technologies for the conservation and enhancement of biodiversity, with the aim of generating innovation, new enterprises, and professional opportunities.

Companies participate as partners alongside universities and research entities. At the local level, “Cascade Calls” have funded activities, though their complexity discouraged some participants. The owner of a startup supported by Spoke 6 emphasized the benefits of collaboration, praising the Center’s shared goals and its “authority”:

“ [...] pushing in the same direction together, results are achieved more quickly, teamwork is built, and Italy’s unique resources are enhanced [...]. Being able to work with such an important center is also very gratifying for us because it is authoritative, stimulating, and also exciting. And passion is essential because the challenges are not few” (Planta Rei, Founder, May 13, 2024)

These statements contrast with findings from a workshop during the National Biodiversity Forum in Palermo (2024), where companies outside NBFC expressed mistrust towards universities. The issue of trust (Vaira, Rostan, Ceravolo & Balduzzi, 2024) was linked to research timelines, perceived as too slow and bureaucratic compared with market needs, as well as constraints on data use. The persistent mismatch between academic and business rhythms is a classic theme in third mission studies.

Such opportunities coexist with structural limits. Since NBFC relies on the administrative frameworks of universities, bureaucratic delays are not reduced but often multiplied, as confirmed by experiences in Spoke 6. The result is further divergence

between scientific production timelines and those required by companies. Nevertheless, the Center has been active in developing skills and professions needed for biodiversity management, a task more easily aligned with existing university activities.

Finally, dissemination and communication, crucial for public engagement, show similar tensions. Despite the involvement of Spoke 7, agencies, and local representatives, coordination remains weak, leaving researchers uncertain about external communication and at risk of workload increases. Without a coherent plan, citizen science initiatives and educational projects risk fragmentation. In response, Spoke 6 created its own communication structure. Interviews with companies further revealed low public understanding of biodiversity, limiting the impact of protection and restoration. Building a stronger biodiversity culture thus represents a major opportunity for the NBFC to influence public debate and policymaking.

4.3 To summarize collected evidences

To summarize all the evidence emerging from the ethnographic observation we attempted to structure a SWOT model. The main themes of reflection that require attention appear to be three.

	HELPFUL to achieving the objective	HARMFUL to achieving the objective
INTERNAL ORIGIN Attributes of the organization	<u>STRENGTH POINTS</u> High knowledge professionals devote a large part of their scientific times to the center Recruiting of a high number of researcher fully (or almost fully) dedicated to the scope of work of the NFBC Possibilities to pool together new infrastructure and scientific tools for a more advanced research	<u>WEAK POINTS</u> Inner complexity of the structure of the center (multilevel structure) causing lack of coordination at different level because (typically) head persons of different research units and Spokes are not fully dedicated to NFBC scope Difficulties to integrate a real interdisciplinary approach with different scientific cultures and languages Lack of administrative personnel fully dedicated to the center (use of Departments administrative personnel) Lack of specific skills of scientific personnel in scientific dissemination and communication
EXTERNAL ORIGIN Attributes of environment	<u>OPPORTUNITIES</u> Governmental support to the NFBC with specific funding Centrality of the issues for the future of the planet Possible future opportunities in term of cooperation with different private and public stakeholders	<u>THREATS</u> Lack of recognition of the role of the center in suggesting policy frameworks for the future because of the inadequacy of dissemination process The bureaucratic requirements outlined in the guidelines for the scientific, and especially financial, reporting

Fig. 1: NBFC's SWOT analysis

Firstly, the multidisciplinary composition of NBFC researchers is both a strength and a weakness. Coordinating this heterogeneity poses organizational and epistemological challenges not yet fully addressed. Building stable structures to manage such complexity would require institutional learning beyond the scope of PNRR procedures. While PNRR funding has expanded research staff and equipment, it has not led to parallel recruitment of administrative personnel or the creation of suitable organizational models. Operations remain delegated to already overloaded Departments and Centers, while the regulatory framework requires constant adjustment.

A further issue concerns the center's capacity to realize third-mission activities. Promising progress is evident in educational programs fostering green economy skills with institutional and private partners. However, collaboration with businesses for new technologies and effective dissemination for cultural change appears weaker. Administrative difficulties and mismatched timelines between research and business persist, suggesting that the center has not yet triggered the necessary cultural shift. Governance complexity further slows decision-making.

Finally, effective dissemination requires a cultural change by academics, still ongoing in Italy. Evidence highlights the importance of involving professional science communicators to strengthen biodiversity outreach and public understanding.

5 The Future of NBFC: discussion and implications

The NBFC started in September 2022 and is set to conclude by 2025, though it will likely continue under a new institutional arrangement. Its foremost challenge will be financial sustainability. Funded through Next Generation EU, the Center benefitted from an unprecedented investment in Italian research. As this extraordinary support ends, the NBFC must self-finance future activities, competing for resources or pooling existing ones.

The termination of PNRR may also alter National Centers' relations with universities. Much research has been implemented by individual institutions, and without financial incentives it is unlikely they will remain engaged in structures that burden operations and drain resources. The Recovery Plan also required major administrative efforts: reorganizing units, creating new ones, and developing staff skills. If the five Centers—including NBFC—do not persist, universities risk wasting these investments.

PNRR funds enabled the recruitment of 257 researchers only at NBFC. Their future is uncertain, with three foreseeable consequences:

- a. NBFC and the other Centers risk losing valuable human resources;
- b. the competences of a new generation may dissipate;
- c. universities will be pressured to stabilize these researchers without the financial means to do so.

The NBFC has generated intense research and third mission activity. By mid-2025, 1,270 scientific works had been published⁶; 13 patents filed, 85 products and services

6 <https://www.nbfc.it/pubblicazioni-scientifiche>

developed, and 10 citizen science initiatives launched. Public outreach was supported via the Biodiversity Gateway.⁷ Evidence nonetheless shows:

- a. while vertical coordination enabled NBFC's creation, horizontal coordination in the Hub-Spokes-Activities structure needs longer to overcome its weaknesses;
- b. despite fostering collaboration, genuine interdisciplinarity is hampered by insufficient incentives and conditions;
- c. while third mission activities expanded, partnerships continue to face obstacles between public and private actors, and university and non-university bodies.

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⁷ <https://www.biodiversitygateway.it/en/>

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**Verena Régent¹, Roi Avila², Limor Aharonson-Daniel³, Dorit Alt⁴,
Svitlana Tarasenko⁵ & Anna Vorontsova⁶**

Continuity and Accessibility in Higher Education Amid Armed Conflict

Abstract

This paper investigates HEIs' adaptive strategies to sustain operations and activities amid armed conflict, focusing on an emergency-driven shift to a cloud university model. Drawing on organisational theory as well as institutional and conflict management research, we present interview-based case studies of three HEIs affected by war. The findings highlight adaptive responses such as agile HE governance, the use of cloud-based services, informal networks, international cooperation, and institutional transformation. Across all cases, crises emerge not only as threats but also as catalysts for innovation, restructuring, and the reassertion of institutional missions.

Key words

armed conflict, institutional adaptation, organisational theory, cloud university, higher education resilience

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- 1 Corresponding Author; WPZ Research; verena.regent@wpz-research.com; ORCID 0000-0002-3870-0112
 - 2 WPZ Research; roi.avila@wpz-research.com; ORCID 0009-0006-4948-2591
 - 3 Ben Gurion University of the Negev, Faculty of Health Sciences; limorad@bgu.ac.il; ORCID 0000-0003-4585-6892
 - 4 Tel-Hai Academic College; altdor@telhai.ac.il; ORCID 0000-0001-9269-8896
 - 5 Sumy State University; tarasenkosvitlanal@gmail.com; ORCID 0000-0002-4829-0559
 - 6 Sumy State University; a.vorontsova@biem.sumdu.edu.ua; ORCID 0000-0003-0603-3869

Kontinuität und Zugänglichkeit der Hochschulbildung inmitten eines bewaffneten Konflikts

Abstract

Dieses Paper untersucht die Anpassungsstrategien von Hochschulen, um ihren Betrieb – insbesondere die Lehre – im Kontext bewaffneter Konflikte aufrechtzuerhalten. Besondere Berücksichtigung wird dem krisenbedingten Übergang zu einem Cloud-University-Modell geschenkt. Basierend auf organisationstheoretischen Ansätzen sowie Forschung zu institutionellem Wandel und Krisenmanagement stellen wir interviewbasierte Fallstudien von drei vom Krieg betroffenen Hochschulen vor. Die Ergebnisse verdeutlichen adaptive Reaktionen wie agile Hochschulsteuerung, den Einsatz cloud-basierter Dienste, informelle Netzwerke, internationale Kooperationen und institutionelle Transformation. Über alle Fälle hinweg zeigen sich Krisen zwar als massive Bedrohung, aber auch als Katalysatoren für Innovation, Umstrukturierung und die (Wieder-)Besinnung auf institutionelle Kernaufträge.

Key words

Bewaffneter Konflikt, institutionelle Anpassung, Organisationstheorie, Cloud-Universität, Resilienz im Hochschulwesen

1 Introduction

Higher education (HE) systems around the world have been facing numerous and severe disruptions over the past decade, and such crises continue to pose some of the greatest challenges to the sector.

Given rising geopolitical instability, HE systems must enhance emergency preparedness and institutional resilience. Armed conflicts severely disrupt HE, as seen in Ukraine, Israel post-2023 Hamas attacks, and the ongoing Gaza war. Beyond collateral damage, HE institutions (HEIs) are increasingly targeted in acts of “scholasticide”, notably in Syria (Kayyali, 2024) and Gaza (Barakat et al., 2025).

This paper examines how HEIs adapt organisationally to war and conflict, with a focus on the use of cloud technologies. Bridging HE research, crisis resilience, and organisational/strategic management theory, it addresses a gap in literature on adaptation in high-risk environments. Through a multiple case study of three HEIs in conflict zones, it explores strategies for maintaining accessibility and continuity.

2 Literature review

This review explores how HEIs adapt to war and conflict. While rarely applied in HE (Heaton et al., 2023), organisational theory provides key insights into adaptive strategies, complemented by crisis and HE management literature, as well as educational technology research.

2.1 Organisational adaptation in a context of conflict

Wars and armed conflicts are external shocks to HEIs, triggering profound disruptions and abrupt changes across all dimensions of their operations. In this context, HEIs must go beyond operational efficiency by strategically leveraging and dynamically reconfiguring their resources to adapt.

In this regard, the strategic management literature holds a rich body of knowledge with a view to (1) resource orchestration via the resource-based view – RBV (Wernerfelt, 1984; Teece et al., 1997; Helfat et al., 2023) – and (2) dynamic capabilities (e.g., Heaton, 2023).

RBV offers a valuable lens for identifying and leveraging strategic resources during crises. It posits that organisational survival and performance depend on resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). For HEIs, this includes human capital and institutional knowledge – core to both daily operations and crisis response (e.g., Winter, 1987; Bergh et al., 2025). However, wartime disruptions such as displacement and psychosocial stress require strategic redeployment of these assets. Digital infrastructure and online learning capabilities also emerge as critical resources for sustaining services under extreme conditions. Still, crises complicate resource identification and coordination due to time constraints, limited control, and reduced flexibility (e.g., Flammer & Ioannou, 2021).

Thus, under crisis conditions, dynamic capabilities are crucial as they enable organisations to adapt and redeploy resources when needed (Chauvin et al., 2024). It helps to explain how HEIs scan the swiftly changing environment to adapt to their emerging needs, how they seize the sensed opportunities, and how they reconfigure (or orchestrate) their limited resources in a way that creates most value and helps them to manage change.

Effective orchestration of diverse resource types is especially critical: Unlike private firms, HEIs must navigate both competitive market dynamics, such as the race for funding and talent, and the constraints of highly regulated, institutionally embedded systems (Dorobantu et al., 2017). In times of crisis, financial resource management becomes paramount, as underfunding, unstable revenue streams, and rising operational costs directly challenge institutional resilience. These pressures highlight the limits of traditional strategic frameworks alone and point to the importance of integrating crisis resilience perspectives. The following section explores how HEIs confront such disruptions by drawing on crisis management and HE literature to sustain their core functions under acute stress.

2.2 HEIs in conflict – institutional resilience and adaptation

Previously underexplored (Milton, 2018), the role of HE in conflict was shifted into focus by Millican (2018) who examines HEIs' multifaceted roles in conflict, peace-building, and resistance. Milton and Barakat (2016) name four central challenges for HE in conflict-affected contexts: (1) destruction of infrastructure, (2) mass displacement of students and staff, (3) deteriorating educational conditions due to ongoing violence, and (4) constrained institutional resilience.

According to the *Education Under Attack report* (GCPEA, 2022), HEIs experienced armed violence in 28 conflict-affected countries during 2020–2021, with Ukraine the sole European case due to ongoing Russian aggression since 2014. Heleta (2015) points to examples in countries like Afghanistan, Iraq, Somalia, South Sudan, and Syria, where HE systems have faced collapse, disruption, and infrastructure damage. In Gaza, campus destruction, displacement, and systemic collapse have been met with inadequate international aid (Barakat et al., 2025). Israeli HEIs also suffered major disruption after the 2023 attacks and missile strikes, prompting closures and a shift to virtual learning (Avdiel & Blau, 2025).

Researching key risks to HEIs' stability during wartime, we draw on Helsloot and Jong's (2006) typology, which distinguishes (1) risks intrinsic to the academic sector, (2) risks arising from HEIs' societal embedment (Millican, 2018), and (3) vulnerabilities inherent to their organisational nature. Wars constitute type (2)-risks, while also deepening institutional fragilities (type (3)), illustrating the interdependence between systemic and institutional risks (Doronina et al., 2025), such as financial destabilisation, human capital erosion through displacement and conscription, and operational disruptions – examples of critical resource erosion in the framework of the RBV.

Protsyk (2025), Doronina et al. (2025) and Reznikova (2022) highlight significant underfunding during wartime, exemplified in Ukraine: formulaic efficiency-based funding was cancelled, budgets cut, and tuition losses accrued due to lower enrol-

ment (Doronina et al., 2025). Simultaneously, HEIs face rising adaptation costs; material and technical bases were damaged or destroyed, and some institutions in combat zones were forced to relocate (Doronina et al., 2025; Antoniuk, 2023). Staff reductions lead to increased workloads – “personnel famine” (Doronina et al., 2025) – while staff and students also face social risks such as mental health problems, reduced motivation and team conflicts. Here, the dynamic capabilities perspective helps explain how HEIs attempt to integrate, reconfigure, and renew internal and external resources to adapt and survive in such volatile environments.

Hazzan & Zahav (2022) stress the need for holistic risk management in HE, while Protsyk (2025) highlights “cultivating HE’s resilience during the active phase of armed conflict” as key to a country’s recovery (p. 280). Resilience is defined by the World Bank (2013) as “the ability to recover, perform or even grow or transform in adversity” (cited in Protsyk, p. 281). Ritesh (2019) adds that a resilient education system ensures safe, equitable access and preserves learning outcomes during crises. Protsyk (2025) emphasises international cooperation, notably via the *European Higher Education Area* (EHEA), as vital for building HE resilience, as well as the protection of the well-being of staff and students via flexible and personalised study arrangements. Kuzheliev et al. (2023) and Polianovskyi et al. (2021) point to the role of remote learning during war, and highlight adjustments in distance learning, lab work, and digital skill development. The next section will explore technology-driven approaches, notably cloud-based solutions for continuous educational delivery amid conflict in more detail.

2.3 Cloud-based solutions as adaptive strategy

The previous sections illustrated how HEIs cope with crises from the perspective of organisational and crisis management. Bridging these insights, it becomes clear that strategic resource coordination must also encompass technological adaptability in crisis response. This paper echoes Kuzheliev et al. (2023) in emphasising remote

learning as a critical shift away from vulnerable, location-bound models. Specifically, it explores the “cloud university” as a temporary, cloud-based operational mode that sustains educational continuity. Cloud computing’s capacity to deliver cost-effective, secure, and scalable services is well established (Alharthi et al., 2015; Kiryakova, 2017), and in conflict-affected contexts, these technologies bolster HEI resilience by supporting flexible, accessible, and uninterrupted instruction.

The cloud university model addresses HEI service challenges by enhancing accessibility, allowing students and staff to use internet-capable devices anytime and anywhere. Studies comparing traditional university IT services (Sultan, 2010) with cloud models (Mathew, 2012; Alharthi et al., 2015) show that while traditional systems struggle with limited lab access, maintenance delays, and mobility constraints, cloud solutions reduce complexity through scalable resources and lower hardware requirements. Such features are especially valuable in conflict zones, where infrastructure damage and displacement disrupt education (Milton & Barakat, 2016). Cloud platforms can ensure continuity by enabling data replication, disaster recovery, and flexible resource configuration (Youssef, 2012).

For conflict-affected HEIs, cloud flexibility supports curricula tailored to institutional needs, particularly in digital skills, use of learning management software (LMS), and MOOCs (Glazunova & Shyshkina, 2018; Habib, 2023). Cost-effectiveness is another strategic advantage: by lowering infrastructure and maintenance costs, cloud services help mitigate funding cuts and rising expenses (Alharthi et al., 2015), with some providers offering discounts for students and staff in war-affected regions (Kiryakova, 2017).

In light of these advantages, it must be noted that cloud-based solutions are not without limitations. Technical concerns like service outages and limited bandwidth can still disrupt learning processes and class schedules (Alharthi et al., 2015). Although fault-tolerant architectures help mitigate such disruptions (Hasan & Goraya, 2018), cloud universities also face strategic vulnerabilities, notably the growing dependence on third-party providers for infrastructure, data storage, and software services. This

reliance can raise concerns about data security, sovereignty, long term cost implications (Tarasenko et al., 2025), and potentially reduced institutional control over core educational functions, and must therefore also be reflected.

The following empirical section examines how conflict-affected HEIs have implemented adaptive strategies, with a special consideration of cloud technologies sustaining education amid disruption.

3 Methods

Due to limited empirical research on HEIs' organisational adaptation and cloud use in armed conflicts, this study uses an inductive, multiple case-study approach. It analyses three purposefully selected HEIs via altogether 57 semi-structured interviews⁷ with HEI representatives and external experts, complemented by ethnography and archival document analysis (see figure 1 for details on cases and data gathering).

7 The study was conducted in accordance with ethical standards. All participants provided informed consent for the use and publication of their responses, and anonymity was ensured.

Case 1: University of Belgrade	Case 2: Sumy State University (SSU)	Case 3: Tel-Hai College
• Largest HEI in Serbia. • Affected by Yugoslav wars in the 1990s. • Recently experiencing student protests. • Ongoing tensions around academic freedom and governance.	• Among the largest universities in Ukraine. • Strongly affected by the Russian full-scale invasion since 2022. • HEI at risk due to proximity to the epicenter of conflict.	• Among the leading HEIs in northern Israel. • Strongly affected by the tensions with Hezbollah in 2024. • Counted as “unstable HEI” until recently, due to proximity to the epicenter of the conflict.
• 13 semi-structured interviews with staff, (former) students and external experts who experienced/studied the 1990s conflicts. • Review of archival documents.	• 23 semi-structured interviews with university staff and external stakeholders (e.g. ministry representatives). • Ethnographic observation by on-site partners.	• 21 semi-structured interviews with HEI staff and external stakeholders (e.g. ministry representatives). • Ethnographic observation by on-site partners.

Fig. 1: Case selection and data gathering

The gathered data was analysed using a thematic synthesis approach according to Thorne et al. (2004), focusing on aggregated insights rather than individual statements. This method enabled the identification of recurring patterns, shared challenges, and institutional responses across all interviewees within each case – and helped to ensure anonymity. Such aggregated approach is especially useful in our case-study design with three distinct institutions, as it enables meaningful comparison by identifying common patterns of resilience and adaptation across diverse contexts.

4 Results

Findings are presented emphasising the distinctive characteristics of each case. First, we outline the conflict’s impact on the institution. Next, we examine HEIs’ strategic adaptations to these challenges. Finally, we explore the role of innovative (cloud) technologies and digital equity in sustaining educational continuity.

4.1 Case 1: University of Belgrade (UB)

During the 1990s, Serbia's HE system was profoundly disrupted by the Yugoslav Wars, sanctions, political instability, and authoritarian rule, resulting in four main challenges: international isolation, financial crisis, academic brain drain, and political pressure.

Impacts on the institution

During the 1990s, Serbian HE faced severe disruption due to armed conflict and international sanctions, which isolated academia from global networks, compounded by poor internet infrastructure and restrictive visa regimes. Political control intensified as the government demanded institutional loyalty, with legislative changes enabling close oversight and punitive measures against dissent, undermining academic freedom and autonomy – officially for purposes of “depoliticising”.

Although the UB's infrastructure was largely spared – aside from the 1999 NATO bombing – economic sanctions triggered a deep financial crisis. Funds prioritised (insufficient) faculty salaries, leaving no resources for maintenance or development, and shifting institutional focus to survival. This led to deteriorating infrastructure. Moreover, this period saw a mass exodus of students and qualified faculty, many of whom did not return, resulting in a lasting brain drain. Prolonged isolation left Serbian HE lagging in key reforms like the Bologna Process and digitalisation. Graduation times rose dramatically between 1985 and 2005 (e.g., in medicine from 7.28 to 11.03 years; in social sciences from 6.70 to 8.698), with meaningful European alignment only beginning in 2006–2007.

Strategic adaptation

Despite severe disruptions, the UB demonstrated considerable adaptability. A key response was the creation of the Alternative Academic Educational Network

8 As per data from the Serbian Ministry of Education and Sports, 2005.

(AAEN), a semi-formal platform for dismissed academics and marginalised students. The AAEN enabled knowledge exchange under restrictive conditions, encouraged interdisciplinary and Bologna-aligned practices, and facilitated access to resources via informal channels. Educators shared teaching materials through what was jokingly called the “right to copy,” and improvisation was widespread – described as “making a machine out of spare parts that don’t really fit.”

Informal networks also sustained academic collaboration, both domestically and internationally. As one interviewee noted: “We kept in touch through personal contacts. Officially, we were cut off, and that was the most frustrating part”. International support from the Council of Europe and the Soros Foundation via grants and exchanges was vital, though accepting it risked accusations of disloyalty.

The role of cloud and digital equity

At the time, Serbia’s digital infrastructure was not sufficiently developed to support cloud technologies. As one respondent put it, digital tools were “at a rudimentary stage”. Email and basic online services became more accessible only around 1999, primarily used by researchers to maintain limited contact with the international academic community.

4.2 Case 2: Sumy State University (SSU)

SSU has faced profound disruption since Russia’s full-scale invasion in February 2022, including physical damage, infrastructural instability, administrative challenges, and psychological strain on staff and students.

Impacts on the institution

Despite the crisis, SSU retained its formal structure but suspended educational activities until April 1, 2022, to reassess safety. Staff were placed on leave, students given an unscheduled break, and university basements converted into bomb shelters for campus and community use. After resuming, SSU shifted to remote and asyn-

chronous teaching, building on COVID-19-era digital strategies. Administrative operations were hit hard: bonuses were cut, budgets trimmed, and some research projects paused. Teaching had to become more flexible, with adjusted deadlines and assessments to support students facing access and mental health challenges.

The university widely sustained physical damage from military activity, while repeated attacks on national energy systems disrupted electricity, heating, water, and internet, affecting communication and campus operations. Many staff and students were displaced, internally and abroad, and ongoing insecurity caused significant stress. SSU responded with psychological support services and adaptive teaching methods to meet the needs of a dispersed student body, prioritising continuity and morale under extreme conditions.

Strategic adaptation

SSU responded to the crisis by decentralising governance and strengthening ties with local communities. Crisis response centres were set up, and the academic calendar was adjusted to start in August to reduce winter energy use.

Operations were modernised with administrative automation, hybrid formats, and remote tools like e-signatures for thesis defences, e-cabinets for teachers, and electronic document management. Resilience hubs with backup power and internet ensured continuity during blackouts, and bomb shelters were equipped for hybrid teaching during air raids. Support was prioritised for international students through phased evacuation and tailored academics. For Ukrainian students, 24/7 contact and supervision opportunities were installed. Digital tools supported communication with students and enabled flexible learning formats.

The crisis also expanded SSU's third mission. The university deepened its role in local education, mental health services, and workforce training, while partnering with national industrial clusters. A culture of trust and ethical engagement grew stronger. As one respondent said, "The war revealed human qualities ... people have

remained loyal”. SSU now prioritises adaptability and strategic scenario planning for future resilience.

The role of cloud and digital equity

SSU shows partial alignment with the cloud university model. While many educational and administrative functions – such as virtual classrooms, assessments, and data storage – have moved online, full integration is still underway. Key efforts include enhancing local digital infrastructure and establishing resilience points with power and connectivity for asynchronous learning in low-access areas.

To bridge the digital divide, international support has enabled student evacuations, equipment provision, and financial aid for vulnerable groups – crucial steps for maintaining access and academic inclusion during wartime.

4.3 Case 3: Tel-Hai Academic College

Tel-Hai Academic College in Israel was heavily affected by the outbreak of war after October 7, 2023. While initial conflict was in the south, northern hostilities involving Hezbollah placed Tel-Hai on the frontlines, creating immediate security threats and disrupting its academic and social fabric during a critical transition toward university status.

Impacts on the institution

The conflict forced Tel-Hai to shift from long-term planning to immediate crisis management. Governance moved to decentralised emergency teams working remotely, suspending regular functions like faculty meetings and research oversight. Enrolment, registration, and approvals were streamlined or deferred through digital and emergency channels. With northern Israel under attack, much of the civilian population of the region was evacuated and relocated. College facilities such as

classrooms, labs, dorms and offices became inaccessible; the campus was fully evacuated, and all operations became virtual.

Some research sites became military zones, halting experiments and requiring relocation of sensitive equipment. Faculty and staff moved to temporary host locations, enabling limited teaching and research. The closure of libraries and student centres disrupted the college's social and intellectual life. Approximately 60 % of the Tel-Hai community was displaced, and 20 % joined military reserves. War-related stress and disruptions created high anxiety.

Strategic adaptation

Tel-Hai swiftly adapted to the crisis with layered strategies. As conflict escalated, all teaching shifted online, with faculty operating from temporary locations and assignments managed digitally. Emergency teaching assistants were deployed, grading and participation policies adjusted, and digital infrastructure reinforced. Regular updates kept students informed, while prior experience from the COVID-19 pandemic aided the transition.

Despite the war, Tel-Hai advanced its goal of becoming a university, using the crisis to reaffirm its educational and research mission. Flexible pedagogy emerged, including asynchronous instruction, interactive forums, and personalised support for students in military service or under stress. Research in relevant fields pivoted to urgent issues like mental health and resilience, while outreach moved online through webinars and community programs.

The role of cloud and digital equity

Tel-Hai became a de-facto cloud university, shifting nearly all academic and administrative functions online. Faculty and students worked remotely, using cloud-based tools to maintain operations and governance without geographic centrality.

To address digital inequities, the college offered digital literacy workshops and trained faculty in inclusive remote learning design. Advisors monitored at-risk students, providing targeted support to uphold academic integrity and inclusion.

5 Discussion and conclusion

Despite vast differences in historical context, geopolitical landscape, and available technology, the three observed cases demonstrate a set of recurring strategic responses by HEIs operating under extreme duress.

With a view to governance, a shift from routine to crisis-driven decision-making could be observed: Tel-Hai established emergency task forces to replace standard academic processes; SSU decentralised authority through resilience hubs, automated administrative processes, and deployed e-governance tools to maintain continuity. In both cases, governance agility – reconfiguring resources and capabilities to respond to rapidly changing conditions – was central, illustrating key principles of the RBV and dynamic capabilities theory.

Dimension	University of Belgrade (1990s)	Sumy State University (2022-present)	Tel-Hai Academic College (2023/24)
Governance	Routine crisis-driven; emergency improvisation	Decentralised authority via resilience hubs and e-governance tools	Emergency task forces replacing standard processes
Teaching/Learning	Improvised seminars; personal connections; basic digital tools	Localised, asynchronous access; full online operations	Near-total virtualisation; rapid online transition
Informal Networks	Semi-clandestine redistribution of teaching materials (AAEN)	Institutional and community networks; international partnerships	Staff/alumni networks; community mobilisation
Institutional Transformation	Bottom-up experimentation integrated into curricula	Deepened community engagement	Advanced goal toward university status

Table 1 Common features between the three investigated cases

All three institutions rapidly shifted to remote teaching. In 1990s Belgrade, this involved improvised seminars, personal connections-based learning, and basic digital tools. Tel-Hai and SSU, building on COVID-19 experience, transitioned entire operations online within days. SSU emphasised localised, asynchronous access; Tel-

Hai achieved near-total virtualisation. Both addressed digital inequities, highlighting crisis-driven disparities. These shifts illustrate dynamic capabilities: adapting internal processes in real time rather than merely reacting to external shocks.

A shared feature across cases was the use of informal networks to bridge resource gaps and sustain key functions. AAEN in Serbia redistributed teaching materials through semi-clandestine means; Tel-Hai relied on staff and alumni ties and much like SSU, mobilised community and institutional networks. From an RBV perspective, such ties are valuable, rare assets offering adaptive advantages. All three also benefited from external support: NGOs in Belgrade, emergency aid at Tel-Hai, and international partnerships at SSU.

Finally, all three HEIs used the crisis as an accelerator for institutional transformation. UB saw bottom-up experimentation formally integrated into later curricula. Tel-Hai proceeded with its long-term goal of achieving university status, SSU used wartime adversity to deepen community engagement. In line with the World Bank's (2013) definition of resilience, they grew and transformed in adversity. These adaptations illustrate HEIs' dynamic capabilities to reconfigure routines and, from an RBV perspective, leverage unique assets to sustain advantage under crisis conditions.

For HEIs operating in conflict-affected or crisis-prone environments, these findings highlight the importance of investing in governance agility, robust digital infrastructure, and the cultivation of informal and external support networks. Developing modular curricula and flexible delivery modes can help institutions maintain continuity.

This study is limited by its reliance on interviews. For the UB, data are retrospective, recalling events from over 30 years ago, and current political sensitivities made recruitment difficult. At Tel-Hai and SSU, co-authors conducted interviews on-site, which improved access, but their direct involvement in the crisis could influence the co-construction of interview content. More research is needed to clarify the opportunities, but, importantly, also risks of cloud-based solutions for HEIs in crises.

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Veronika Graceva¹, Paula Goerke² & Andreas Breiter³

Organisation Hochschule unter Druck: KI-Policies und isomorphe Prozesse im Hochschulsystem

Zusammenfassung

Die Nutzung von *KI-basierten Bildungstechnologien* (KIBT) an Hochschulen nimmt stetig zu. Angesichts deren zunehmender Bedeutung für die Wettbewerbssituation, reagieren viele Hochschulen mit der Entwicklung von KI-Richtlinien (Policies), die wir als Ausdruck institutioneller Reaktionen auf technologische Veränderungen verstehen. In unserer empirischen Arbeit untersuchen wir aktuelle hochschulische KI-Richtlinien im Licht der institutionellen Theorie von DiMaggio und Powell (1983), um inhaltliche Schwerpunkte und Überschneidungen zu erforschen. Ziel ist es, die zugrunde liegenden Dynamiken organisationaler Transformationsprozesse an Hochschulen zu verstehen und Formen der Isomorphie zu identifizieren.

Schlüsselwörter

KI an Hochschulen, KI-Policies, Organisationssoziologie, Neo-Institutionalismus, Wettbewerb an Hochschulen

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- 1 Corresponding Author; Institute for Information Management Bremen; vgraceva@ifib.de; ORCID 0009-0000-5896-0045
 - 2 Institute for Information Management Bremen; pgoerke@ifib.de; ORCID 0009-0002-5601-915X
 - 3 University of Bremen / Institute for Information Management Bremen; abreiter@ifib.de; ORCID 0000-0002-0577-8685

HEIs Under Pressure: AI Policies and Isomorphic Processes in the Higher Education System

Abstract

The use of AI-based educational technologies in higher education institutions is steadily increasing. Given their growing importance for competitive positioning, many universities are responding by developing AI policies, which we understand as expressions of institutional reactions to technological change. In our empirical study, we examine current university AI policies considering the institutional theory by DiMaggio and Powell (1983) to explore thematic priorities and overlaps. The aim is to understand the underlying dynamics of organizational transformation processes in higher education and to identify forms of isomorphism.

Keywords

AI at HEIs, AI policies, organisational sociology, neo-institutionalism, competition in higher education

1 Einleitung

Die Verbreitung generativer *KI-basierter Bildungstechnologien* (KIBT) schafft für Hochschulen neue Effizienzpotenziale und Wettbewerbsherausforderungen, erfordert aber auch verstärkte Transparenz und ethische Verantwortung (Bates et al., 2020; Ifenthaler, 2023). Hochschulen stehen unter Druck, klare Regeln für den Umgang mit generativer KI zu entwickeln, da die Nutzung durch Studierende kaum vollständig kontrollierbar ist und aufseiten aller Statusgruppen große Unsicherheiten bestehen (An et al., 2025). In diesem Zusammenhang fungieren Policies als institutionelle Instrumente, die Handlungsorientierung schaffen, sowie rechtliche und ethische Standards setzen (Hiemenz & Kuberek, 2018).

Unsere Analyse von KI-Policies deutscher Hochschulen zeigt, wie Institutionen auf neue Herausforderungen reagieren, bzw. welche Antworten sie auf die Anforderungen eines sich wandelnden Hochschulsystems geben. Die Untersuchung der Richtlinien macht die Rolle neuer Technologien empirisch greifbar. Im Mittelpunkt stehen folgende Fragen:

- *Welche Überschneidungen lassen sich in den inhaltlichen Schwerpunktsetzungen der hochschulischen KI-Policies feststellen und welche Hinweise geben diese auf mögliche Transformationsprozesse der Hochschulen?*
- *Inwiefern kann die Entwicklung von KI-Policies exemplarisch für das Spannungsverhältnis zwischen hochschulischem Wettbewerb und Konformitätsanforderungen innerhalb eines organisationalen Feldes gelesen werden?*

Zur theoretischen Einordnung dient das Konzept des institutionellen Isomorphismus von DiMaggio und Powell (1983). Es erlaubt, die Entstehung von Policies als Teil breiterer, untereinander verflochtener Prozesse zu deuten, in denen Organisationen unter dem Druck von Unsicherheit, Legitimitätserwartungen und Wettbewerb ähnliche Praktiken übernehmen.

2 KI-basierte Bildungstechnologien an Hochschulen

Künstliche Intelligenz bietet spannende Transformationsmöglichkeiten für Lehr- und Lernprozesse, bringt aber auch Herausforderungen mit sich. Zawacki-Richter et al. (2019) identifizieren vier zentrale Einsatzbereiche von KI an Hochschulen:

1. Profiling und Vorhersage zur Prognose von Studienerfolg und Drop-out-Risiken,
2. automatisierte Bewertung von Prüfungsleistungen durch Natural Language Processing,
3. adaptive Systeme zur Personalisierung von Lernpfaden und
4. intelligente Tutorsysteme mit personalisiertem Feedback.

Zentrale Herausforderungen beim Einsatz von KI in der Hochschulbildung ist die starke Kontextabhängigkeit und mögliche Verzerrung der zugrunde liegenden Daten: einseitige oder intransparente Trainingsdaten können zu fehlerhaften oder voreingenommenen Ergebnissen führen, was wiederum Diskriminierung einzelner Personengruppen durch KI bedingen kann (Ifenthaler, 2023). Weiterhin erfordert der Einsatz personalisierter Lernplattformen und Lernanalysen die Sammlung und Auswertung großer Mengen persönlicher Daten, was Datenschutz- und Transparenzprobleme sowie Fragen zu Studierendenrechten aufwirft (Berendt et al., 2020). Ob und in welchem Umfang eine solche Datenverarbeitung zulässig ist, regeln die *Datenschutz-Grundverordnung* (DSGVO) sowie der *EU AI Act*, wobei für Hochschulen grundlegende didaktische und ethische Fragen in Bezug auf die KIBT-Nutzung relevant bleiben (Bates et al., 2020). Policies schaffen verbindliche Rahmenbedingungen für einen verantwortungsvollen Umgang mit KI in Studium und Lehre. Während die DSGVO und der *EU AI Act* übergreifende rechtliche Leitplanken setzen, müssen diese auf institutioneller Ebene operationalisiert und in den Hochschulalltag übersetzt werden.

Die ersten Reaktionen auf das Aufkommen von KIBT reichen von Forderungen nach einem vollständigen Verbot bis hin zu offener Zustimmung und aktiver Nutzung (McDonald et al., 2025). Vor der Veröffentlichung von ChatGPT waren hochschulische KI-Policies meist vage und adressierten selten spezifische Herausforderungen generativer KI in der Hochschulbildung (Chan, 2023). Seit November 2022 entwickeln Hochschulen weltweit verstärkt institutionelle Richtlinien für den Umgang mit generativer KI. So stellen sowohl Moorhouse et al. (2023) als auch Jin et al. (2025) fest, dass institutionelle Richtlinien häufig Maßnahmen zur Kontrolle des KI-Einsatzes betonen, etwa durch Einführung angepasster Prüfungsformate.

Hochschulische Vorgaben in den Richtlinien bleiben jedoch oft unklar. Moorhouse et al. (2023) und McDonald et al. (2025) kritisieren, dass konstruktive und lernförderliche Einsatzszenarien nur selten konkret benannt werden und didaktische Hilfestellungen nur unzureichend aufgezeigt werden. Ethische Aspekte werden in über der Hälfte der untersuchten Richtlinien adressiert, doch fehlt es häufig an einer systematischen Verankerung dieser Themen in den Empfehlungen. Jin et al. (2025) identifizieren hier Lücken, insbesondere im Hinblick auf Datenschutz und Chancengleichheit. Insgesamt zeigt sich, dass viele Hochschulen die Integration von KI noch nicht ganzheitlich angehen.

3 Institutioneller Isomorphismus im Kontext der Hochschulen

In ihrem Aufsatz *The Iron Cage Revisited* (1983) führen DiMaggio und Powell Max Webers Bürokratietheorie weiter und zeigen, dass sich die Triebkräfte im 20. Jahrhundert von der Rationalisierung organisatorischer Strukturen vor allem durch kapitalistischen Wettbewerb verlagert haben. Organisationen verändern sich weniger aus Effizienzgründen oder Marktdruck, sondern primär durch institutionelle Einflüsse, was zu wachsender Ähnlichkeit innerhalb sogenannter organisationaler Felder führt.

Zentral ist der Isomorphismus-Begriff: die unbeabsichtigte Ausbildung struktureller und kultureller Ähnlichkeiten durch Organisationen. Diese Homogenisierung entsteht nicht durch zentrale Vorgaben, sondern durch Anpassung an externe Erwartungen, interne Unsicherheiten und professionelle Normen. In organisationalen Feldern setzen sich bestimmte Strukturen und Praktiken durch, weil sie als legitim oder erfolgreich gelten, d. h. Organisationen orientieren sich an anderen, um Erwartungen von Staat, Fördergebern, etc. zu erfüllen. DiMaggio und Powell unterscheiden drei ineinandergreifende Mechanismen des Isomorphismus. Zwanghafter Isomorphismus entsteht durch äußeren Druck wie Gesetze oder Förderabhängigkeiten. Mimetischer Isomorphismus tritt bei Unsicherheit auf, wenn Organisationen sich an erfolgreichen Vorbildern orientieren, um Legitimität zu gewinnen. Normativer Isomorphismus beruht auf Professionalisierung: Gemeinsame Ausbildungen und Fachstandards führen zu ähnlichen Organisationsstandards.

Hochschulen als komplexe Organisationen (vgl. Pellert, 1999) stehen aktuell vor der Herausforderung, eigenen Umgang mit KIBT zu finden. Sie bewegen sich dabei in stark institutionalisierten Feldern und reagieren auf interne Erwartungen wie externe Einflüsse. Wir untersuchen, inwieweit sich die drei Isomorphismusformen in aktuellen KI-Policies zeigen und welche Rolle dabei das Streben nach institutioneller Wettbewerbsfähigkeit spielt.

4 Methodische Vorgehensweise und Fallauswahl

Die Studie verfolgt einen zweistufigen methodischen Ansatz: Zunächst wird mittels Referenzanalyse untersucht, wie sich Hochschulen bei der Entwicklung ihrer KI-Policies aufeinander beziehen. Anschließend erfolgt eine qualitative Inhaltsanalyse, um die inhaltlichen Schwerpunkte und thematischen Ausrichtungen der Policies systematisch zu erfassen. Dieser kombinierte Ansatz ermöglicht es, sowohl die strukturellen Bezugnahmen zwischen den Institutionen als auch die konkreten Policyinhalte zu verstehen.

Das Sampling zielte auf eine repräsentative Auswahl an KI-Policies aller Hochschultypen bundesweit. Um die deutsche Hochschullandschaft angemessen abzubilden, wurden Universitäten, Hochschulen für angewandte Wissenschaften sowie Kunst- und Musikhochschulen einbezogen. In zwei randomisierten Durchläufen wurde für jedes Bundesland jeweils eine Hochschule pro Typ ausgewählt. Die resultierende Stichprobe von 88 Hochschulen⁴ wurde systematisch auf das Vorhandensein von KI-Policies untersucht.

Berücksichtigt wurden ausschließlich Dokumente, die als offizielle Policies erkennbar waren und sich an die Hochschulmitglieder richteten. Der Fokus lag auf Dokumenten oder Websitetexten mit konkreten Regelungen zur Nutzung von *KI-basierten Tools* (KIBT) in Studium, Lehre oder Verwaltung. Reine Tool-Sammlungen oder Websites, die ausschließlich auf externe Quellen verweisen, wurden ausgeschlossen. So konnte ein Sample von 29 Policy-Dokumenten zusammengestellt werden.

Diese wurden für die Referenzanalyse herangezogen, um die institutionellen Bezugnahmen zwischen Hochschulen zu analysieren. Diese Methode ist zentral für das Verständnis institutioneller Diffusion, da sie direkte Bezugnahmen erfasst und damit Legitimations- und Nachahmungsprozesse im organisationalen Feld sichtbar macht.

Hierfür wurden Verbindungen zwischen den Policies und anderen Akteuren identifiziert, darunter andere Hochschulen sowie externe Akteure (Bildungseinrichtungen, juristische Instanzen, Gesetze, digitale Werkzeuge). Berücksichtigt wurden sowohl gerichtete Verweise (Hyperlinks, Zitationen) als auch ungerichtete textuelle Überschneidungen, die durch systematische Textvergleiche ermittelt wurden.

Zur Analyse der Autoritäts- und Hub-Strukturen im Referenznetzwerk wurde der *HITS-Algorithmus* (Hypertext-Induced Topic Selection) nach Kleinberg (1999) angewendet. Dieser Algorithmus berechnet für jeden Akteur zwei zentrale Kennwerte:

4 Die erwartete Stichprobengröße müsste 96 Hochschulen umfassen (16 Bundesländer x3 Hochschularten x2 Suchrunden). Die Stichprobe beinhaltet 88 Hochschulen, da es in manchen Bundesländern keine Musik- und Kunsthochschulen gibt oder bspw. nur eine Universität und somit keine Möglichkeit für die zweite Suchrunde.

Der Authority-Score misst, wie häufig auf einen Akteur verwiesen wird und identifiziert damit einflussreiche Vorbilder, deren Policies als legitimierte Referenzen dienen. Der Hub-Score erfasst, wie häufig ein Akteur auf andere verweist und kennzeichnet Institutionen, die verschiedene Ansätze integrieren. Akteure mit hohen Authority-Werten fungieren als Standardsetzer im Feld, während solche mit hohen Hub-Werten durch die Integration etablierter Praktiken Konformitätsdruck demonstrieren können. Die Verteilung dieser Werte gibt Aufschluss über die Strukturierung des organisationalen Feldes zwischen Innovation und Isomorphie.

Für die qualitative Inhaltsanalyse wurde das Sample auf 20 Policy-Dokumente reduziert, wobei Richtlinien entfernt wurden, die sich ausschließlich an einzelne Fakultäten richteten oder nur von einem Fachbereich erstellt worden waren. Die finale Stichprobe umfasst 13 Universitäten und 7 HAWs unterschiedlicher Größe in staatlicher Trägerschaft aus elf Bundesländern⁵.

Die thematischen Schwerpunkte wurden mithilfe der inhaltlich-strukturierenden Inhaltsanalyse nach Kuckartz und Rädiker (2022) systematisch erfasst. Die Hauptkategorien wurden induktiv aus dem Material entwickelt und durch Unterkategorien ergänzt. Zur Gewährleistung der Intercoder-Reliabilität codierten zwei Forschende das Material unabhängig voneinander.

5 Das Sample unserer QIA umfasst folgende Hochschulen: U Hohenheim; U Hamburg; HAW Hamburg; Philipps-Universität-Marburg; Stiftung Tierärztliche Hochschule Hannover; JADE Hochschule Wilhelmshaven, Oldenburg, Elsfleth; Hochschule Mainz; Universität des Saarlandes; Hochschule Magdeburg-Stendal; Hochschule Geisenheim; Universität Greifswald; Universität Osnabrück; Heinrich-Heine-Universität Düsseldorf; RPTU Kaiserslautern-Landau; Hochschule für Technik und Wirtschaft des Saarlandes; Martin-Luther-Universität Halle Wittenberg; Bauhaus-Universität Weimar; U Bremen; HWR Berlin; U Konstanz.

5 Ergebnisse der Referenzanalyse

In der Referenzanalyse konnten 169 hochschulische und außerhochschulische Akteure identifiziert werden (davon 105 aus Deutschland und 32 aus den USA). Weitere Akteure sind in 11 weiteren Ländern situiert, was die internationale Relevanz des Themas verdeutlicht.

Laut HITS-Algorithmus sind für die Referenzanalyse besonders sogenannte Autoritäten und Hubs zentral (Kleinberg, 1999). Als Autoritäten stechen ChatGPT (0,55), Perplexity (0,25), das Hochschulforum Digitalisierung (HFD, 0,27) und die Pädagogische Hochschule Heidelberg (0,29) hervor. Während HFD und PH Heidelberg auch als Hubs agieren, bleiben ChatGPT und Perplexity reine Autoritäten ohne Rückverweise. Markant wird an dieser Stelle die Rolle der PH Heidelberg – in Relation zu weiteren Hochschulen im Referenznetzwerk, hat diese einen hohen Autoritätswert⁶ und wirkt somit als (mit)entscheidender Akteur.

Die Analyse zeigt zudem, dass sich die Referenzpraktiken deutscher Hochschulen am Beispiel der KI-Policies über Institutions- und Ländergrenzen hinweg vollziehen. Angleichung entsteht nicht nur durch andere Hochschulen als direkte Konkurrenzakteure, sondern wird durch externe Impulse gefördert und im Zusammenspiel verschiedener Akteure bewältigt. Einige davon übernehmen zentrale Rollen, etwa indem sie die institutionelle Auseinandersetzung mit KI anstoßen oder als Vorbilder fungieren, etwa durch Kompetenzzuschreibung oder frühes Handeln (z. B. PH Heidelberg mit einer der ersten und meistreferenzierten Policies). Der Isomorphismus zeigt sich hier doppelt: als zwanghafter Isomorphismus, der Hochschulen zur Reaktion auf die wachsende Bedeutung KIBT drängt, und als mimetischer Isomorphismus, bei dem sich Akteure an den führenden Institutionen orientieren und diese nachahmen.

6 Im Ranking hat die nächste Hochschule des Netzwerks einen Autoritätswert von 0,11 und erscheint erst an 13.Stelle.

6 Aufbau und inhaltliche Schwerpunkte der Policies

Hochschulen stellen ihre Policies als PDF-Dokumente oder als Website-Texte bereit, wobei die hohe Vielfalt der Titel auffällig ist, etwa „Richtlinien“, „Fragesammlung“, „Orientierungshilfe/-rahmen“, „Leitfaden“, „rechtliche Einordnung“, „Handreichung“ oder „Merkblatt“. Bei etwa der Hälfte der untersuchten Policies wird eine Organisationseinheit der Hochschule als Autor:in genannt, die Spannweite reicht von Arbeitsgruppen über Dezernate, Stabstellen bis zu Beratungskreisen. Die meisten Policies richten sich an sämtliche Statusgruppen, nur in zwei Fällen gibt es getrennte Fassungen für Studierende und Lehrende.

Für die Interpretation der Inhalte werden exemplarisch drei Kategorien der qualitativen Inhaltsanalyse näher betrachtet:

1. Einsatz von KI in Studium, Lehre und Prüfungen,
2. Hochschulstrategische Überlegungen und Maßnahmen sowie
3. Risiken und Herausforderungen im Umgang mit KI.

Diese Themenfelder erlauben Einblicke in institutionelle Reaktionsmuster und bieten eine Grundlage, um Gemeinsamkeiten und isomorphe Tendenzen im organisationalen Feld Hochschule sichtbar zu machen.

6.1 KI-Einsatz in Studium, Lehre und Prüfungen

Didaktischer Umgang und Prüfungen

Die meisten Policies betonen, dass generative KI langfristig nur dann didaktischen Mehrwert bietet, wenn Lehrende einen transparenten Einsatz gemeinsam mit Studierenden reflektieren. Lehrende sollten die Studierenden über die Risiken von Werkzeugen wie ChatGPT informieren und idealerweise gemeinsam Kriterien für deren Einsatz erarbeiten. Studierende sollen zukunftsfähig auf den Umgang mit KIBT vorbereitet werden und ihre Fähigkeiten zur kritischen Reflexion sowie zum rechtlich

sicheren und ethisch vertretbaren Einsatz stärken. Nahezu alle Dokumente greifen die Anpassung bestehender Prüfungsformate auf. Gefordert wird, Lernziele höherer Taxonomiestufen (Analyse, Bewertung, Kreation) anzustreben. In einigen Prüfungen und Qualifikationsarbeiten soll der Einsatz von KI eingeschränkt werden.

Beispiele für den KI-Einsatz

In den Policies wird ein breites Spektrum potenzieller Einsatzmöglichkeiten von KI in Studium und Lehre aufgezeigt. Für Lehrende werden etwa das automatisierte Erstellen von Lehrmaterialien genannt, ebenso die Unterstützung beim Feedback zu schriftlichen Ausarbeitungen. Studierende können KI-Systeme zur Ideenfindung, Strukturierung, Recherche, Übersetzung oder Überarbeitung von Texten nutzen, ebenso als Hilfe beim Programmieren. Generative KI kann auch die Funktion eines „persönlichen Lerntutors“ übernehmen, indem sie z. B. Fragen stellt, Antworten prüft und formative Rückmeldungen gibt.

Kontrollmechanismen

Alle Policies betonen: Aktuell können KI-erzeugte Texte nicht zuverlässig technisch erkannt werden. Es werden pragmatische Maßnahmen empfohlen, etwa Plausibilitätsprüfungen („gesunder Menschenverstand“), verpflichtende Quellenangaben und spontane Rückfragen in digitalen mündlichen Prüfungen. Es zeigt sich ein Spannungsfeld: Policies fördern den kreativen, reflektierten Einsatz von KI in Studium und Lehre, verlangen aber zugleich klare Grenzen und adaptive Kontrollstrategien, um akademische Integrität zu wahren.

6.2 Hochschulstrategische Überlegungen und Maßnahmen

Zugang zu KIBT

Eines der zentralen Themen ist der Zugang zu KIBT. Viele Hochschulen machen deutlich, dass eine verpflichtende Nutzung KI-gestützter Tools nur dann zulässig ist, wenn der Zugang für alle Studierenden gewährleistet und datenschutzrechtlich abgesichert ist. Für dezentral beschaffte Systeme gilt die Anforderung, diese mit hoch-

schulinternen Stellen wie Rechenzentren und Datenschutzbeauftragten abzustimmen. Grundsätzlich gilt: Eine verpflichtende Nutzung kann nur dann legitimiert werden, wenn die eingesetzten Systeme DSGVO-konform sind und offiziell durch die Hochschule eingeführt wurden.

Unterstützungsangebote

Hochschulen reagieren mit vielfältigen Maßnahmen auf den Bedarf, Studierende und Lehrende im verantwortungsvollen Umgang mit generativer KI zu unterstützen. Geplant (und teilweise umgesetzt) sind Lehrangebote und Workshops, die den zielgerichteten Einsatz von KI-Tools, sowie die Fähigkeit zur kritischen Reflexion und zum Prompting vermitteln. Ziel ist statusgruppenübergreifend der Aufbau von „KI-Literacy“ als Schlüsselkompetenz für Studium, Lehre und Berufswelt.

Reflexion der ständigen Weiterentwicklung von KI

In den Policies zeigt sich ein breites Bewusstsein für die rasante technologische Entwicklung und die Notwendigkeit, flexibel darauf zu reagieren. Hochschulen betonen etwa die kontinuierliche Auseinandersetzung mit Chancen und Risiken generativer KI. Pauschale Regelungen oder starre Verbotslisten gelten als ungeeignet, stattdessen wird eine offene Diskussion über ethische, rechtliche, ökonomische und nachhaltige Aspekte angestrebt. Die strategische Haltung gegenüber KI soll sich mit wachsender Erfahrung weiterentwickeln, inklusive regelmäßiger Überprüfung und Anpassung der Leitlinien.

6.3 Risiken und Herausforderungen im Umgang mit KIBT

Kritische Einordnung von KI

Die Policies verweisen auf technische und ethische Herausforderungen: Textgenerierende KI-Modelle arbeiten probabilistisch und können fehlerhafte oder erfundene Inhalte (Halluzinationen) erzeugen. Es wird betont, dass KI-Modelle keine Experten sind, sondern sprachliche Muster imitieren, weshalb die inhaltliche Prüfung der generierten Texte unerlässlich ist. Ihre Funktionsweise (z. B. bezüglich Trainingsda-

ten, algorithmischer Prozesse) bleibt oft intransparent, was zu Bias und Verzerrungen führen kann. Auch ökologische und soziale Aspekte, etwa hoher Energieverbrauch oder Arbeitsbedingungen im Training großer Modelle, werden kritisch thematisiert.

Datenschutz und Urheberrecht

Datenschutz und Urheberrecht sind wichtige Schwerpunkte der Policies. Viele Hochschulen betonen, dass personenbezogene Daten nur mit Einwilligung der Betroffenen verarbeitet werden dürfen. Die Verantwortung liegt bei den Institutionen, Schutzmaßnahmen zu implementieren und Studierende sowie Lehrende zu sensibilisieren. Zum Urheberrecht wird klargestellt, dass KI-generierte Inhalte meist nicht urheberrechtlich geschützt sind. Eingaben („Prompts“) oder eingebundene Fremdmaterialien können jedoch schutzwürdig sein. Mehrere Policies weisen darauf hin, dass Prüfungsleistungen Studierender urheberrechtlich geschützt sind und ohne Zustimmung nicht in KI-Systeme (z. B. zur Bewertung) eingespeist werden dürfen.

Konsequenzen des unerlaubten Einsatzes

In dieser Kategorie zeigt sich eine Diskrepanz in den Hochschul-Policies: Einerseits erkennen die Hochschulen an, dass der Einsatz von KI-Werkzeugen kaum vollständig unterbunden oder technisch sicher kontrolliert werden kann. Andererseits gilt der unerlaubte KI-Einsatz bei Prüfungen als Täuschung mit rechtlichen Konsequenzen. Täuschungsversuche müssen dem Prüfungsausschuss gemeldet werden, auch wenn der Nachweis schwierig ist. Da es keine verlässlichen technischen Verfahren gibt, bleibt der rechtliche Umgang mit Verdachtsfällen problematisch.

7 Isomorphismus und Wettbewerbsdynamik am Beispiel von KI-Policies

Im organisationstheoretischen Rahmen von DiMaggio und Powell (1983) wird der Wandel von Organisationen durch Dynamiken innerhalb institutioneller Felder erklärt. Wettbewerb ist nicht nur wirtschaftlicher Konkurrenzdruck, sondern auch ein Streben nach Legitimität. Die Theorie beschreibt, wie Organisationen, beeinflusst durch externe Erwartungen, Normen und Unsicherheiten, einander ähnlicher werden, indem sie vergleichbare Strukturen und Strategien entwickeln. Diese Tendenz zur institutionellen Isomorphie erfolgt über drei Mechanismen: Zwang, normative Vorgaben und mimetische Prozesse.

Georg Krücken (2004) greift diese Logik auf und zeigt, dass Wettbewerb an Hochschulen nicht zwangsläufig Differenzierung erzeugt. Vielmehr können wettbewerbliche Dynamiken paradoxerweise strukturelle Konvergenz fördern. Mit steigendem Wettbewerb wächst der Druck, sich an vermeintlich „angemessene“ Standards zu halten, häufig mitgeprägt durch externe Akteure im Hochschulbereich (z. B. CHE). Institutionelle Konvergenz steht dabei nicht im Widerspruch zur Profilbildung, sondern kann als symbolische Differenzierung fungieren (Krücken, 2004).

In Bezug auf die Forschungsfrage lassen sich drei zentrale Einflussfaktoren für Angleichungsprozesse im Hochschulkontext benennen:

1. externe Erwartungen seitens Politik und Gesellschaft,
2. interne Anforderungen der Hochschulmitglieder an die Bildungsqualität und Wissenschaftlichkeit, und
3. Unsicherheit über Risiken und rechtliche Rahmenbedingungen zur Nutzung generativer KI.

Dabei fungieren die Hochschulmitglieder sowohl als Treiber für die Policy-Entwicklung (durch Nachfrage nach Orientierung und Standards) als auch als kritische Instanz, die spezifische fachliche und didaktische Anforderungen formuliert. Die Ent-

wicklung von KI-Richtlinien ist somit keine unabhängige Strategie einzelner Hochschulen, sondern eine kollektive Reaktion auf externen wie internen Erwartungsdruck.

In der empirischen Analyse zeigt sich, dass die KI-Policies isomorphe Dynamiken aufweisen. Die inhaltliche Ähnlichkeit vieler Richtlinien sowie die starken interorganisationalen Bezüge sprechen für das Wirken des mimetischen Isomorphismus. Unter Bedingungen hoher Unsicherheit greifen Hochschulen auf bereits existierende Best-Practice-Beispiele (z. B. Policies der PH Heidelberg oder Universität Zürich) zurück. Angleichungstendenzen des normativen Isomorphismus werden in den Referenzen zu hochschuldidaktischen Zentren oder Institutionen wie dem Hochschulforum Digitalisierung deutlich. Die wiederholte Bezugnahme auf Werte wie Transparenz, Datenschutz, Eigenverantwortung und pädagogische Rahmung des KI-Einsatzes verweist auf den allgemeinen Konsens professioneller Standards im organisationalen Feld. Zwanghafter Isomorphismus in KI-Policies entsteht als Reaktion auf regulatorischen Druck, bspw. durch gesetzliche Vorgaben wie den *AI Act*. Erwartungen seitens der Bildungspolitik sowie der Gesellschaft formen einen impliziten Handlungsdruck, der auf das gesamte organisationale Feld wirkt und zur Entstehung ähnlicher Policies führt.

Im Zusammenspiel dieser isomorphen Kräfte zeigt sich ein Wechselspiel zwischen Anpassung und der Erhaltung der Wettbewerbsfähigkeit von Hochschulen. Sie formulieren KI-Policies nicht nur als Reaktion auf interne und externe Erwartungen, sondern auch bewusst, um ihre Zukunftsorientierung zu betonen und sich im Wettbewerbsfeld zu profilieren, worauf folgende Aussagen schließen lassen:

„Nur eine systematische Auseinandersetzung innerhalb der Jade Hochschule zum Umgang mit Ergebnissen, die von KI-Algorithmen erzeugt wurden, kann die Wettbewerbsfähigkeit der Jade Hochschule sichern.“ (Leitlinien zur Nutzung generativer KI-Tools an der Jade Hochschule, S. 4)

Die KI-Policy wird hier als Bestandteil der strategischen Positionierung verstanden und zeigt beispielhaft die Verwobenheit zwischen isomorpher Anpassung und Differenzierung im Wettbewerb.

Policies bieten Hochschulen nicht nur eine Möglichkeit, externe Konformitätsanforderungen zu erfüllen, sondern wirken als strategische Change-Management-Instrumente, die Transformationen gezielt steuern. Im Rahmen der neo-institutionellen Theorie lassen sie sich als Mechanismen verstehen, mit denen externe politische, regulatorische und technologische Impulse in interne Veränderungsprozesse übersetzt werden (vgl. DiMaggio & Powell, 1983). Dabei adressieren KI-Policies nicht allein Fragen der Legitimität und organisationalen Anpassung, sondern strukturieren aktiv den Wandel, indem sie Orientierung schaffen, neue Arbeitsroutinen im Umgang mit KI etablieren und kollektive Handlungsfähigkeit der Organisation fördern. Aus einer change-theoretischen Perspektive wirken sie somit wie institutionell getriebene Steuerungsinstrumente, die intraorganisationale Dynamiken aufgreifen und Transformation vorzeichnen (vgl. Greenwood & Hinings, 1996). KI-Policies sind damit nicht bloß Ausdruck isomorpher Anpassung, sondern werden zu Hebeln für geplanten Wandel. Sie sind somit ein wesentliches Element im Management des organisationalen Wandels und in der strategischen Positionierung von Hochschulen innerhalb eines sich stetig verändernden organisationalen Feldes.

8 Fazit und Ausblick

Unsere Auswertung der KI-Policies zeigt, dass *KI-gestützte Bildungstechnologien* (KIBT) wichtige Impulse für organisatorische Transformationsprozesse setzen. Policies fungieren hier als Ausdruck der institutionellen Reaktion auf interne Unsicherheiten und externe Erwartungen seitens Politik und Gesellschaft und geben Orientierung im Umgang mit KIBT. Im Licht der Organisationstheorie lassen sich deutliche isomorphe Angleichungsprozesse erkennen: mimetisch durch die Übernahme bestehender Vorlagen, normativ durch professionelle Standards und zwanghaft durch regulatorischen Druck. Dennoch sind KI-Policies nicht nur Ausdruck von Anpassung, sondern werden auch strategisch zur Profilierung im Hochschulwettbewerb genutzt.

Folgende Limitationen der Untersuchung sind zu beachten: *Erstens* basiert die Analyse auf öffentlich zugänglichen KI-Policies, wodurch Hochschulen, die keine oder nur intern zugängliche Richtlinien haben, unberücksichtigt blieben. *Zweitens* liegt der Fokus auf Textebene, (noch) nicht auf der tatsächlichen Wirksamkeit in der Praxis. *Drittens* handelt es sich um ein dynamisches Untersuchungsfeld: Technologische Entwicklungen und regulatorische Veränderungen machen die Ergebnisse zu einer Momentaufnahme.

Diese Limitationen verweisen auf weiteren Forschungsbedarf angesichts der rasanten Entwicklung generativer KI. Neue Systeme wie *Agentic AI* können komplexe Aufgaben eigenständig ausführen und in gewissem Maß autonom handeln (Sapkota et al., 2025). Auch im Hochschulwesen werden sie verstärkt eingesetzt und greifen durch die Automatisierung von Verwaltungsprozessen (z. B. Dienstreiseplanung, Raumbuchung, Prüfungsmanagement) tief in hochschulische Abläufe ein. Daraus ergeben sich Fragen nach Verantwortung, Kontrolle und Governance. Wenn KI eigenständig Entscheidungen trifft oder Prozesse initiiert, rückt ihre rechtliche Absicherung weiter in den Fokus. Die fortschreitende Integration solcher Systeme in Forschung, Lehre und Verwaltung zeigt, dass bestehende KI-Policies an Verbindlichkeit gewinnen müssen sowie rechtlich schärfer ausgestaltet sein sollen.

Ferner sind folgende Fragen für weitergehende Forschung relevant: Welche Rolle nehmen Hochschulen künftig ein, sind sie Nutzerinnen oder auch aktive Entwicklerinnen KI-gestützter Systeme? Welche Konsequenzen ergeben sich für Governance und das Zusammenspiel menschlicher und maschineller Handlungskompetenz? Angesichts der rasanten technologischen Entwicklung ist es entscheidend, den Umgang des organisationalen Feldes der Hochschule mit KIBT dahingehend systematisch zu erforschen.

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**Simone Roth¹, Nicolas De Keyser², Ines Müller-Vogt³
& Alexander Arenas Canon⁴**

Designing Collaboration: Building Sustainable Communities in University Alliance CHARM-EU

Abstract

This paper explores the strategic development and piloting of internal networking formats within CHARM-EU, a transnational European University alliance. Guided by theories of Communities of Practice, Networked Improvement Communities, meta-organizations, and marketing perspectives on identity and participation, a set of Guiding Principles was co-created and tested through pilot events. Evaluation data from over 90 participants informed iterative improvements and highlighted success factors and challenges. The study contributes to organizational community-building practice in HEI alliances by proposing adaptive formats for collaboration across institutional and cultural boundaries.

Keywords

community building, European University Alliance, transnational collaboration, networking, guiding principles

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- 1 Corresponding Author; Ruhr West University of Applied Sciences; simone.roth@hs-ruhrwest.de; ORCiD 0000-0003-1902-9658
 - 2 Ruhr West University of Applied Sciences; nicolas.dekeyser@hs-ruhrwest.de
 - 3 Ruhr West University of Applied Sciences; ines.mueller-vogt@hs-ruhrwest.de
 - 4 University of Montpellier; yimmy-alexander.arenas-canon@umontpellier.fr; ORCiD 0009-0008-9178-6235

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Gestaltung von Zusammenarbeit: Aufbau nachhaltiger Gemeinschaften in der Universitätsallianz CHARM-EU

Zusammenfassung

Dieser Beitrag untersucht die strategische Entwicklung und Erprobung interner Netzwerkformate innerhalb von CHARM-EU, einer transnationalen europäischen Universitätsallianz. Auf der Grundlage von Theorien zu Praxisgemeinschaften, vernetzten Verbesserungsgemeinschaften, Meta-Organisationen und Marketingperspektiven zu Identität und Partizipation wurde eine Reihe von Leitprinzipien gemeinsam erarbeitet und in Pilotveranstaltungen getestet. Die Auswertungsdaten von über 90 Teilnehmerinnen und Teilnehmern flossen in iterative Verbesserungen ein und zeigten Erfolgsfaktoren und Herausforderungen auf. Die Studie leistet einen Beitrag zur Praxis des Aufbaus von Organisationsgemeinschaften in Hochschulallianzen, indem sie adaptive Formate für die Zusammenarbeit über institutionelle und kulturelle Grenzen hinweg vorschlägt.

Schlüsselwörter

Gemeinschaftsbildung, Europäische Hochschulallianz, transnationale Zusammenarbeit, Vernetzung, Leitprinzipien

1 Introduction

As universities navigate growing demands for transnational cooperation, the question is no longer whether to collaborate but how to do so sustainably across institutional divides. In the context of expanding internationalization and evolving EU expectations—analyzed in recent work on European Higher Education Area governance and the European Universities Initiative (cf. Curaj et al., 2024)—*Higher Education Institutions* (HEIs) increasingly experiment with networked forms of engagement, learning, and internal organizational development. These pressures are especially acute in transnational university alliances, which are expected to span institutional boundaries while cultivating cohesion, long-term participation, and durable integration.

*CHARM-EU*⁵ unites nine⁶ HEIs in a joint effort to address global sustainability challenges through inclusive, challenge-based education. As part of the European Universities Initiative, the alliance is expected to trial governance and pedagogical models that cut across conventional silos. Its core values—transdisciplinarity, inclusivity, and student-centeredness—also underpin its internal networking and community-building approach, treated here as an important mechanism for alliance-wide integration.

This article explicates efforts to establish networking structures across diverse institutional and disciplinary settings, documenting the iterative development and data-informed testing of an internal community-building method. Although led by the *CHARM-EU work package*⁷ (WP) with topical responsibility, the work reported

5 CHallenge-driven, Accessible, Research-based, Mobile, European University.

6 The alliance comprises the University of Barcelona, Trinity College Dublin, Utrecht University, the University of Montpellier, Eötvös Loránd University Budapest, Åbo Akademi University, Julius-Maximilians-University Würzburg, Ruhr West University of Applied Sciences, and the University of Bergen.

7 Work packages, as modular units of project structure and management, are commonly used within EU-funded university alliances. They typically organize alliance activities across thematic or operational areas (Charret & Chankseliani, 2023).

here seeks to move beyond EU deliverable outlines toward transferable strategies for cultivating communities that persist beyond formal project structures and timelines. In the study, *community building* denotes networking activity that progressively consolidates into sustained communities; the empirical focus is on the design and iterative implementation of internal networking events as a developmental step toward that longer-term aim.

Guided by the question of how theory-informed, data-driven networking pilots⁸ can realize sustainable community-building in university alliances, the article draws on Communities of Practice (CoP) to emphasize peer-based learning (Wenger, 2008) and Networked Improvement Communities (NICs) to structure iterative, evidence-based collaboration (Bryk et al., 2015). A complementary marketing and communication perspective highlights how community-building can be intentionally positioned and facilitated within complex transnational ecosystems.

These perspectives inform the principles, implementation, and evaluation of networking pilots across CHARM-EU. Emphasizing iterative piloting that balances structure with agile facilitation, the article traces how community-building principles were formulated, translated into action, and how pilot events contribute to a proposed replicable methodology for cross-institutional engagement, thus contributing to debates on strategic collaboration, organizational learning, and sustainable networking in European higher education. This study thus advances (1) strategy design in meta-organizations by proposing a process model that links bottom-up networking pilots to institutional strategic alignment; (2) CoP/NICs scholarship by specifying conditions under which episodic participation can develop into capability-building; and (3) alliance governance research by identifying pragmatic levers that translate alliance arrangements into routinized practices within member institutions.

8 ‘Pilots’ is a common term used within the European University Alliance context to designate exploratory initiatives designed to inform future structures and practices (see O’Neill & Acheson, 2023). It is deployed here to describe experimental networking events that aim to internally develop the CHARM-EU alliance.

2 Theoretical Framework

A community-building strategy in a transnational higher education context such as CHARM-EU must accommodate complexity across institutional, disciplinary, stakeholder, and cultural boundaries. This calls for an integrated framework that draws on situated and professional learning communities (as strands of educational theory), marketing and communication studies on community engagement and identity, and organizational theory—particularly work on meta-organizations.

2.1 Learning and Improvement

CoP describe how expertise deepens through socially-situated learning grounded in mutual engagement, joint enterprise, and shared repertoires of practice (Wenger, 2008, pp. 45–46). In higher education, CoP concepts underpin professional learning communities and interinstitutional collaboration, supporting staff development and driving professional growth (Van Vugt & Gallagher, 2025, p. 14). NICs complement this view by offering a design-for-improvement logic: collective problem definition, explicit theories of change, disciplined measurement, iterative testing, and data-driven, evidence-based adaptation (Bryk et al., 2015, pp. 141–142). Where CoP emphasizes relational learning and identity formation, NICs add a structured approach to systematic improvement. For transnational alliances, the joint application is salient: CoP suggest how shared meanings and collaboration emerge in academic communities; NIC specifies how those emergent practices are iterated, measured, and refined across organizational boundaries.

2.2 Interest, Belonging, and Identity

Marketing and communication research concomitantly highlights how communities of interest coalesce around values, identities, and purpose, thriving on voluntary participation and affective affiliation (Millington, 2021, p. 8; Spinks, 2021, p. 64). Networking tends to be more effective when rooted in learning and prosocial intent; people report greater authenticity and energy when contributing to collective goals

(Casciaro et al., 2022, pp. 12–14). Community dynamics are further reinforced by rituals, roles, and storytelling, which provide continuity and identity (Tuten & Solomon, 2018, pp. 180, 185). In academic settings, recurring formats (e.g., pilots), facilitation, and structured reflection can strengthen belonging and sustain participation (Spinks, 2021, pp. 63–65). Digital-age organizations increasingly favor curated, high-trust interactions and connected strategies over scale and episodic contact—anticipating needs and maintaining low-friction, context-sensitive touchpoints to deepen community relationships (de Swaan Arons et al., 2022, p. 87; Siggelkow & Terwiesch, 2022, pp. 10–11; Wilson, 2022, p. 67). Taken together, these perspectives frame academic communities not merely as functional networks but as relational spaces shaped by identity, values, and cultural practices.

2.3 Meta-Organization CHARM-EU

Finally, meta-organization theory offers a lens for alliances whose members are organizations rather than individuals (Maassen et al., 2022). Such entities face distinct governance challenges: aligning strategic priorities, coordinating across systems, and managing institutional diversity where formal authority is limited. In this context, legitimacy and coordination are cultural and strategic achievements, not only administrative ones. Alliances operate as multi-dimensional meta-organizations in which coordination, commitment, and conflict resolution are prerequisites for durability (Maassen et al., 2022, p. 956). Related work emphasizes combining top-down strategy with trust-based, bottom-up mechanisms to enable flexible, responsive collaboration across autonomous institutions (Pinheiro et al., 2024). This perspective underscores the need for adaptive structures that couple formal alignment with collaborative learning and experimentation. University alliances thus function as laboratories for organizational transformation, testing models for cross-border cooperation and internal community building.

3 Strategic Anchoring of Community Building: Guiding Principles and Pilot Events

Building sustainable academic communities within CHARM-EU requires reflexively translating broad EU deliverables into shared, data-informed principles as well as seeding cooperative initiatives that mobilize routine practice. The intent was to create a strategic bridge between alliance-level goals and day-to-day collaboration across heterogeneous institutional and disciplinary contexts. Both the Guiding Principles (GPs) and pilot events—two-day, in-person events with a preparatory online component—emerged through collaborative work informed by the literature outlined above, which oriented design choices and interpretation; collective workshops, group reflections, and cross-partner documentation then surfaced and iteratively refined what proved feasible and transferable.

3.1 Community Building Design Cycle

The design approach followed a research-driven logic that combined inductive exploration, deductive structuring, and phased refinement. The aim was to conceptualize and trial a strategic approach to community building within CHARM-EU by linking institutional needs with stakeholder experience and governance theory, yielding a coherent, adaptable model for interinstitutional, transdisciplinary, and transcultural collaboration responsive to participants and strategic alignment.

In an exploratory phase, best-practice cases were collected and analyzed across partner institutions. To interpret these instances systematically, the work package applied a concise heuristic derived from literature (see Pfortmüller et al., 2017; Spinks, 2021). Six dimensions—Purpose (shared goals and motivations), People (participant diversity and identity), Rules (community norms and boundaries), Rituals (recurring formats that build continuity and belonging), Ways of Working (collaborative forms and practices), and Roles (responsibility distributions and dynamics)—provided a common lens for comparison that refracts an integrative understanding of community as both a learning and a strategic engagement space. Best-practice submissions

were read against these dimensions and then thematically clustered recurring cross-cutting themes crystallized into the GPs:

1. *Definition of Purpose and Ways of Working*: identify strategic CHARM-EU community-building objectives and suitable operational methods.
2. *Reflection On The Status Quo*: review existing formats to determine enablers and constraints.
3. *Best-Practice Synthesis*: analyze formats for cultural and structural efficacy.
4. *Thematic and Theoretical Structuring*: cluster practice-based themes and map them to theoretical models.
5. *Pilot Testing, Implementation, and Iteration*: apply and adjust the resulting principles and formats through a series of systematically evaluated networking pilots.

This sequence (see Figure 1) enables repeated movement between reflection and conception, enabling context-sensitive, co-created modification:

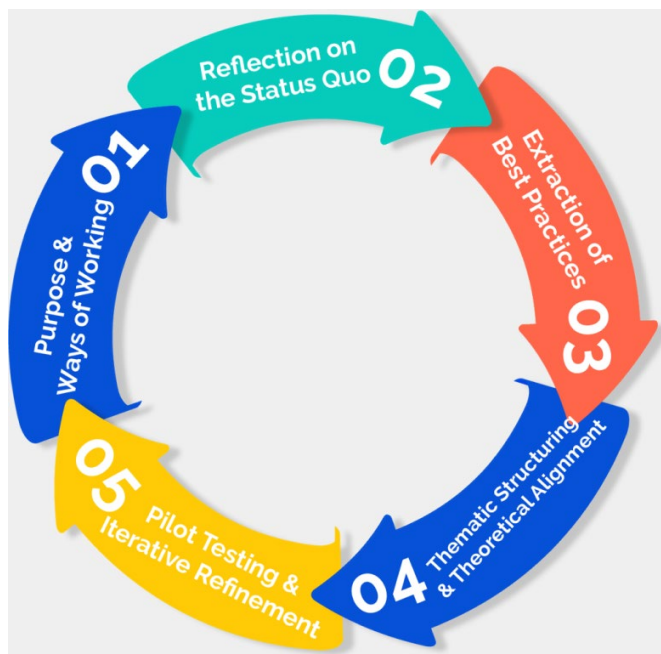


Figure 1: The cyclical process

3.2 Guiding Principles

The GPs for Networking and Community Building emerged through evidence-based developmental efforts informed by theory to support inclusive participation by academic staff, administrative services, and students, fostering mutual understanding and coordinated action. Rather than being externally imposed, the six principles—*Work Agilely* (AG), *Communicate Transparently* (CT), *Engage Inclusively* (EI), *Participate Collaboratively* (PC), *Live Interculturality* (LI), and *Encourage Innovation* (IN)—thus arose from CHARM-EU’s internal working structures and were shaped by empirical experience and continuous reflection.

Owing to the role of the theoretical perspectives in configuring the initial design space and structuring the analysis of practice cases, the principles bear those lineages and echo the process that produced them. Conceptually, AG reflects improvement-oriented iteration and flexible event architecture; CT addresses meta-organizational governance challenges; EI and PC draw on mutual engagement and joint enterprise; LI foregrounds sociocultural boundary spanning; and IN emphasizes exploration and learning by testing. This mapping provides a criteria scaffold for the design and assessment of networking pilots.

Conceived as living guidelines, the principles are adaptable rather than prescriptive and were intentionally exercised across varied pilot settings. Strategic orientation was pursued by embedding them across CHARM-EU's internal collaboration layers—activity planning, facilitation training, onboarding materials, and evaluation—so that operational choices in pilot design, delivery, and the iterative feedback cycle aligned with governance aspirations for institutional change. The principles thus function as connective tissue between pilot practice and alliance-level strategy, supporting institutional learning over time. Their enactment in practice—and the tensions that surface—are examined in the following sections.

3.3 Piloting Networking Events

The networking pilot series operationalizes CHARM-EU's GPs as strategic testbeds for refining agile formats aligned with the alliance's mission of integrated, transdisciplinary collaboration. Designed to explore community-building in practice, Pilots focus on three interlinked objectives: enable relationship-building and knowledge exchange across institutional, disciplinary, and stakeholder boundaries; apply and test the six GPs in varied settings; and develop sustainable, collaborative formats rooted in stakeholder experience and aligned with CHARM-EU's long-term strategy.

Importantly, pilots are demand-led, originating from articulated needs within partner institutions rather than centrally mandated topics, and this bottom-up development approach informed each pilot's design. Across themes and methods, core elements

included structured facilitation, guided exchange, iterative co-creation, diverse participant groups (academics, administrative staff, students), and reflexivity moments to enable process reflection and value creation. To ensure consistent application of the GPs, a dedicated facilitator role—independent of the host institution—is responsible for process design, methodological integrity, and reflective guidance, with the role foreseen to expand across the alliance to build out decentralized internal networking capacities. All events balanced structure with open-ended interaction to support contextual flexibility and participant-led innovation. Embedded in the iterative learning cycle, pilots allowed for real-time testing, adaptation, and refinement of networking components.

Between September 2023 and June 2025, seven first pilots were hosted across partner institutions (see Figure 2), each with a distinct thematic anchor (e.g., engineering, language learning, data science, librarianship). Designed to operationalize the GPs, they tested applicability across disciplinary, institutional, and participant contexts. Despite variations in format, pilots shared core logics—specific challenges, structured facilitation, agile collaboration (e.g., Design Thinking, SCRUM, challenge-based learning), and embedded feedback loops. Participants ($N = 155$; ranging from 6 to 30 per event) spanned institutions and roles, exemplifying CHARM-EU's trans-disciplinary and interinstitutional scope. Across the series, the GPs functioned not as abstract ideals but as tools shaping planning, facilitation, interaction, and evaluation. Implementation varied with thematic challenges, institutional context, and participant needs (for instance, group size or preconceived collaborative ventures favored SCRUM over Design Thinking). Collectively, the pilots provide a comparative evidence base for how community-building unfolds under varied conditions and how principles translate into collaborative practice.

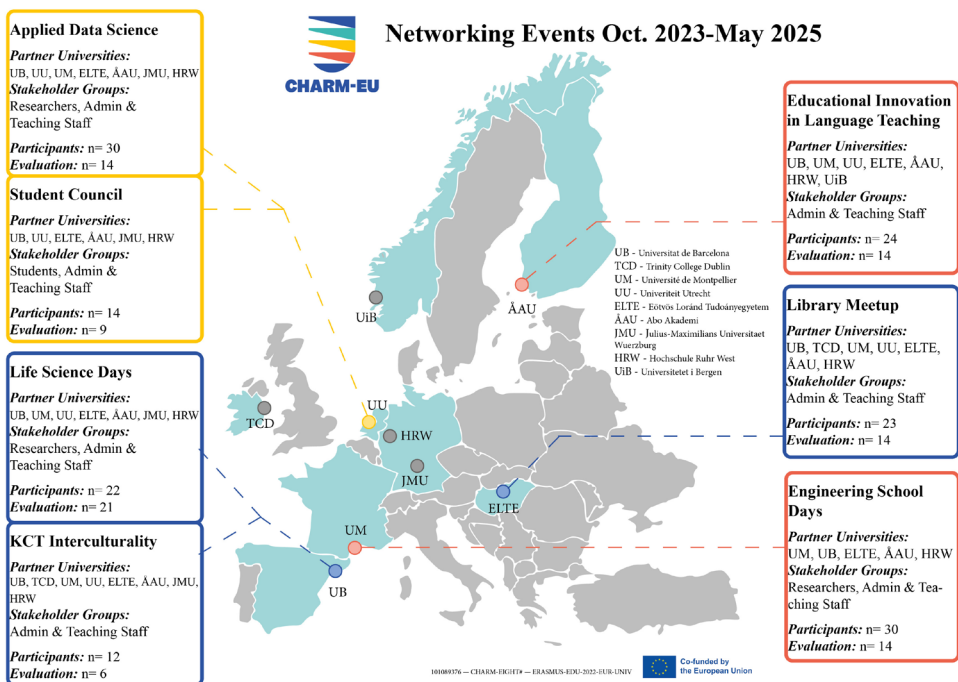


Figure 2: Overview of CHARM-EU Networking Pilot events

4 Methodology

This section sets out the approach used to evaluate the pilots. It generated actionable feedback for iteration, assessed satisfaction, near-term utility, and enactment of the GPs—ensuring transparent alignment between constructs and measures.

4.1 Mixed-Method Design

An embedded mixed-methods design was employed: qualitative open-ended prompts were embedded within a primarily quantitative, post-event survey. The survey captured (a) event-level outcomes (*relationship creation, concrete collaboration planning, peer learning, professional self-reflection, event recommendation*; I–V in Appendix A) and (b) GP performance—the extent to which pilots realized AG, CT, EI, PC, LI, and IN. The qualitative data was intended to unpack high/low ratings, enrich quantitative findings, and to surface design suggestions.

The five event-level aspects (gauged by questions 1 through 5; see Appendix A) were measured with Likert-scale items (1 = *Strongly Disagree* to 5 = *Strongly Agree*) and the three targeted open-ended questions (6 through 8; full wording appears in Appendix B) drew out links between participant experience and principle enactment (e.g., clarity of aims/outputs for CT), as well as invited respondents to consider future iterations (e.g., recommended changes to improve follow-through, thus offering complementary insight into individual perceptions and challenges and allowing for convergent analysis).

4.2 Data Collection and Sample

The common survey template was administered immediately after each pilot. Across seven pilots (October 2023–May 2025), $N = 155$ participants attended and $n = 90$ completed the survey (58% response rate). Respondents included academics, administrative/professional staff, and students from multiple CHARM-EU institutions. Pilot identifiers supported comparative analysis; analytic datasets contained no personally identifying information.

4.3 Analytic Procedures

Quantitative. For each pilot, means were computed for the five event-level outcome questions and an overall event average (the mean of those five items; see Figure 3). To contextualize dispersion across pilots, we report significant between-pilot SDs and ranges of pilot means (these are not within-pilot respondent SDs). In addition, pilot-level Pearson correlations among outcome means and the overall event average were computed ($N = 7$) to characterize associations; owing to the limited pilot count, results are read as indicative evidence. Because each outcome is a single item, internal consistency estimates are not applicable.

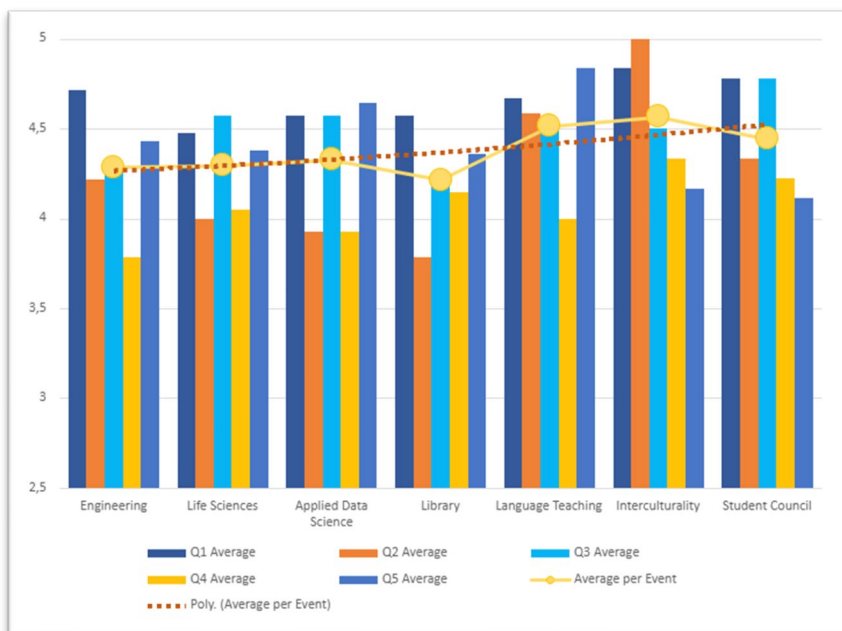


Figure 3: Mean event evaluation scores⁹

⁹ Bars show pilot means chronologically for questions I–V; the dotted line shows the overall event average; the dashed line indicates a smoothed trend (polynomial fit).

Qualitative. Open responses for each pilot were analyzed using framework-thematic coding anchored in the six GPs, with inductive subcodes for mechanisms, barriers, and design suggestions. Each coded segment was also tagged as a reported strength or an area for improvement. A brief codebook (definitions, inclusion/exclusion rules, exemplars) guided coding. Aggregated frequencies by pilot are visualized in Figure 4 (left panel: strengths; right panel: areas for improvement).

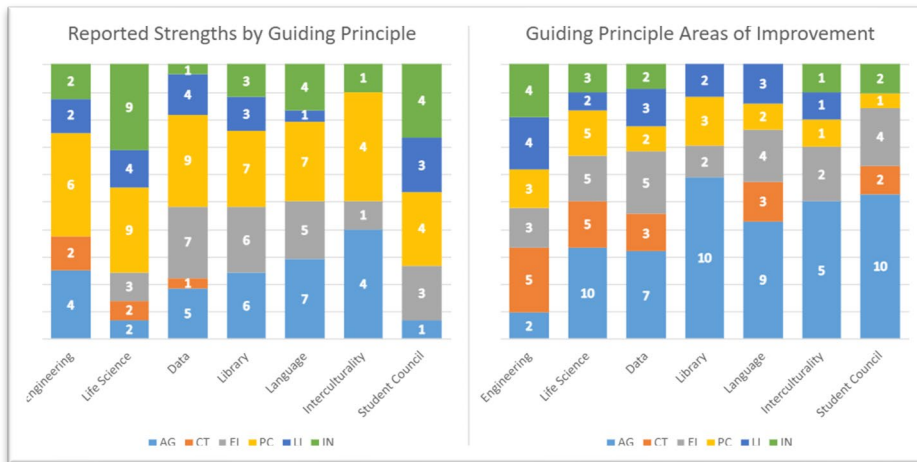


Figure 4: Reported strengths and areas of improvement by Guiding Principle

4.4 Credibility

Credibility was strengthened through standardized post-event instruments across pilots, an audit trail of design adjustments, anonymized analysis, and internal peer debriefing, while limitations—uneven per-pilot samples, self-selection in survey response, and a pragmatic measurement focus—temper the findings and are discussed below. Analyses were largely descriptive; exploratory pilot-level correlations were used to contextualize patterns. In combination with systematic framework-thematic coding and comparative interpretation across pilots, this yielded a multi-layered and replicable view of implementation success and context-specific variation.

5 Findings: Piloting Collaboration Formats in CHARM-EU

This section reports outcomes from the CHARM-EU networking pilots using the evaluation approach outlined above, focusing on participant feedback, thematic variation, and how the GPs played out in context.

5.1 Participant Evaluation Results and Outcomes

Across seven pilots (Oct 2023–May 2025), overall satisfaction was consistently high: all events averaged $> 4.0/5$, with a global mean of 4.38 . *Relationship building* (I) was highest ($M = 4.64$), supported by comments such as networking [and] plans for joint programs” (*Language*) and “close connection with colleagues” (*Engineering*). Scores varied by event theme and facilitation methods: *Language* and *Interculturality* exceeded 4.5 , whereas *Library* averaged 4.21 , with frequent requests for clearer expectations and more time for follow-up actions (“short and concise information about expected outcomes”; “more time to work on follow-up actions”). Time pressure recurred across cases (e.g., calls for extra open-networking time for *Engineering* or an additional day for *Interculturality* and *Student Council*). Agile methods (Design Thinking, SCRUM) were valued for flexibility and cross-role exchange.

Principle-linked coding of open responses (see Figure 4) shows that AG and EI drew both praise and critique—highly appreciated when realized, conspicuous when constrained. CT generated the most suggestions for improvement ($N = 18$; especially clarity of aims and outputs). PC was predominantly positive, mirroring high networking scores. LI was referenced less often—likely normalized in a transnational setting—suggesting value to making its pedagogical expression more explicit. Similarly, IN appears inherent in the format—hence its low critical salience, making it contingent on AG and CT. Overall, adaptability in structurally dependent principles (AG, CT, EI) proved decisive, while embedded values like LI benefit from explicit framing.

5.2 Cross-Cutting Lessons

Findings indicate that clear objectives (CT), time/flexibility (AG), and inclusive co-creation (EI/PC) are core enablers of meaningful collaboration. Ratings improved over time ($+0.16$), consistent with cumulative adjustments; later events (e.g., the *Language* pilot) were especially appreciated for stronger pre-briefs, expanded co-creation blocks, shared ownership with documented commitments, and short online follow-ups.

Pilot-level correlations of outcome means reinforce this pattern: II (*concrete planning*) is most closely associated with the overall event average ($r = .93$), alongside a strong I–II link ($r = .80$) and a moderate association of I with the overall average ($r = .71$). Between-pilot variability was largest for II ($SD = 0.42$; range 3.79–5.00) and smallest for I ($SD = 0.13$; range 4.48–4.83), indicating that *concrete planning* is more design-sensitive while *relationship building* is reliably high across contexts. Read with the qualitative evidence, this suggests that CT and PC underpin II, which tracks perceived value across pilots, whereas *relationship* (I)—though consistently strong—is not sufficient without clarity and actionable follow-through.

Based on the seven thus far completed pilots, estimates are directional rather than definitive—but their stability across events and convergence with qualitative accounts support practical relevance. In this sense, the pilots serve not only as practical experiments but as a dynamic improvement mechanism for institutional learning and organizational development.

6 Creative Tension: Structural Learning in Meta-Organizational Collaboration

The example of the CHARM-EU pilot series elucidates how a principle-guided methodology and relational formats can help bolster cross-organizational collaboration by pairing clear coordination mechanisms with adaptive iteration—aligning with wider shifts toward experimental, networked collaboration in European higher

education (Gallagher & Savage, 2022). Rather than top-down integration, this approach centers mutual learning and low-barrier co-creation, making strategy actionable in everyday practice. Conceptually, the work reported here operationalized three germane strands: CoP, NICs, and Meta-Organization Theory (Bryk et al., 2015; Maassen et al., 2022; Pinheiro et al., 2024; Wenger, 2008). These lenses translated into GPs that cyclically structured networking events and anchored them in follow-through and strategic alignment. In practice, relationship formation results proved reliably high, but concrete action planning tracked the perceived value of the pilots most strongly—showing that clarity and shared commitments are essential complements to community building, and that their impact is design-sensitive.

A defining feature of the methodology is the productive friction between strategic intent and emergent local practice. Pilots leverage structured ambiguity: demands for clear aims, roles, and outputs coexist with calls for open dialogue, co-creation, and tailored pacing. This creative tension, rather than a defect, supports reflection and adaptive learning, consistent with accounts of innovation emerging from the interplay of formal roles and informal processes (Llorca et al., 2025). In this sense, principle-guided pilots function as relational governance infrastructure: iterative efforts that make purposes visible, distribute participation, and operationalize short-cycle improvement. Institutional-alignment pressures¹⁰ are balanced with stakeholder-driven exchange, managed through careful process design and agile facilitation. The formats act as informal mechanisms of organizational learning that complement formal structures, progressing toward a blueprint for relational governance within European University Alliances.¹¹ Creative tension, when resolved through an adaptive cadence architecture, can thus align local initiative with higher-level strategy and support structural learning across diverse organizational settings.

10 For an analysis of how alliance formation is shaped by existing institutional hierarchies, see Lambrechts et al. (2024).

11 See Fuchs et al. (2023) for a case study of alliance-based learning networks in the EuroTeQ University context.

7 Conclusion and Outlook

This study distilled its conceptual framing into GPs that structure networking and connect it to follow-through and strategic alignment. Across the pilot series so far, the internal formats catalyzed collaboration and, crucially, functioned as lightweight infrastructure for institutional learning rather than as one-off events. In this respect, they operationalize relational governance by linking situated practice to co-owned commitments.

Several limitations temper these claims. The evidence is context-specific to CHARM-EU and may not generalize without attention to institutional fit; participation skewed toward already-motivated actors; follow-up windows were short; perceived value relied partly on self-report; facilitation quality may have produced out-sized effects; and resource use and network effects were only able to be partially measured. To strengthen validity and practical utility, forthcoming waves will incorporate a diagnostic to guide local adaptation; broaden recruitment to underrepresented units; extend follow-up; pair surveys with behavioral indicators (e.g., collaborative project completion, cross-unit endeavors launched); introduce a facilitation rubric with basic training and fidelity checks; and expand analysis with ethnographic narrative research on community building in situ during events.

Looking ahead, two complementary paths are envisaged: (1) scaling the methodology by enabling new pilots, diversifying formats, and embedding the GPs more widely; and (2) deepening existing efforts by supporting the implementation of ideas seeded during the pilots, ensuring continuity through planned follow-up, and aligning formats with institutional strategies to a larger extent. Both paths depend on explicit coordination and recognition mechanisms, and on a growing cadre of trained facilitators who anchor the methodology within and across institutions.

The approach reported here is transferable, but it travels best when locally adapted and supported by clear tools—templates, checklists, and shared repositories that make roles, rituals, and accountabilities visible. Framed in this way, the pilots re-

spend to immediate organizational needs while also contributing to emergent governance cultures in transnational higher education. As a developing, evidence-based roadmap, the work offers a pragmatic route for embedding contextual community-building within HEI strategic frameworks and sets out a concrete program for improving its own rigor, equity of reach, and long-term impact.

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Appendix A

Networking aspects	Questions (Likert scale, 1-5)
I. Creation of new relationships across CHARM-EU.	“By attending this event, I have created new relationships with colleagues from other CHARM-EU institutions.” (Q1)
II. Development of concrete actions for cooperation.	“By attending this event, I developed concrete actions to cooperate with colleagues from other CHARM-EU institutions.” (Q2)
III. Acquisition of relevant knowledge from colleagues.	“By attending this event, I have received new knowledge from colleagues from other CHARM-EU institutions relevant to me.” (Q3)
IV. Inspiration for professional self-reflection.	“This event has inspired me to reflect on my own professional development.” (Q4)
V. Recommendation of the event to peers.	“I would recommend the event to my colleagues.” (Q5)

Appendix B

Networking aspects	Open-ended questions
I. Best aspect of the event	“In your opinion, describe the best aspects of the event.” (Q6)
II. Aspects needing improvement	“In your opinion, describe aspects that require improvement.” (Q7)
III. Recommendations for future events	“Please suggest any recommendations for CHARM-EU to improve future events.” (Q8)

Daniel Autenrieth¹ & Jan-René Schluchter²

Partners or Tools? – Anticipatory Governance for Human-AI Complementarity in Higher Education

Abstract

Artificial intelligence (AI) is accelerating structural change in higher education, reshaping teaching, research, and administration. To remain viable and socially responsible, universities must move beyond reactive governance and develop future-oriented capacities. This paper introduces anticipatory governance as a framework for higher education institutions to co-evolve with AI systems. Anticipatory governance is defined as the systematic use of foresight, participatory processes, and adaptive coordination mechanisms that prepare organizations for uncertain futures. Building on organizational theory and higher education governance research, we develop a framework that integrates structural governance challenges, the emergence of “shadow AI”, and the concept of complementary intelligence, which positions AI as a cognitive partner rather than a mere tool. The paper shows how anticipatory governance can guide universities in redesigning faculty roles, student learning partnerships, and administrative decision-making.

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- 1 Corresponding Author; Autenrieth & Partner; daniel@autenrieth-partner.de; ORCID 0000-0001-6236-6647
 - 2 PH Ludwigsburg; schluchter@ph-ludwigsburg.de; ORCID 0000-0003-2321-0054

Keywords

forward-looking leadership, higher education transformation, human-AI co-evolution, complementary intelligence, transformational leadership

Partner oder Tools? – Vorausschauende Governance für die Komplementarität von Mensch und KI im Hochschulwesen

Zusammenfassung

Künstliche Intelligenz (KI) beschleunigt den Strukturwandel im Hochschulwesen und verändert Lehre, Forschung und Verwaltung. Um zukunftsfähig und sozial verantwortlich zu bleiben, müssen Universitäten über reaktive Governance hinausgehen und zukunftsorientierte Kapazitäten entwickeln. Dieser Beitrag stellt vorausschauende Governance als Rahmenkonzept für Hochschuleinrichtungen vor, um sich gemeinsam mit KI-Systemen weiterzuentwickeln. Antizipatorische Governance ist definiert als der systematische Einsatz von Vorausschau, partizipativen Prozessen und adaptiven Koordinierungsmechanismen, die Organisationen auf ungewisse Zukunftsszenarien vorbereiten. Aufbauend auf Organisationstheorie und Forschung zur Hochschulgovernance entwickeln wir einen Rahmen, der strukturelle Governance-Herausforderungen, das Aufkommen von „Schatten-KI“ und das Konzept der komplementären Intelligenz integriert, das KI als kognitiven Partner und nicht als bloßes Tool positioniert. Der Artikel zeigt, wie vorausschauende Governance Universitäten dabei unterstützen kann, die Rollen der Lehrkräfte, die Lernpartnerschaften der Studierenden und die Entscheidungsfindung in der Verwaltung neu zu gestalten.

Schlüsselwörter

Vorausschauende Führung, Transformation der Hochschulbildung, Gemeinsame Evolution von Mensch und KI, Komplementäre Intelligenz, Transformative Führung

1 Introduction

The starting point of this paper is the assumption that higher education development in the context of the rapid advancement of Artificial Intelligence (AI) must no longer be designed primarily reactively, but rather evolutionarily, adaptively, and proactively with foresight. The focus is on the question of how universities can remain viable for the future and assume social responsibility through a changed understanding of governance and leadership, particularly in the sense of “anticipatory governance”.

Anticipatory governance represents a shift from traditional institutional stewardship toward future-oriented organizational capacity. Originally introduced in the 1990s and initially shaped by neoliberal New Public Management reforms, anticipatory governance has evolved into an independent concept of forward-looking institutional governance. Today it finds broad application in e-government, international development, environmental and climate policy, conflict prevention, and particularly in science and technology research addressing emerging technologies (Heo & Seo, 2021). This paper positions anticipatory governance as a necessary evolution for higher education institutions to address AI-driven transformation while maintaining their essential democratic and educational missions.

The challenges for universities do not arise solely from AI but are embedded in comprehensive societal transformation processes such as digitization, sustainability, inclusion, globalization, and individualization. Universities have already responded to these developments in the past with diverse measures and adaptations. With the emergence and rapid advancement of AI, however, these transformation requirements gain new dynamics and urgency (Gering et al., 2025). AI acts as an accelerator and amplifier of existing change processes and presents universities with new challenges at multiple levels, from teaching and research to administration and curriculum development.

University governance in particular moves to the center, as this is where different reform impulses and governance claims in dealing with AI converge. The enormous

speed at which generative AI systems in particular are developing not only changes the requirements for governance and leadership but directly impacts the working, teaching, and learning culture as well as examination formats and the daily collaboration of students, teachers, and staff. The stage model of development toward Artificial General Intelligence (AGI) proposed by Morris et al. (2024) illustrates how rapidly AI systems are moving toward complex, human-intelligent task fields between 2022 and 2025:

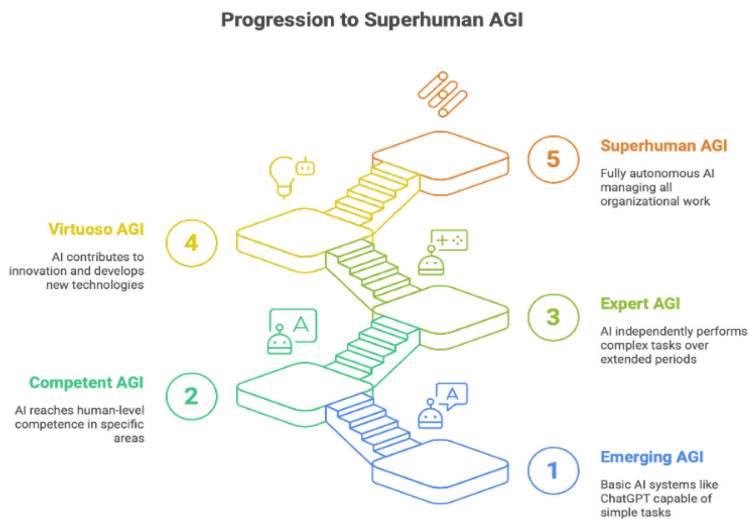


Figure 1: Five-stage progression model toward *Artificial General Intelligence* (AGI), from emerging AI systems to fully autonomous superhuman AGI (adapted from Morris et al., 2024)

With each advancement, existing routines, roles, and practices are called into question and must be actively shaped and steered. This makes clear that a central challenge for universities lies in developing their structures and cultures in the process of co-evolution with AI in such a way that they can use the potential of artificial intelligence responsibly and with a future orientation.

2 Governance Challenges in Contemporary Higher Education

2.1 Structural Challenges in Educational Governance

The significance of educational governance is closely linked to a decentralization of control and influence on the education system in recent decades. Educational governance aims to capture how various actors involved in particular political processes in educational contexts coordinate their actions while collaborating in political networks with multiple actors. This development creates complex relationship networks characterized by dynamic negotiation processes (deBoer & Huismann, 2020, pp. 335–336; deBoer et al., 2007).

Critically viewed, the history of steering public educational institutions appears as a history of failure, with inclusion serving as a pertinent case in point (byrd, 2022). In this context, Schreyögg (2013) refers to the “persistence” of educational institutions, which manifests itself in institutional inertia and organizational rigidity (Schreyögg, 2013; Dee et al. 2023, p. 16).

Three central causes can be identified for this stability: First, the loose coupling of systems, in which universities and education policy largely operate separately from each other. Weick (1995, p. 134) describes organizations as “loosely coupled systems in which action is underspecified, inadequately rationalized, and monitored only when deviations are extreme”. Second, recontextualization by actors, whereby educational policy requirements are subjectively interpreted and appropriated. Third, the path dependency of developments, where earlier decisions limit the scope for future changes, often to the point of “institutional lock-in” (Beyer, 2006, p. 12).

2.2 AI-Specific Governance Challenges for Universities

AI does not enter universities into a neutral space but encounters institutions with strong immune systems.³ As Papert (1992) already argued with regard to computers, schools (and by extension higher education) tend to assimilate potentially disruptive technologies in ways that stabilize rather than transform existing structures. What appears as innovation on the surface often becomes assimilation into traditional teaching practices, administrative routines, and research logics. AI-based assessment systems, tutoring platforms, and automated text generators are already used less as instruments of transformation and more as efficiency tools that reinforce conventional formats such as multiple-choice tests or standardized assignments. In this sense, universities risk repeating what Papert described: turning subversive potential into conservative consolidation.

This dynamic is reinforced by hopes of a techno-solutionistic (Morozov, 2014) approach expressed by the political temptation to frame AI tools as simple remedies for structural problems such as staff shortages, underfunding, or curricular overload. Instead of addressing the deeper institutional causes, governance strategies often highlight efficiency gains and time savings leading to the value of AI in education being frequently justified economically rather than pedagogically. Such framing not only obscures the social and political dimensions of university reform but also risks legitimizing AI as a substitute for human resources.

From a governance perspective, this creates several challenges. First, an assimilation trap: the tendency of universities to neutralize disruptive potential and integrate AI into existing routines without questioning fundamental assumptions about teaching, research, or administration. Second, the solutionism trap: the portrayal of AI as a fix

3 While higher education systems differ significantly between countries in terms of governance traditions and institutional arrangements, the acceleration of AI-driven transformation brings forward challenges that, in the long run, tend to converge across systems. Our focus therefore lies less on national specificities and more on structural tendencies that shape universities' encounters with AI globally.

for systemic crises, which shifts responsibility away from structural reform toward technical quick fixes. Third, the shadow AI problem (Challapally et al., 2025): unsanctioned grassroots adoption by faculty, staff, and students, which expands faster than governance structures can respond, creating risks in areas of data protection, academic integrity, and liability.

Thus, the governance challenge for universities is not only to regulate the functional integration of AI across teaching, research, and administration, but also to resist the tendency of assimilation and solutionism. Anticipatory governance must create spaces where AI is neither mythologized as a universal cure nor domesticated as mere efficiency software, but instead integrated in ways that genuinely expand human creativity, critical reasoning, and institutional responsibility.

2.3 Multi-Level Governance Complexity

Here, diverse approaches to education-related governance become apparent, which in the educational context essentially comprise three core areas: university autonomy and increasing individual university design leeway, corporatization of individual universities, and evidence-based education policy and university development (Neave, 2012; Amaral et al., 2009). In this context, the increasing relevance of a datafication of education has been observed in recent decades, an increase in the importance of data and (data-supported) evidence-based approaches in the steering of universities, as well as at the level of teaching design (e.g., datafication and individual support). AI technologies and applications with their divergent possibilities align with this datafication of education.

Beyond this perspective, the governance perspective expands the view beyond traditional steering approaches and focuses on the coordination of action between different actors in multi-level systems. Instead of just looking at state reforms, the formation of new order through society as a whole is considered. Governance encompasses all forms of collective action, “from institutionalized civil society self-regulation through various forms of cooperation between state and private actors to sovereign action by state actors” (Mayntz, 2004, p. 66).

Educational governance is concerned with the systematic examination of processes of emergence, maintenance, and transformation of social order and services in the education sector by foregrounding the coordination of actor behavior in complex multi-level systems (de Boer et al., 2007, pp. 139–140). Educational governance research emphasizes the interaction of actors in mutual dependence (actor constellations) as well as their “stubbornness” and the requirement that reform impulses must first be appropriated before they can become effective.

In the context of educational governance approaches, however, power differences always become visible, as actors have different opportunities for participation and influence in shaping universities and teaching. At the same time, for several decades, civil society actors as well as business (or market) actors have been gaining increasing influence, while the boundaries between them are blurring. The governance concept ultimately enables a comprehensive analysis of steering and restructuring issues in education as problems of action coordination between actor constellations.

3 Theoretical Framework: Anticipatory Governance for Higher Education

3.1 Conceptualizing Anticipatory Governance

This perspective complements the concept of “anticipatory governance” (Guston, 2014), which describes a forward-looking, participatory, and adaptive form of governance that is particularly relevant for dealing with emergent technologies like AI. Instead of linear steering models based on past experiences, circular, self-reflexive processes are emphasized that enable continuous learning and adaptation. Universities in particular are thus challenged to act ambidextrously (March, 1991; Tushman & O'Reilly, 1996), on the one hand further developing what has proven successful, and on the other hand continuously responding to new challenges and opportunities.

Anticipatory Governance (AG) results from a combination of:

governance – decision-making rules and processes which determine stakeholders' rights and responsibilities through coordination

anticipatory – organization or individual capacity to deal with new situations and realize accepted values, changing the focus from forecasting to being ready for future challenges (Heo & Seo, 2021)

In short, anticipatory governance can be described as a sustainable decision-making process based on consensus about a desirable future or vision that involves the participation of various actors, including government, market, public, and science. Anticipatory governance uses foresight to develop future plans and implement measures, and employs foresight as an instrument or process that enables governments to deal with accelerating and complex forms of change.

3.2 Organizational Templates for Anticipatory Governance

Taking into account Flyverbom and Garsten's (2021) framework, anticipatory practices in universities can be read as organizational "templates" for producing futures. Yet these templates are not neutral: they channel institutional responses either toward solutionist assimilation or toward transformative reimagination.

Indicative Snapshots: Rankings, dashboards, and indicators stage AI adoption as measurable progress. Such representations often reduce complex institutional change to adoption rates or efficiency gains. In this way, they embody the assimilation logic: AI becomes proof of modernization without questioning underlying structures of teaching, research, or administration.

Prognostic Correlations: Forecasts based on data analytics promise to show "where AI will hit hardest". While they can support resource allocation, they tend to domesticate disruption by framing it as incremental adjustment. Instead of rethinking the university in an AI era, correlations encourage universities to tweak existing routines to maintain stability.

Projected Transformations: Scenario planning, in contrast, can resist assimilation. By imagining alternative curricula, faculty roles, and governance arrangements, projections enable critical reflection on what forms of higher education are desirable. They open a space for asking not just *how to adapt to AI*, but *how to redesign the university with AI*.

Phantasmagoric Fictions: Narratives and imaginaries – whether hopeful or cautionary – mobilize collective imagination. While they can reproduce empty hype, they also hold the greatest potential to inspire genuine transformation: by articulating visions of human–AI complementarity that foreground creativity, ethics, and democratic participation.

In sum, Flyverbom and Garsten’s templates help to reveal how anticipatory practices in higher education oscillate between assimilation and transformation. Universities often gravitate toward snapshots and correlations that stabilize existing structures under the guise of innovation, while projections and fictions offer pathways for reimagining institutional futures. Yet a critical gap remains: how can universities systematically privilege transformative practices over solutionist ones, and how can AI be positioned not as a threat or mere efficiency tool but as a genuine partner in governance?

The next section outlines our approach to this challenge. By integrating the framework of anticipatory governance with the concept of complementary intelligence, we propose an architecture that enables universities to resist solutionist assimilation and instead cultivate human–AI co-evolution as the basis for future-oriented institutional design.

3.3 Integrated Anticipatory Governance Architecture

3.3.1 Integrated Anticipatory Governance Architecture

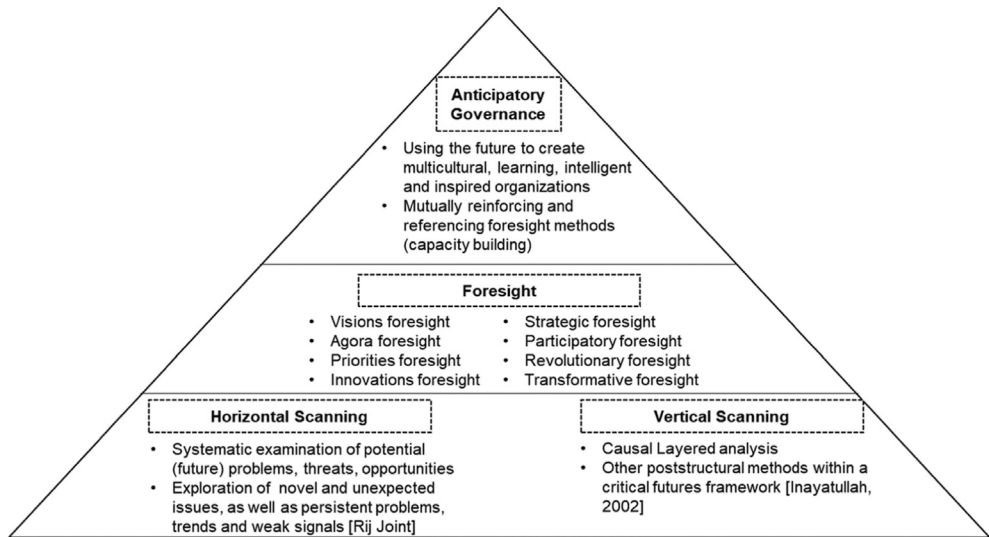


Figure 2: Hierarchical model of anticipatory governance, integrating foresight methods with horizontal and vertical scanning approaches for future-oriented organizational development (Heo & Seo, 2021)

Figure 2 illustrates this integrated approach through a hierarchical model. At the base, horizontal scanning identifies potential problems, threats, opportunities, and weak signals across the environment, while vertical scanning employs causal layered analysis and related critical futures methods to surface deep structures and assumptions.

These scanning processes feed into multiple types of foresight. For example, visions foresight develops shared long-term aspirations, while agora foresight emphasizes participatory deliberation with diverse stakeholders. Other forms such as priorities

foresight and innovations foresight link foresight to agenda-setting and technological change, while strategic, participatory, revolutionary, and transformative foresight represent increasingly ambitious approaches to systemic change.

At the apex, these activities crystallize into anticipatory governance: an institutional capacity to embed futures thinking in decision-making, build future receptivity among actors, and coordinate collective action. The framework thereby addresses the governance gaps identified in Section 2 by creating institutional mechanisms for proactive adaptation rather than reactive response to technological change. Unlike traditional educational governance that focuses on coordination between existing actors, anticipatory governance includes technological systems as legitimate participants in governance processes and systematically incorporates future possibilities into present decision-making.

4 Complementarity as Prerequisite for Human-AI Governance Relations

4.1 AI as General Purpose Technology in Higher Education

Large Language Models (LLMs) like ChatGPT have developed into a General Purpose Technology in a short time, comparable to historical developments like electricity or the computer. Eloundou et al. (2023) show that about 80 % of the US workforce is affected by this development, with at least 10 % of their tasks being transformed by AI. For around 19 % of workers, even more than half of their activities could be affected. However, these figures date from 2022–2023 and do not yet reflect the rapid development toward AGI. While the first waves of generative AI primarily affected text and image generation, current developments show that even creative and cognitively demanding professions are increasingly being transformed (Autenrieth, 2024, p. 3). Jobs originally classified as “AI-resistant” “white-collar” positions (e.g., programming, legal and business consulting) but also therapy (Stade et al.,

2024) and medical diagnostics (Tu et al., 2025) are already experiencing profound changes in their activity profiles today.

4.2 AI as Cybernetic Teammate in Educational Contexts

Dell’Acqua et al. (2025) show, for example, how generative AI fundamentally transforms collaboration and knowledge transfer within teams. AI functions not merely as a tool but as a “cybernetic teammate” that offers qualitatively similar advantages to human cooperation by diversifying expertise, reducing emotional burdens, and improving the efficiency and quality of decisions. Teams that integrate AI show significantly higher performance and benefit from a democratization of specialized expertise that was previously reserved for specific functional areas (Dell’Acqua et al., 2025, p. 4).

However, this transformation requires organizations to rethink in ways that go beyond merely increasing efficiency. AI changes not only how tasks are completed but also the fundamental concepts of teamwork, role distribution, and organizational structure. Organizations that see AI merely as an efficiency tool miss the opportunity to establish AI as an integral part of a new leadership and collaboration paradigm. The challenge for leadership is to recognize and proactively shape these new potentials by developing flexible, adaptive, and integrative organizational structures that place human-machine interactions at the center (Autenrieth, 2025, forthcoming).

Specific Applications in Higher Education:

Teaching Partnerships: Faculty increasingly collaborate with AI systems for curriculum design, content creation, assessment development, and personalized feedback. This partnership model requires new governance frameworks that define responsibilities, ensure quality control, and maintain academic integrity while leveraging AI capabilities for enhanced learning experiences.

Research Collaborations: Researchers utilize AI as cognitive partners for literature synthesis, hypothesis generation, data analysis, and manuscript preparation. Universities must govern these collaborations to ensure research quality, reproducibility, and ethical compliance while enabling innovative research methodologies.

Administrative Support: University administrators work with AI systems for student services, enrollment management, resource allocation, and strategic planning. This requires governance structures that maintain human oversight for consequential decisions while enabling efficiency gains and improved service delivery.

4.3 Complementary Intelligence Framework

In the context of this acceleration, the concept of complementary intelligence (Autenrieth, 2025 and Brynjolfsson, 2022) gains crucial importance. It overcomes the dichotomous view of human versus machine and instead focuses on synergistic potentials:

Extended creativity instead of substitution: While earlier waves of automation primarily affected repetitive activities, today's AI systems extend the creative and analytical capabilities of knowledge workers. The emphasis is not on replacing human creativity but on potentiating it.

Partnership instead of tool use: Modern AI systems are evolving from passive tools to cognitive partners that not only execute but think along, make suggestions, and adaptively co-design processes.

Human meta-cognition and ethical judgment: The actual strength of humans in this partnership lies in the ability for meta-cognition, contextual understanding, and ethical judgment which are dimensions that even advanced AI systems cannot yet convincingly represent.

5 Conclusion

The rapid development of artificial intelligence challenges universities to rethink their structures, cultures, and steering mechanisms. AI acts as an accelerator of already existing transformation processes and makes clear that higher education development today must no longer be designed reactively but rather with foresight, adaptively, and evolutionarily. This requires an “anticipatory governance” that relies on continuous learning, collective intelligence, flexible cooperation, and the active shaping of human-machine interactions. Central to this is the development of meaningful narratives and visions that provide orientation and enable collective action.

Universities must act ambidextrously, further developing what has proven successful while remaining open to new things. Successful governance and leadership means creating framework conditions for emergent cooperation, including with AI, and understanding change as a collective process. AI should be viewed not merely as a tool but as an actor and partner in shaping teaching, research, and administration.

The anticipatory governance framework presented here offers universities a comprehensive approach to navigating AI-driven transformation while maintaining their essential missions. By integrating Flyverbom and Garsten’s (2021) organizational templates with educational governance theory and complementary intelligence principles, universities can develop institutional capacity for proactive co-evolution with AI systems.

This approach positions universities not as passive recipients of technological change but as active shapers of AI-influenced futures. Through systematic environmental scanning, participatory foresight processes, and adaptive coordination mechanisms, universities can model responsible AI integration for society while preserving their roles as democratic institutions committed to human flourishing.

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Regina Ahlbrecht¹, Jana Kirchner², Wanja Kröger³, Maya Mankiewicz⁴ & Benjamin Zinger⁵

Gemeinsam wirksam werden: Netzwerk-Impulse für die Hochschulen von morgen

Zusammenfassung

Reformdiskurse an Hochschulen richten sich oft auf strukturelle Fragestellungen und vernachlässigen die Hochschule als sozialen Ort, an dem Menschen Wandel erleben und mitgestalten. Der Blick richtet sich primär auf das *Was*, weniger auf die gelebte Praxis des Wandels. Dadurch entsteht ein Spannungsfeld: Wandel wird gefordert, aber nicht aus der Perspektive der Hochschulangehörigen reflektiert, die ihn tagtäglich bewältigen. Der Beitrag zeigt auf, wie Zukunftsgestaltung an Hochschulen aus Akteur:innenperspektive heraus adressiert wird und dabei neuen Formen der multiperspektivischen Zusammenarbeit eine entscheidende Rolle zukommt.

Schlüsselwörter

Netzwerk, Hochschultransformation, Zukunftskompetenzen, Wandel, Gesellschaft

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- 1 Corresponding Author; HAWK Göttingen / Fakultät Ressourcenmanagement; regina.ahlbrecht1@hawk.de; ORCiD 0009-0007-8337-0857
 - 2 Technische Hochschule Nürnberg / Forschungs- und Innovationslabor Digitale Lehre; kirchnerja91353@th-nuernberg.de; ORCiD 0009-0000-2447-5498
 - 3 ZHdK, Zürcher Hochschule der Künste / Dossier Learning & Teaching; wanja.kroeger@zhdk.ch; ORCiD 0009-0005-6305-0755
 - 4 LehreN-Netzwerk e.V. || c/o Alfred Toepfer Stiftung F.V.S.; maya.mankiewicz@lehrehochn-netzwerk.de; ORCiD 0009-0009-7605-5861
 - 5 Technische Hochschule Nürnberg / Forschungs- und Innovationslabor Digitale Lehre; benjamin.zinger@th-nuernberg.de; ORCiD 0000-0002-0378-2218

Becoming effective together: Network impulses for the universities of tomorrow

Abstract

Discourses on reform at universities often focus on structural issues and neglect the university as a social place where people experience and help shape change. The focus is primarily on the what, rather than on the actual practice of change. This creates an area of tension: change is demanded, but not reflected from the perspective of the university members who manage it on a daily basis. The article shows how shaping the future at universities is addressed from the perspectives of its players and how new forms of multi-perspective cooperation play a decisive role in this.

Keywords

network, university transformation, future skills, change, society

1 Die Zukunft der Hochschulen ist offen – what could possibly go right?

Subjektive Sichtweisen spielen eine zentrale Rolle, wenn es darum geht, Hochschulakteur:innen in ihrer Fähigkeit zur aktiven Mitgestaltung von Transformationsprozessen zu stärken. Denn die gegenwärtigen Transformationen im Hochschulbereich erfordern mehr als die professionelle Perspektive und eine bloße Anpassung an äußere Entwicklungen. Im Zentrum steht die Frage, wie Hochschulakteur:innen von einer reaktiven zu einer aktiv gestaltenden Haltung gelangen können.

Die Debatten zur Hochschulzukunft sind von immer wiederkehrenden Themen bestimmt, die sich in neuen Konstellationen zeigen. Besonders deutlich wird dies in dominanten Narrativen rund um Zukunftsfragen. So beschreibt das *Zukunftsinstitut Frankfurt*:

„Technologie, Nachhaltigkeit, Krisen – sind der Dreiklang, der die Zukunftsvorstellungen vieler Menschen in den letzten Jahren dominiert.“

Dieser Dreiklang verweist auf weitreichende Transformationsprozesse, die neue Kompetenzerfordernisse nach sich ziehen (vgl. Winde, 2024, S. 6). Besonders das Thema *Künstliche Intelligenz* (KI) hat in der Hochschulwelt an Bedeutung gewonnen. Die damit verbundenen Entwicklungen gelten als disruptiv und beschleunigen zugleich überfällige Reformanliegen – etwa die Stärkung überfachlicher Kompetenzen oder neue Rollenverständnisse in der Lehre. Wer Hochschulbildung zukunftsfähig gestalten will, sollte sich deshalb nicht allein von Trendthemen leiten lassen. Vielmehr braucht es eine grundsätzliche Auseinandersetzung mit Haltung, Verantwortung und Gestaltungsanspruch.

Die folgenden Ausführungen basieren auf Impulsen und Diskussionen, die im Rahmen der Lehreⁿ-Jahrestagung im März 2025 unter dem Leitthema „Die Zukunft der Hochschulen ist offen – what could possibly go right?“ angestoßen wurden. Im Zentrum stand die Frage, welche Haltung es für die Hochschule von morgen braucht – und wie diese auf individueller, kollektiver und gesellschaftlicher Ebene verankert

werden kann. Dabei wird das Hochschulsystem stets als humboldtsche Einheit aus Forschung und Lehre begriffen, wobei der Fokus – auch durch die Genese des Lehreⁿ-Netzwerks – auf die in der Gesamtheit des Systems weniger diskutierte lehrbezogene Hochschulentwicklung gelegt wird.

2 Netzwerke als Wegbereiter für Zukunftsgestaltung

2.1 Zusammenarbeit an Hochschulen als Ausgangspunkt

Nur eine Hochschule, die über wirksame Mechanismen einer integrierten internen Zusammenarbeit verfügt, wird zukünftig zu einer profilierten Identität finden (vgl. Ziegele & Müller, 2024, S. 123). Es kann insofern nicht vorrangig darum gehen, ein neues Zukunftsbild der Hochschule abstrakt zu entwerfen. Vielmehr rückt die Frage in den Vordergrund, wie ein zu entwickelndes Zukunftsbild auch durch Erkenntnisse über eine neue Qualität der Zusammenarbeit mit Leben gefüllt werden kann. Es geht darum, die Gestaltung von Zukunft als gemeinsamen Prozess zu denken – unter Berücksichtigung der individuellen Anliegen und Stärken der Beteiligten, getragen von einem kollektiven Verantwortungsgefühl und im Sinne übergreifender Zielsetzungen. Hier treffen Studierende, Lehrende, Forschende und Mitarbeitende aufeinander, um gemeinsam als Gestalter:innen einer lernenden Organisation zu agieren (vgl. Fröse, Leifeld & Prill, 2025, S. 1) und die Kompetenzen zu entwickeln, die sie in einer sich stetig wandelnden Welt brauchen. Immanent ist es, frühzeitig zu lernen, wie die eigene Haltung reflektiert und weiterentwickelt werden kann (vgl. ebd., S. 3). Die Art und Weise, wie diese Zusammenarbeit gestaltet wird, ist somit nicht nur Voraussetzung, sondern ein integraler Bestandteil eines zukunftsgerichteten Hochschulbildes. Der Blick auf wirksame Formen der Zusammenarbeit innerhalb einer Hochschule reicht allerdings nicht aus. Vielmehr bedarf es tragfähiger und hochschulübergreifender Netzwerke, die als Katalysator für Transferprozesse über Hochschulgrenzen hinweg dienen können (vgl. Jenert & Bosse, 2021, S. 284).

2.2 Das Lehreⁿ-Netzwerk – Menschen im Mittelpunkt

Mit der im Jahr 2010 gestarteten Initiative „Lehreⁿ – Das Bündnis für Hochschul-lehre“ ging der Aufbau eines statusgruppen-, hochschultyp- und fachübergreifenden Netzwerks an Hochschulakteur:innen einher. Die Mitglieder des Netzwerkes sind Teilnehmende an Fach- und Dachprogrammen, die bis 2020 jährlich durchgeführt wurden und der Begleitung von Lehrentwicklungsvorhaben und der gegenseitigen kollegialen Beratung dienten. Die insgesamt circa 380 Teilnehmenden aller Lehreⁿ-Programme sind an über 100 Hochschulen aller Hochschultypen im deutschsprachigen Raum tätig:

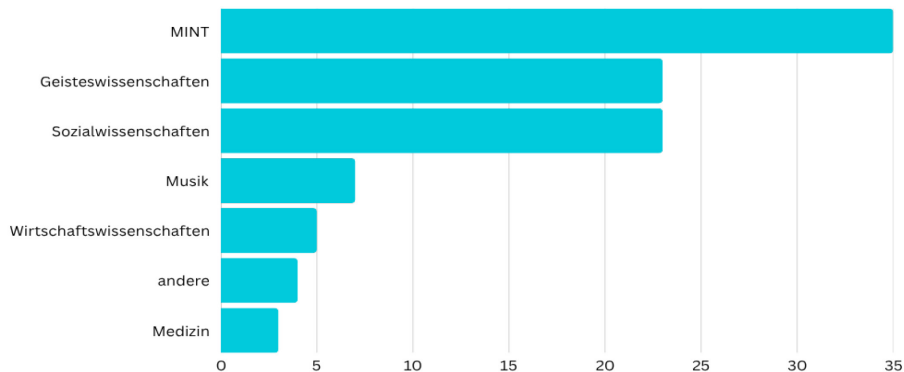


Abb. 1: Verteilung der Fächergruppen in den Lehreⁿ-Programmen 2010–2020 (in Prozent)

Aus dieser Initiative sowie dem späteren Jahresprogramm der *Stiftung Innovation in der Hochschullehre* (StIL), das als Nachfolge der Lehreⁿ-Programme verstanden werden kann, ist der *Verein Lehreⁿ-Netzwerk e.V.* mit derzeit rund 200 Alumni hervorgegangen.

Der *Verein Lehreⁿ-Netzwerk e.V.* fördert den fach- und hochschulübergreifenden Austausch zur Hochschullehre und -entwicklung. Im Zentrum stehen dabei Offenheit, freies Denken und interdisziplinärer Dialog. Das Netzwerk bringt Lehrende, Hochschulleitungen, Didaktiker:innen, Hochschulmanager:innen und Studierende zusammen – eine „Community of Individuals“, die durch ein gemeinsames Interesse an lehrbezogener Hochschulentwicklung verbunden ist, ohne dabei als einheitliche Stimme aufzutreten.

Das Netzwerk trifft sich unter Anderem einmal jährlich im Rahmen einer zweitägigen Tagung. Diese bietet Raum für Austausch, kollektive Reflexion und strategische Weiterentwicklung.

2.3 Die Lehreⁿ-Tagung als multiperspektivischer Impuls für Hochschulentwicklung

Das Netzwerk näherte sich den Fragen zum Thema „Die Zukunft der Hochschulen ist offen – what could possibly go right?“ im Rahmen einer zweitägigen Netzwerkveranstaltung im März 2025. Zentral für eine möglichst multiperspektivische Betrachtung des Themas war die Zusammensetzung der Teilnehmer:innen. Für eine vielschichtige Betrachtung und einen intensiven Diskurs zur Zukunft von Hochschulen ist es essenziell, dass alle zentralen Akteur:innengruppen der Institutionen vertreten sind.

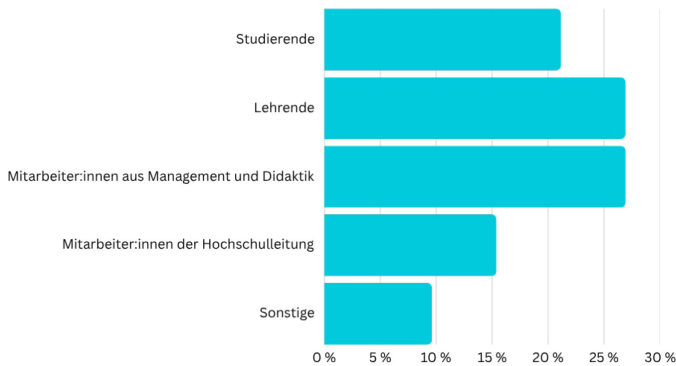


Abb. 2: Lehreⁿ-Netzwerktagung 2025 – ein multiperspektivischer Blick auf Hochschulentwicklung

Alle Teilnehmer:innen hatten während der Veranstaltung die Möglichkeit die Perspektiven *ICH – WIR – ALLE* einzunehmen. Diskutiert wurde, wie individuelle Haltungen, gemeinsame Werte und systemische Zusammenhänge ineinandergreifen und welche Potenziale daraus für die Zukunftsfähigkeit von Hochschulen erwachsen. Verwoben mit systemischen Ansätzen, ist es nun möglich, einen Blick auf Entwicklungspotenziale und Reformoptionen für Hochschulen zu werfen.

3 Akteur:innenperspektiven auf Hochschulen

3.1 Eine systemische Sicht auf Hochschulen und Zukunftskompetenzen einnehmen

Eine zentrale inhaltliche Vorüberlegung zur Einnahme einer systemischen Sicht auf das Agieren an Hochschulen bietet das Konzept der *Nested Systems* (vgl. Bronfenbrenner, 1979; vgl. Heinrich et al., 2022). Es stellt einen hilfreichen Rahmen dar, um Hochschulen als verschachtelte, sich gegenseitig beeinflussende Systeme zu verstehen – bestehend aus Fachbereichen, Verwaltungseinheiten und Gremien. Veränderungen auf einer dieser Ebenen haben zwangsläufig Auswirkungen auf die anderen. Daraus ergibt sich die Notwendigkeit, gezielt Kooperation zu fördern und ein vertieftes Verständnis für systemische Wechselwirkungen zu entwickeln.

Eine systemische Perspektive wird auch in der Beschreibung eines Wandels vom *EGO- zum ECO-System* (vgl. Scharmer & Kaufer, 2013) eingenommen. Beschrieben wird dabei ein kultureller und struktureller Übergang – weg von organisational geprägtem Denken und Handeln, hin zu gemeinschaftsorientierter Co-Kreation. Der Fokus verschiebt sich hierbei von Konkurrenz zu Kollaboration, von disziplinären Silos zu transdisziplinären Ansätzen. Ziel ist es, kollektive Intelligenz zu fördern und damit die Innovationskraft von Hochschulen nachhaltig zu stärken. Notwendig werden zudem organisationale Räume, die die Entwicklung von neuen individuellen Einstellungen ermöglichen sowie integrieren und eine nachhaltige Basis hin zu einer lernenden Organisationsrealität schaffen (vgl. Pellert 1999).

Ein rein systemischer Ansatz greift jedoch zu kurz, um die Akteur:innen an Hochschulen angemessen in den Blick zu nehmen. Daher werden die *Future-Skills-Perspektiven* ICH, WIR und ALLE(S) nach Pechstein und Schwemmel (2023) aufgegriffen. Maßgeblich in der ICH-Perspektive sind persönliche, intrapersonale Future Skills, bei denen es um persönliche Entwicklungen, Lernbereitschaft und die Offenheit gegenüber der Welt geht. Diese Fähigkeiten wirken sich unter anderem auf das

Selbstvertrauen, auf persönliche Werte und das Wohlbefinden aus. Die WIR-Perspektive zielt auf Netzwerke ab. Organisationen werden als emergente, dynamische Systeme betrachtet, die mehr sind als die Summe ihrer Teile. Die hier adressierten organisationalen Zukunftskompetenzen umfassen unter anderem den angemessenen Umgang mit vernetzten Systemen, stärken die Zusammenarbeit und Problemlösung und stellen Synergien her. Die dritte Perspektive – hier als integrative ALLE-Perspektive verstanden – geht über die Menschenzentrierung hinaus. Sie betrachtet den Menschen als Teil der Natur. Die planetaren Future Skills adressieren Weltbürgertum, Systemdenken und die Mensch-Natur-Beziehung. Diese Perspektive ist für die Ausgestaltung der Zukunft elementar, da sie die Abhängigkeit des Menschen von einem gesunden Planeten verdeutlicht.

Es erfolgt hier keine isolierte Betrachtung der Daten, sondern deren Integration. Die Ausdifferenzierung der drei Betrachtungsebenen orientiert sich am Konzept der *Nested Systems* sowie am Modell des *Wandels vom EGO- zum ECO-System*. Diese Struktur bildete auch den Rahmen der Tagung: Zu allen drei Ebenen – der ICH-, WIR-, und ALLE-Perspektive – wurden Statements der Teilnehmenden erhoben. Die Auswertung dieser qualitativen Daten in thematischen Clustern bildet im Folgenden die Grundlage für eine erste Ableitung von Kernaussagen zu den einzelnen Perspektiven, aus denen übergreifende Schlussfolgerungen (Kapitel 4) und Handlungsempfehlungen (Kapitel 5) entwickelt werden.

3.2 Die ICH-Perspektive mit dem Fokus auf intrapersonale Future Skills

Cluster 1: Reflexions- und Veränderungsfähigkeit

Beim ersten Cluster steht die persönliche Entwicklungs- und Lernbereitschaft im Mittelpunkt. Die Fähigkeit und der Anspruch zur Selbstreflexion und zur aktiven Veränderung wird als wesentlich für individuelle Weiterentwicklung erkannt. Aussagen, die zur Aneignung dieser Fähigkeiten auffordern, sind →„Nimm dich wahr“

oder auch →„Stets an sich selber arbeiten (Fortbildungen, Coaching)“. Es geht darum, sich mit dem eigenen Denken und Handeln auseinanderzusetzen und die Bereitschaft mitzubringen, Neues zuzulassen und sich selbst weiterzuentwickeln (→„Transformation braucht (auch bei mir) weitere und tiefere Kompetenzen. Ich bleibe Lernender!“).

Cluster 2: Wohlbefinden an Hochschulen

Das zweite Cluster thematisiert das persönliche Wohlbefinden am Hochschulstandort, insbesondere im Kontext von Wellbeing und Resilienz. Hier zeigt sich durch Aussagen wie →„Ich kann Wellbeing von Studierenden unterstützen/fördern“ oder →„Ich möchte mehr schreiben für das Wohlbefinden der Hochschule“ der Wunsch nach einem Umfeld, das psychische Gesundheit, Selbstfürsorge und zwischenmenschliche Achtsamkeit fördert. Dieses Wohlbefinden wird als Grundlage für nachhaltige Leistungsbereitschaft und Motivation gesehen.

Cluster 3: Offenheit gegenüber der Welt

Das dritte Cluster beschreibt die Offenheit für die Welt und die Erkenntnis, dass das eigene ICH stets Teil eines größeren Ganzen ist. Diese Idee wird unterstrichen durch die Aussage →„Mein ICH ist stets ein (wertvoller) Teil eines Ganzen. #Nachhaltigkeit“. Damit verbunden wird die Überzeugung, dass alle Personen wertvolle Beiträge leisten können (→„Ich kann Bildung für nachhaltige Entwicklung (BNE) nicht alleine Lehren, ich kann aber ein Teil davon sein“). Das Konzept der →„Radikalen Liebe“ wird als Ausdruck dieser Haltung genannt. Es steht für ein radikal empathisches, wertschätzendes und verbundenes Miteinander.

Entwicklungswunsch: Über alle Cluster hinweg zeigt sich der Wunsch, dass Hochschulen persönliche Dimensionen wie Reflexionsfähigkeit, Wohlbefinden und Offenheit bewusster wahrnehmen und im Austausch der Akteure stärken. Als wichtiger Entwicklungsschritt wird gesehen, dass sie weniger sach- und effektivitätsorientiert agieren und stattdessen neue, auch ungewöhnliche Methoden erproben. Die intrapersonale Perspektive wird dabei als zentral für die Hochschulentwicklung verstanden: Das ICH als Ausgangspunkt für Professionalität und Veränderung sollte gestärkt und

enger mit Zukunftsfragen verknüpft werden. Diese Entwicklung geht über das Individuum hinaus und zielt auf kollektive Verantwortung.

Gefahr & Chance: Grundsätzlich besteht die Gefahr, dass das ICH sich nicht ausreichend entfalten kann, dass es bildlich gesprochen im Organisationskorsett der Hochschule und in einem festgefahrenen Rollengefüge verhaftet bleibt. In der Stärkung dieser Perspektive wird die Hoffnung gesehen, dass agilere und mutigere Wege beschritten und innovationsfördernde Strukturen aufgebaut werden können.

3.3 Die WIR-Perspektive mit Fokus auf organisationale Future Skills

Cluster 1: Gemeinsam denken und wirken

In einem ersten Cluster wird die Wichtigkeit der gegenseitigen Unterstützung und des gemeinsamen Denkens betont. Dabei geht es weniger um Abgrenzung (d. h. ein „Wir“, welches sich über „die Anderen“ definiert), sondern um eine stärkere Verbundenheit und die Erhöhung der kollektiven Handlungsfähigkeit. Man versteht sich als Teil einer Gemeinschaft und nicht nur als Individuum (→ „Zusammen sind wir stärker“; → „Gemeinsam denken“). Es geht auch um Partizipation und Empowerment, um die Wirksamkeit der Gruppe zu stärken (→ „Geb allen eine Stimme“).

Cluster 2: Gemeinsam mit Studierenden

Das Thema Partizipation und Stärkung der Mitbestimmung der Studierenden bildet ein zweites Cluster. Es kommt der Wunsch zum Ausdruck, Studierende gleichberechtigt und in umfassender Weise in Veränderungsprozesse einzubeziehen (→ „Studierende sind Kollaborationspartner:innen in der Planung, Durchführung und Evaluation von Lehre“).

Cluster 3: Co-Kreative Dynamik erzeugen und wie alles zusammenhängt

Ein weiterer Teil der Nennungen zielen darauf ab, dass in einem verstärkten Miteinander kreativere und mutigere Ideen für Veränderungen entstehen (→ „co-kreative,

kollaborative Modalitäten gestalten“). Komplementär dazu wird auch zum Ausdruck gebracht, dass systemische Betrachtungen generell hilfreich sind, um Veränderungen an Hochschulen zu verstehen und zu fördern (→„vom Lern- und Lebensort“).

Cluster 4: Ideen zu mehr Kooperation

In einem letzten Cluster werden konkrete innovative kooperative Lern- und Lehrsettings bzw. -umgebungen benannt (→„Von Flashmobs bis Wanderausstellungen“, →„Transformationslabore“, →„Festivals als Lernräume nutzen“).

Entwicklungswunsch: Zusammenfassend lässt sich die These ableiten, dass an den Hochschulen ein „neues WIR“ entstehen muss, bei dem die Kommunikation auf Augenhöhe mit internen und externen Akteur:innen essenziell ist. Dies erfordert eine offene und experimentierfreudige Haltung und bildet den Kern von Handlungsfähigkeit im Hinblick auf zukünftige Herausforderungen. Dies gilt insbesondere, wenn Studierende Teil dieses WIR sind und so eine generationsübergreifende Perspektive auf die Zukunft entsteht.

Gefahr & Chance: Diese Perspektive eröffnet die Chance, dass Hochschulen der Zukunft agiler, mutiger und innovativer in ihren Handlungen und Entscheidungen werden. In den Hochschulen der Zukunft sind alle Akteur:innen gut integriert. Um diese Zielperspektive zu erreichen, gibt es zahlreiche vielversprechende Einzelinitiativen mit Vorbildcharakter, aber noch wenige Ideen für eine flächendeckende Umsetzung.

3.4 Die ALLE-Perspektive mit dem Fokus auf planetare Future Skills

Cluster 1: Systemdenken

Bei der Analyse stellt sich heraus, dass es ein großes Bedürfnis gibt, das Wir-Gefühl in die Breite zu tragen. Diese Idee kommt prägnant in der Aussage →„Wir = Alle“ und in der Vorstellung →„Alle sind viele und ziemlich unterschiedlich und das zu

beachten ist essenziell“ zum Ausdruck. Auch die Aussage →„(...) zusammen mehr als die Summe seiner Teile sein“ bestärkt diese Denkrichtung.

Cluster 2: Lust auf Veränderung

Mit Aussagen wie →„einfach machen“, →„Freie Räume für Experimente“ und →„Trust in trying new things“ wird grundsätzlich eine Lust auf Veränderung deutlich. Viele Nennungen beziehen sich darauf, alternative Wege auszuprobieren – insbesondere bei der Akkreditierung von Hochschulen – und bereits seit Längerem bestehenden Reformanliegen verstärkt Beachtung zu schenken (→„Feedback statt Noten“, →„Kompetenzen statt Inhalte“). Aber auch radikale Ideen wie →„Utopien leben“, →„Können wir nicht eine alternative Hochschule gründen?“ und →„außerhalb der Institutionen denken“ werden zum Ausdruck gebracht.

Cluster 3: Der Blick auf Europa

Zahlreiche Aussagen lenken den Blick auf Europa (→„Europäische Hochschulen vernetzt euch!“; →„Europa als ‚ALLE‘ leben“) und betonen gemeinsame Werte und Normen im europäischen Hochschulraum. Die Aussagen zielen auf den Gedanken →„think global, act local“ sowie auf die Idee der Mitverantwortung für die Weltgemeinschaft (→„Global Citizenship“; →„Verantwortung annehmen“) ab.

Entwicklungswunsch: Abzulesen ist ein starker Veränderungswunsch und der Wille, Dinge anders zu betrachten und umzusetzen. Hochschulen könnten so zu einem →„Ort der Hoffnung“ werden, an dem Veränderungen angestoßen und in die Breite getragen werden können. Internationale Entwicklungen in die Überlegungen einzubeziehen und über Institutionsgrenzen hinweg zu agieren, wird unter der ALLE-Perspektive als richtungsweisend betrachtet.

Gefahr & Chance: Deutlich werden die Komplexität und Dynamik globaler gesellschaftlicher, politischer und technologischer Entwicklungen. Angesichts dieser Entwicklungen geht es einerseits darum, die Begrenztheit der eigenen Wirksamkeit auszuhalten und andererseits darum, das Potenzial an Veränderungsmöglichkeiten zu erkennen und diese gemeinsam auszugestalten.

Die weiterführenden Fragen, wie die drei Perspektiven ineinandergreifen, verweisen zugleich auf die Future Skills im Sinne von Pechstein und Schwemmlé (2023) und werden im folgenden Kapitel diskutiert.

4 Schlussfolgerungen – oder welche Kompetenzen es in der Veränderung braucht

4.1 Die individuelle Ebene als Ausgangspunkt für Veränderung

Nach mehreren Professionalisierungsdekaden scheint es an der Zeit, das Verhältnis von Person und Profession neu zu reflektieren. Eine Stärkung des Einbezugs oder die Erweiterung der ICH-Perspektive mit einem Fokus auf Kompetenzen zur Selbstentwicklung und Selbstwahrnehmung gehen über die professionelle Perspektive hinaus und sind ein Ausgangspunkt, um Vernetzungen und Beziehungen neu zu denken. Es zeigt sich in Ansätzen zum Raumgeben oder -fordern, dass persönliche Wirksamkeit stärker im Zentrum professioneller Wirksamkeit stehen darf. Wiederum umgekehrt ist dem Impuls einer professionellen „Funktionalisierung“ des ICH's entgegenzuwirken.

Dies gilt sicher sowohl für das Professionsverständnis in den Disziplinen als auch für die Hochschulen an und für sich. Hier wurden auf verschiedensten Ebenen der Verwaltung Professionsstandards und -kulturen entwickelt, die sowohl den einzelnen Studierenden als auch den Lehrenden gegenüber eher von funktionalem Charakter sind und professionelle Pflichten in immer größerem Umfang produzieren. Aspekte des Erhalts von vitalen Bedürfnissen und eine Vergewisserung der Resilienz in Bezug auf die eigene Handlungsfähigkeit und Wirksamkeit spielen eine zentrale Rolle. Dazu braucht es die Fähigkeit, den Einsatz eigener Ressourcen bewusst zu steuern und Kompetenzen im Selbstmanagement zu entwickeln. Zukunftsgestaltung benötigt offene Räume für gemeinsames Denken und Begegnung. Diese können als

ein Gegenpol zur akademischen und professionellen Verdichtung gelten, die immer stärker in den Hochschulen anzutreffen sind. Hierzu benötigt es Kompetenzen für Sinn und Selbstantrieb, um wirksam werden zu können.

Die gesellschaftliche Dimension einer Veränderung der ICH-Perspektive findet sich in grundsätzlich auf persönlicheren Werten basierenden Konzepten, die eher humanistisch und ganzheitlich gedacht sind und auf Empathie und Begegnung beruhen.

4.2 Hochschule als Ort der Gemeinschaft

Ein zentraler Handlungsaspekt der WIR-Perspektive ist die Etablierung neu zu prägender Formen der Zusammenarbeit, die wesentlich auch mit den Veränderungen in der ICH-Perspektive gedacht werden müssen. In Verbindung mit Team- und Communitykompetenzen kann eine solche Art eines „neuen WIR’s“, bei dem die Kommunikation auf Augenhöhe mit internen und externen Akteur:innen essenziell ist, entstehen. Dabei steht die Idee einer ko-kreativen Beziehungsgestaltung der Akteur:innen im Mittelpunkt. Diese braucht eine neue Aushandlung traditioneller Rollen in der Zusammenarbeit. Ausgebildete Kompetenzen für Vision und Langzeitorientierung ermöglichen die Wertschätzung von Diversität als Ressource in der Begegnung auf Augenhöhe. So entsteht die Möglichkeit, sich gemeinsam einem Zukunftsaspekt zuzuwenden und diesen zu gestalten. Dabei scheinen insbesondere zwei Aspekte zentral zu sein: Die Generation der Studierenden ist nicht allein die lernende Generation. Mit Blick auf die Zukunft ist sie auf eine natürliche Art Expertisetragerin, insbesondere in Zeiten, in denen die Erfahrungsräume der Generationen durch schnelle gesellschaftliche Entwicklungen in deutlicher Differenz stehen. Darüber hinaus ist ein gesellschaftliches „Zukunfts“-Problem meist der Natur der Sache nach nicht disziplinär. Es bedarf einer erhöhten interdisziplinären oder multiperspektivischen und integrativen Problemlösungs- und Gestaltungskompetenz – Aspekte, die sich in der Idee von Innovations- und Organisationskompetenzen wiederfinden.

Dabei ist eine Herausforderung in der Differenz der Ausgangslagen auszumachen. Implizite verkörperte Erfahrung der Studierenden begegnet der professionell strukturierten Erfahrung der Lehrenden. Hier kann der professionelle Blick schnell an

noch weniger deutlich aufgearbeiteter und artikulierter Erfahrung der Studierenden vorbeischaun. Gemeinsam Relevanz zu markieren und Deutungshoheit zu verhandeln wird eine veränderte Aufgabe für alle Beteiligten.

Hochschule selbst als ein lebendiges System zu betrachten, das durch gemeinsames Handeln gestaltet werden kann, geht dabei über die einfachen Zuordnungen im Sinne von Orientierung auf Handlungskompetenz in der Lehre hinaus und in die Dimension tatsächlichen gemeinsamen Handelns Lehrender und Studierender und weiterer Akteur:innen in den Hochschulen als zu entwickelnde Bildungsorganisationen über. Es zeigt sich im Gestalten gemeinsamer Räume der Zusammenarbeit – neue Formen von Projekt- und Teammanagement sind für das Gelingen essenziell.

Professionalisierte Strukturen helfen dabei, effektiv zu arbeiten. Sie sind aber im Sinne offener Zukunftsfragen durch neu gestaltbare und veränderbare Anteile bewusst zu ergänzen, damit sie Innovation und Veränderungswillen nicht ausbremsen.

4.3 Der Blick über die Menschenzentrierung hinaus

Unter der ALLE-Perspektive lösen sich die Setzungen, die sich in den ICH- und WIR-Perspektiven ergeben haben, spezifisch ein und zeigen Räume gemeinsamer Verantwortung. Sie machen deutlich, dass Verantwortungskompetenz einen Halt in der gemeinsamen Perspektive sucht. Die Frage nach einem gesellschaftlichen und bildungspolitischen Framing für ein ALLE findet in den Diskussionen der Tagung exemplarisch zwei Resonanzräume: Den Europäischen Bildungsraum, als Entwicklungen stabilisierender Raum, der für das gesellschaftliche Grundmodell europäischer Demokratien steht und der eindeutig über Problemhorizonte nationaler Gesellschaften hinausgeht. Er steht für die Stärkung eines wertebasierten Raums und explizit auch dafür, dass Zukunftslösungen heute kaum noch allein nationale Lösungen sein werden. Hier lassen sich thematisch Kompetenzen für ein globales Bewusstsein und Kompetenzen zum systemischen Denken zuordnen. Auf der anderen Seite wurden am Beispiel neuer Formen des WIR in der Gestaltung der Hochschule neue Formate der Akkreditierung von Hochschulen durchgespielt, die den Zukunftsgestaltungsaspekt als Grundlage haben und nicht einen Mindeststandard. Der Ansatz zeigt

exemplarisch, wie schon im Aufbau von Hochschulstrukturen ein Enabling der Akteur:innen zur Gestaltung stattfinden kann. Hier prägt ein neues Mindset eines Akkreditierungsansatzes, zu welcher Art Zusammenarbeit sich eine Hochschulgemeinschaft aufgefordert fühlt. Die Hochschule wird dabei auf Ebene ihrer Transformationskompetenz angespielt und nicht nur auf der Ebene der Qualitätssicherung. Vorbildcharakter für die beiden genannten Resonanzräume nimmt aus unserer Sicht dabei das von der *European University Association* (EUA) bereits über Jahrzehnte initiierte *Institutional Evaluation Programme* (IEP) ein (vgl. EUA 2024).

Damit sind sowohl die politische und gesellschaftliche Ebene wie auch die Ebene der Handlungsfähigkeit in der fortschreitenden Professionalisierung als grundlegende Elemente in der Gestaltung der Zukunft der Hochschulen adressiert.

5 Handlungsempfehlungen für die Stärkung und Neuausrichtung der Zusammenarbeit in der Hochschulentwicklung

Eine Zeit, die von Diskontinuitäten geprägt ist, fordert nicht nur dazu auf, reaktive Selbstbestimmungsmöglichkeiten zu stärken, sondern auch Formen des kollektiven Handelns zu finden, um gemeinsam wirksam zu werden. Mit Blick auf die hier aufgezeigten Perspektiven lassen sich aus Sicht der Autor:innen vier Handlungsempfehlungen ableiten:

1. Die Potenziale als auch Bedürfnisse handelnder Personen an Hochschulen sind verstärkt zu berücksichtigen und die „Person“ in die Perspektive der Profession zu integrieren. Hochschulen können nur dann das Potenzial ihrer Akteur:innen in die Zukunftsgestaltung einbinden, wenn Hochschulen als sozialer Raum adressiert und gestaltet werden.

2. Zusammenarbeit und Zusammenwirken, im Sinne eines neuen WIR auf Augenhöhe, sollten im Zentrum stehen, um gemeinsam einen Weg zur Gestaltung von Zukunft zu beginnen und darin handlungsfähig zu werden. Dazu müssten die Schablonen von Bottom up versus Top down durch integrativere Arbeitsformen abgelöst werden.
3. Offene und wertebasierte soziale bzw. gesellschaftliche Räume, insbesondere der Europäische Bildungsraum oder in einer ganzheitlichen Perspektive die Welt, bieten ein erweitertes Framework und eine Zieldimension, in der sich der Zukunftsdiskurs der Hochschulen verorten kann.
4. Das Zusammenwirken der Hochschulakteur:innen für die Gestaltung einer gemeinsam getragenen Zukunftsentwicklung drängt auf eine integrative Sicht auf die Perspektiven ICH-WIR-ALLE. Nur in einer authentischen, als sinnvoll erlebten Verbindung der drei Perspektiven, können sich Herausforderungen und Ansprüche an Hochschulentwicklung wirksam einlösen. Ein zu isolierter Schwerpunkt auf eine Perspektive blendet die Realitäten der jeweils anderen Ebenen aus und wird einseitig. Dies passt weder zu den Ansprüchen noch den Herausforderungen an Zukunftsentwicklung, denen sich die Hochschulen heute stellen müssen. Diese integrative Perspektive könnte das Kernprinzip sein, das aus den Kräften der einzelnen Ebenen eine vierte Kraft entstehen lässt, die in den vielen offenen Räumen authentische und substantielle Lösungen erzeugen hilft. Damit würde der Weg in die Zukunft gestärkt als ein gemeinsamer Weg ins Offene – dort wo fixe Zielbilder ihr wegleitendes Potenzial verlieren.

Netzwerke können hierbei als impulsgebende Gestaltungsräume betrachtet werden, da sie ein Vertrauensverhältnis zwischen den Akteur:innen an Hochschulen etablieren. Der Fokus liegt auf der Stärkung der individuellen Wirksamkeit sowie der Ermutigung zu neuen Formen der Zusammenarbeit, um tragfähige Zielbilder zu entwickeln, die über die einzelne Hochschule hinausreichen.

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Julia Uhde¹, Oliver Blask², Uwe Holzhammer³, Anna-Lisa Klages⁴, Marie-Luise Baldin⁵, Anika Möcker⁶ & Jan-Peter Mund⁷

Klimaangepasste Hochschulen: Perspektiven von Hochschulmitgliedern an drei Standorten in Deutschland

Zusammenfassung

Angesichts der beschleunigten globalen Erwärmung sehen sich die Hochschulen mit zunehmenden Klimarisiken konfrontiert, die zu einem Anpassungsdruck an diese Veränderungen führen. Obwohl Hochschulen eine wichtige Rolle bei der Erforschung von Anpassungsbedarfen auf übergeordneter, institutioneller Ebene spielen, gibt es nur wenig empirische Forschung zu den subjektiven Bedürfnissen an Hochschulen. Die Erhebung der Perspektiven von Hochschulangehörigen ist von großem

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- 1 Corresponding Author; julia.uhde@thi.de; University of applied sciences Ingolstadt; ORCID 0009-0009-2985-5727
 - 2 University of applied sciences Ingolstadt; oliver.blask@thi.de; ORCID 0000-0003-0870-8786
 - 3 University of applied sciences Ingolstadt; uwe.holzhammer@thi.de; ORCID 0000-0001-5144-6692
 - 4 University of applied sciences Ingolstadt; anna-lisa.klages@thi.de; ORCID 0009-0006-3209-076X
 - 5 University of applied sciences Mittweida; baldin@hs-mittweida.de; ORCID 0000-0002-0401-4464
 - 6 University of applied sciences Mittweida; anika.moecker@hs-mittweida.de; ORCID 0000-0001-8688-9995
 - 7 Eberswalde University for sustainable Development (HNEE); jan-peter.mund@hnee.de; ORCID 0000-0002-4878-5519

Wert, um gezieltere Anpassungsmaßnahmen zu entwickeln und persönliche Belastungen zu reduzieren. Der Beitrag untersucht Wahrnehmungen von Klimarisiken, Einstellungen zu Anpassungsmaßnahmen und Umsetzungsbarrieren an Hochschulen. Eine Online-Umfrage wurde an drei deutschen Universitäten in Bayern, Brandenburg und Sachsen durchgeführt. Die Ergebnisse deuten darauf hin, dass die Hochschulangehörigen die derzeitige Umsetzung der Klimaanpassung an ihrer eigenen Institution als unzureichend ansehen. Aus den Ergebnissen lassen sich prioritäre Handlungsfelder für die Planung von Klimaanpassungsmaßnahmen an den befragten Hochschulen in den Bereichen Informationsbereitstellung, Hitzeanpassung, Strukturen zur Partizipation sowie Institutionalisierung und Verstetigung von Ressourcen zur Klimaanpassung ableiten.

Schlüsselwörter

Klimaanpassung, Hochschuleinrichtungen, Klimarisiken, Anpassungsmaßnahmen, Campusplanung

Climate-adapted universities: perspectives from university members at three locations in Germany

Abstract

In the face of accelerated global warming, higher education institutions are facing increasing climate risks that lead to pressure to adapt to these changes. Although universities play an important role in researching adaptation needs at higher institutional level, there is little dedicated empirical research into the subjective needs of universities and thus which adaptation measures university members prioritise. Surveying the perspectives of university members is of great value to develop more targeted adaptation measures and reduce personal burdens. This article analyses the perspectives of university members on perceived climate change risks as well as attitudes towards possible adaptation measures and barriers to implementation. An online survey was conducted at three German universities in Bavaria, Brandenburg and Saxony. The survey results suggest that university members consider the current implementation of climate adaptation at their own institution to be inadequate. The results can identify priority areas for action in the planning of climate adaptation measures at the universities surveyed in the areas of information provision, heat adaptation, structures for participation and the institutionalisation and continuity of resources for climate adaptation.

Keywords

climate adaptation, higher education institutions, campus planning, climate risks, adaptation measures

1 Klimaanpassung bei Hochschuleinrichtungen

Im Zuge des Klimawandels projizieren Forschende anhand von Klimamodellen einen Anstieg mittlerer Temperaturwerte sowie intensiver und häufiger auftretenden Extremwetterereignisse wie Starkregen, Hitzewellen, Dürreperioden und Sturmerereignissen in den mittleren Breiten (vgl. IPCC, 2023). Diese Entwicklung von Extremereignissen zeigt sich auch in regionalen Klimaprojektionen in Deutschland, u. a. für Sachsen (vgl. Spekat et al., 2020), Bayern (vgl. Danneberg et al., 2012) und Brandenburg (vgl. DWD, 2019). Mit der Betroffenheit durch Extremwetterereignisse u. a. durch direkte Schäden nach Überschwemmungen (vgl. Trenczek et al., 2022a) oder Hitzewellen (vgl. Trenczek et al., 2022b) steigt zugleich der Anpassungsdruck an die klimatischen Veränderungen. Zur Bewältigung der Klimawandelfolgen sind zunehmend nicht nur ursächliche Klimaschutz- sondern auch vorsorgende Klimaanpassungsmaßnahmen notwendig, um die Widerstandsfähigkeit gegenüber klimabedingter Risiken zu stärken und negative Auswirkungen, etwa durch Extremwetterereignisse zu minimieren (vgl. Calvin et al., 2023).

Die Anpassung an den Klimawandel ist deutschlandweit vor dem Hintergrund des Gesetzes zur Regelung der bundesweiten Klimaanpassung (Klimaanpassungsgesetz – KAnG), (2023) und der Deutschen Anpassungsstrategie (BMUV, 2024) zu einem zentralen Thema in der kommunalen Planungspraxis sowie deren empirischen Erforschung geworden (vgl. Linke et al., 2022; Otto et al., 2021). Besondere Aufmerksamkeit gilt dabei partizipativen Ansätzen in der Klimaanpassungsplanung, die u. a. die soziale Verankerung und Wirksamkeit von Anpassungsstrategien sowie die institutionelle Lernfähigkeit unter Unsicherheit fördern (vgl. Hoffmann & Rupp, 2024; Van Der Voorn et al., 2023). Hochschulen können in diesem Kontext eine zentrale Rolle spielen: Durch ihre wissenschaftliche Expertise, der Wissensvermittlung und die Zusammenarbeit mit externen Akteuren können Hochschulen maßgeblich zur Entwicklung effektiver, sektorenübergreifender Anpassungsstrategien beitragen, sofern eine institutionelle Unterstützung und Strukturen regionaler Vernetzung vorliegen (vgl. Espinoza-Molina et al., 2022; Kautto et al., 2018; Leal Filho et al., 2023).

Da Hochschulen sowohl in städtischen als auch ländlichen Räumen als Bildungs- und Forschungseinrichtungen agieren und meist relevante Flächen beanspruchen bzw. nutzen, kommt ihnen selbst eine bedeutende Rolle in der Umsetzung von Klimaanpassung zu (vgl. Kautto et al., 2018). Die Identifizierung und das Management von Klimarisiken sind für tertiäre Bildungseinrichtungen von entscheidender Bedeutung, nicht nur zum Schutz der gebauten Infrastruktur, sondern auch zur Sicherstellung der Gesundheit und des Wohlergehens von Studierenden, Personal und angrenzenden Gemeinschaften sowie der Kontinuität von Lehre, Forschung sowie Serviceangeboten wie hochschulnahes Wohnen und Freizeitaktivitäten (vgl. Owen et al., 2013; Campbell et al., 2020).

Im vorliegenden Beitrag werden Ergebnisse einer Umfrage von Hochschulmitgliedern zu Klimawandelrisiken für die Funktionalität der Hochschule sowie deren Bewertung möglicher Adaptionsmaßnahmen vorgestellt. Dabei wurde anhand einer Online-Befragung an drei deutschen Hochschulen in Bayern, Brandenburg und Sachsen im Rahmen des BMBF-geförderten Projekts *WaNdel!4* folgenden Forschungsfragen nachgegangen:

- RQ1: *Wie bewerten Hochschulmitglieder die Betroffenheit ihrer Hochschule durch den Klimawandel sowie den aktuellen Stand der Klimaanpassung?*
- RQ2: *Welche Präferenzen und Befürchtungen haben Hochschulmitglieder bzgl. potenzieller Adaptionsmaßnahmen an ihrer Hochschule?*
- RQ3: *Welche Rahmenbedingungen hemmen die Implementierung von Klimaanpassung an Hochschulen?*

Das Ziel dieses Beitrags ist es, anhand empirischer Erkenntnisse relevante Themen und Trends für Klimaanpassungsmaßnahmen an Hochschulen in Deutschland zu identifizieren und von Hochschulangehörigen befürwortete, nachhaltige Klimaanpassungsmaßnahmen zu entwickeln. Darüber hinaus liefern die Ergebnisse erste Hinweise auf potenziell kritische Themen, die Entscheidungsstragende für zentrale Aspekte der Anpassungsmaßnahmen sensibilisieren können.

2 Stand der Wissenschaft und methodisches Vorgehen

Obwohl Hochschuleinrichtungen ein zunehmendes Engagement für Klimaschutz und Klimaanpassung zeigen, beispielsweise durch das Aufstellen von Klimaaktionsplänen (vgl. Leal Filho et al., 2023) oder hochschulübergreifende Vernetzung – „Netzwerk Hochschule und Nachhaltigkeit Bayern“ (BayZen); Deutsche Gesellschaft für Nachhaltigkeit an Hochschulen (DGHochN) (mit derzeit 74 Mitgliederhochschulen) –, legen empirische Studien nahe, dass Hochschulen bislang unzureichend systematisch für klimabedingte Risiken planen und vor erheblichen Herausforderungen bei der Operationalisierung von Klimaanpassung stehen (vgl. Denham et al., 2025; Henderson et al., 2017; Kautto et al., 2018; Leal Filho et al., 2023; 2024). Dies weist auf einen Bedarf an strukturierteren Ansätzen der Anpassungsplanung innerhalb des Hochschulsektors hin (vgl. Denham et al., 2025; Kautto et al., 2018; Owen et al., 2013; Storms et al., 2019). Ein Verständnis über diese Anpassungshindernisse ist wichtig, um strategische Wege zu finden, mit diesen umzugehen (vgl. Biesbroek et al., 2013). Publikationen deuten auf einen Schwerpunkt bei der Erforschung potenzieller praxistauglicher Ansätze in der Klimaanpassungs- und Resilienzplanung (vgl. Owen et al., 2013; Storms et al., 2019; Tong et al., 2012; Washington-Ottombre et al., 2019) sowie deren Implementierung an Hochschulen anhand von Fallstudien (vgl. Denham et al., 2025; Campbell et al. 2020). Im deutschsprachigen Raum sind entsprechende Fallstudien zur Klimaanpassungsplanung und -implementierung an Hochschulen bisher jedoch selten. Wissenschaftliche Studien fokussierten bislang vorrangig auf die übergeordnete institutionelle Ebene – etwa kommunale, regionale oder unternehmerische Strukturen – bei der Erforschung von Klimaanpassung (vgl. Battisti et al., 2018; Tafel et al., 2024) und erfassen Perspektiven von Nutzer:innen vor allem im Kontext von Wohnquartieren – etwa zur Wahrnehmung von Hitzeanpassung (vgl. Baldin & Sinning, 2019; Westermann et al., 2021) oder integrierter blau-grüner Infrastrukturen (vgl. Deffner et al., 2020). Über

die Sichtweisen und Bedarfe von Hochschulmitgliedern im Hinblick auf Klimaanpassungsmaßnahmen liegen hingegen bislang nur unzureichende Erkenntnisse vor (vgl. Kautto et al, 2018; Owen et al. 2013).

Um diese bislang wenig beleuchteten Einstellungen und Wahrnehmungen Hochschulangehöriger zu klimabedingten Risiken und Klimaanpassung näher zu untersuchen, wurde im Zeitraum vom 08. Juli – 30. September 2024 eine quantitative Online-Befragung mit *Sosci Survey* (Version 3.6.06) durchgeführt. Die Befragung richtete sich an alle Hochschulmitglieder der *Technischen Hochschule Ingolstadt* (THI), der *Hochschule für Nachhaltige Entwicklung Eberswalde* (HNEE) sowie der *Hochschule Mittweida* (HSMW). Die Hochschulen unterscheiden sich u. a. hinsichtlich ihrer geografischen Lage, ihrer Organisationsstruktur, Anzahl der Hochschulmitglieder sowie fachlichen Ausrichtung als auch ihren Standorten. Bei der THI handelt es sich um eine mittelgroße Hochschule an zwei Campusstandorten in großstädtischem bzw. mittelstädtischem Kontext in Bayern, wobei sich der Campus Neuburg seit 2021 im Aufbau befindet. Die HSMW ist eine mittelgroße, sächsische Hochschule im kleinstädtischen Kontext. Bei der HNEE handelt es sich um eine brandenburgische, kleine Hochschule mit zwei Campi (Stadtcampus, Waldcampus). Der Fragebogen wurde in Anlehnung an frühere Forschungsergebnisse entwickelt, wobei Items zu Klimavulnerabilitäten (Owen et al. 2013) sowie Indikatoren für Klimaanpassung des Indexes zum klimapolitischen Engagement (Bewusstsein, Konzeption und Durchführung) (Tafel et al. 2024) übernommen bzw. modifiziert wurden. Darüber hinaus wurden einige Fragen (insb. zur Governance) ergänzt, um die hier vorliegenden Fragestellungen umfänglich beantworten zu können.

Der standardisierte Fragebogen umfasste 40 Items zu den Bereichen Allgemeine Informationen, Risikowahrnehmung, Einschätzung zum Stand der Klimaanpassung, Bewertung von Anpassungsmaßnahmen sowie Governance, die bei 11 Items auf 6-stufigen Likert-Skalen (1 = niedrigste Ausprägung, 6 = höchste Ausprägung), 11 Items auf Multiple-Choice-Skalen und 10 Items auf Single-Choice-Skalen erhoben wurden. Zur Sicherstellung der Datenqualität wurden Items mit unzureichender Rücklaufquote, vor allem offene Fragen, nicht berücksichtigt. Der Fragebogen

wurde vor der Haupterhebung in einem Pretest mit 5 Personen (Studierende/Mitarbeitende) auf Verständlichkeit und Funktionalität geprüft.

Die Rekrutierung der Teilnehmenden erfolgte über interne Verteiler der jeweiligen Hochschule: über die Hochschulkommunikation (HSMW; am 30.07.2024), über den Newsletter des Präsidenten (HNEE; am 22.07.2024) und über das Mitarbeitendenportal und Studierendenverteiler (THI; am 08.07.2024). Es handelt sich bei der vorliegenden Stichprobe um eine Gelegenheitsstichprobe, da die Teilnahme freiwillig und selbstselektiert erfolgte. Insgesamt nahmen 1248 Personen (Rücklaufquote: 7 %; bei einer Grundgesamtheit von 17.680 Personen an drei Hochschulen) an der Umfrage teil (THI: $N = 8.380$; Rücklauf: 493; HNEE: $N = 2700$, Rücklauf: 29; HSMW: $N = 6.600$, Rücklauf: 726). Die Mehrheit der Teilnehmenden waren Studierende (66 %), gefolgt von Wissenschaftlichen Mitarbeitenden bzw. Mitarbeitenden der Verwaltung (27 %) sowie Professor:innen (7 %). Die Teilnahme erfolgte anonym unter der Beachtung der DSGVO. Zu keinem Zeitpunkt war ein Rückschluss auf einzelne Personen möglich. Deskriptive Analysen umfassten die Häufigkeitsverteilung der Antworten und wurden mit Excel zur Auswertung der quantitativen Daten angewendet.

3 Zentrale Ergebnisse

3.1 Wahrnehmung bezüglich klimabedingter Gefahren und andere Risiken

Als aktuelle Beobachtungen auf klimabedingte Gefahren gaben 52 % der Befragten an, durch Extremwetterereignisse an der Hochschule im Hinblick auf „Wohlbefinden oder Leistungsfähigkeit“ eher beeinträchtigt bis sehr beeinträchtigt gewesen zu sein. 43 % gaben an, „die Tätigkeit schon ins Home-Office verlegt“ zu haben und 35 % nannten, „die Tätigkeit schon frühzeitig beendet“ zu haben, um der Beeinträchtigung zu entkommen. Hitze wird an den Hochschulen bereits von 66 % der Teilnehmenden

als eher belastend bis sehr belastend empfunden, insb. in Seminarräumen. Die wahrgenommene Hitzebelastung unterscheidet unter den befragten Hochschulen: THI nannten 76 % der Teilnehmenden eine Belastung durch sommerliche Hitze, während diese in HNEE mit 47 % deutlich geringer ausfiel. Die Ergebnisse deuten darauf hin, dass Hitzewellen bereits als auftretende Gefahr an den Hochschulinstitutionen wahrgenommen werden, wenngleich in unterschiedlicher Ausprägung. 68 % aller Befragten der Hochschulen geben zudem an, keinen geeigneten kühlen Raum an der Hochschule bei Hitze zu finden.

Die Wahrscheinlichkeit, dass Hitzewellen, Starkregenereignisse und Überflutungen, Dürreperioden und Sturmereignisse in der Region zunehmen werden, wurde über die befragten Hochschulen hinweg als hoch eingeschätzt, wobei die antizipierte Verwundbarkeit der eigenen Einrichtung gegenüber Starkregen, Dürreperioden und Sturmereignissen eher im mittleren Bereich der Skala eingeschätzt wurde. Die Mehrheit der Teilnehmenden geht von einer eher geringen bis sehr geringen antizipierten Betroffenheit von Dürreperioden (62 %) für die Hochschule aus. Die antizipierte Betroffenheit durch Hitzewellen hingegen wird von über 72 % als eher hoch bis sehr hoch eingeschätzt (s. Abb. 1).

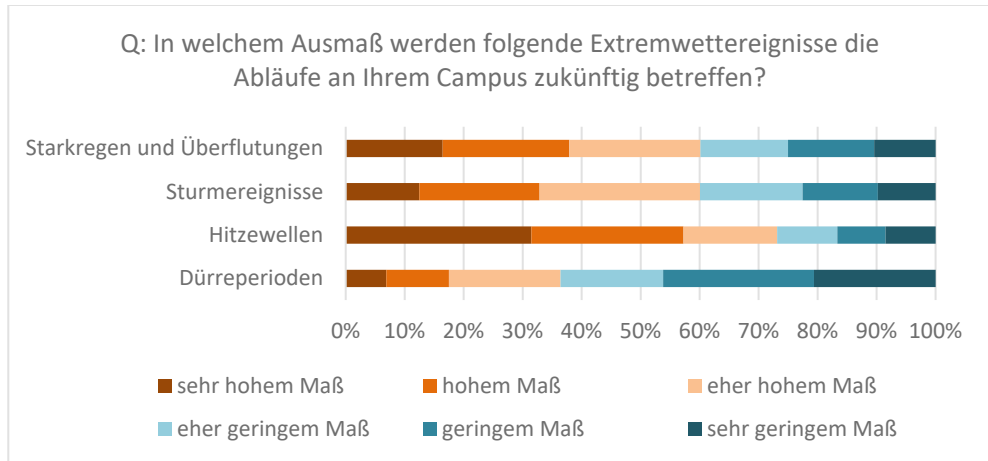


Abb. 1: Wahrnehmung Hochschulangehöriger bezüglich Betroffenheit der Hochschule durch Extremwetter

Ein Blick auf die Antworten in Bezug auf die klimabedingten Gefahren konnte Unterschiede zwischen den befragten Hochschulen feststellen: Die Betroffenheit der Hochschule durch Starkregen schätzten 50 % der Teilnehmenden der THI sehr hoch bis hoch ein, aber nur 28 % der HSMW. Die höchsten klimabedingten Risiken für ihre Institution bzw. ihren Campus in den nächsten 30 Jahren sahen die Teilnehmenden über die Hochschulen hinweg in „steigenden Kosten (z. B. durch Reparatur von Schäden)“, „Abnahme des Wohlbefindens und Leistungsfähigkeit“, „Abnahme der biologischen Vielfalt“ und der „Beeinträchtigung der Mobilität“ (s. Abb. 2).

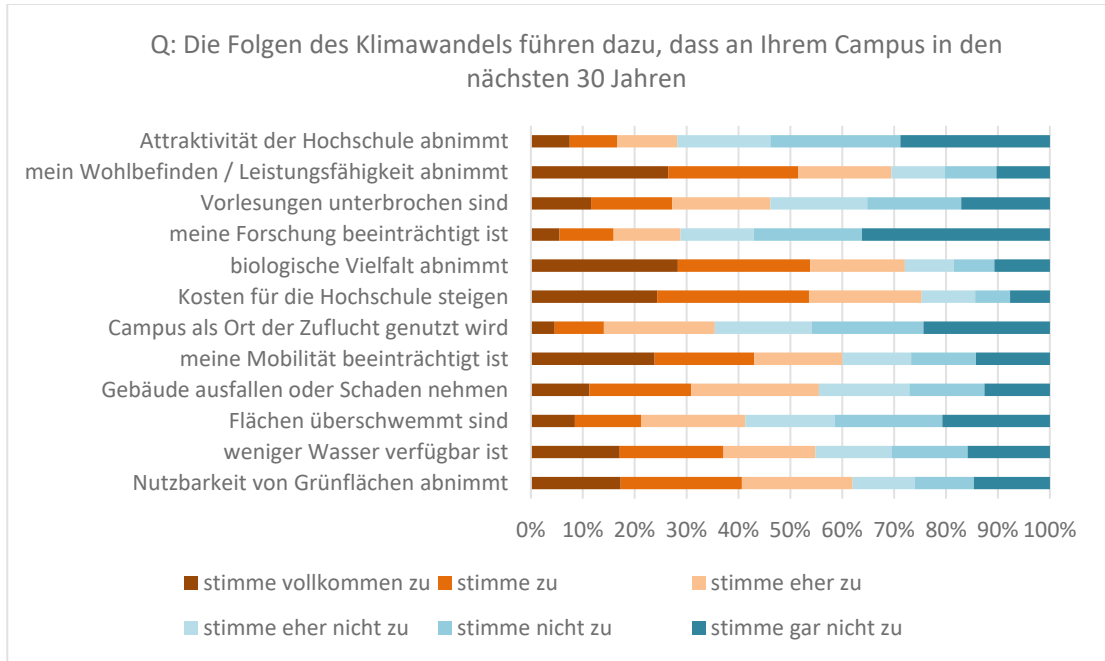


Abb. 2: Wahrnehmung zur antizipierten Betroffenheit der Hochschule

3.2 Bewertung des Stands der Klimaanpassung an der Hochschule

Die Zufriedenheit mit der Durchführung von Klimaanpassung an der Hochschule wurde in den Handlungsbereichen Governance, Lehre, Forschung, Transfer sowie Hochschulbetrieb und Infrastrukturen gemäß eines gesamteinstitutionellen Ansatzes (auch: *whole institution approach*) (vgl. Leal Filho & Leal-Arcas, 2019; Mader et al., 2013; Rath & Schmitt, 2017) erhoben. Die Durchführung von Klimaanpassung an den befragten Hochschulen wird von 59 % (THI: 52 %; HNEE: 68 %; HSMW: 53 %) insgesamt als nicht ausreichend bewertet, um die Funktionalität des Hoch-

schulbetriebs im Zuge des Klimawandels aufrechtzuerhalten ($N = 17\%$, keine Angabe/Einschätzung). Die Mehrheit der Teilnehmenden gab an, bisher an der Hochschule keine Informationen zum Verhalten bei Extremwetterereignissen (72 %) oder zu hochschulspezifischen Klimawandelfolgen (82 %) erhalten zu haben oder sich im Rahmen der Tätigkeit / des Studiums mit Klimaanpassung zu beschäftigen oder sich zu vernetzen (78 %). Die Ergebnisse deuten auf einen geringen Grad an Sensibilisierung und Kooperation über alle befragten Hochschulen hinweg hin. Die Auswertung legt darüber hinaus nahe, dass Klimaanpassung insbesondere im Handlungsbe-
reich Governance, Lehre sowie in Teilbereichen der Infrastrukturen über die befragten Hochschulen hinweg aus Sicht der Hochschulangehörigen unzureichend adressiert wird (s. Abb. 3–5).

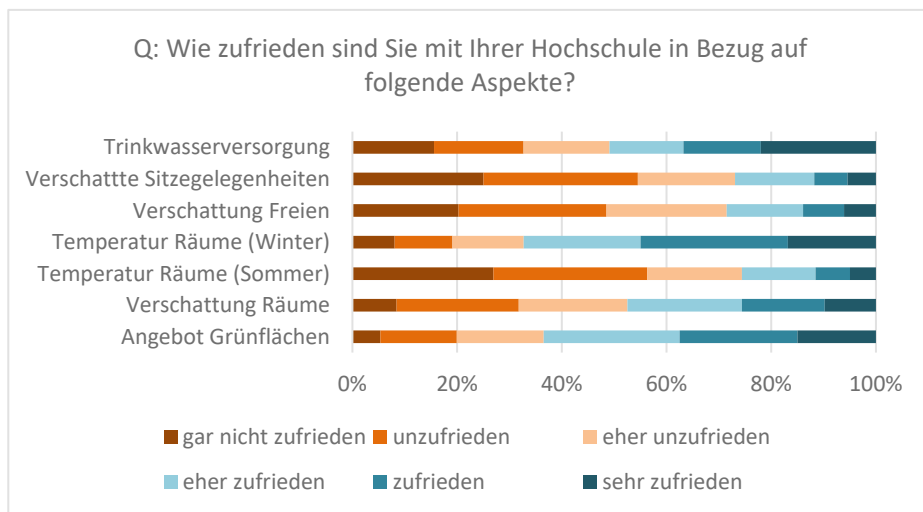


Abb. 3: Zufriedenheit mit der Durchführung der Klimaanpassung in Betrieb und Infrastrukturen

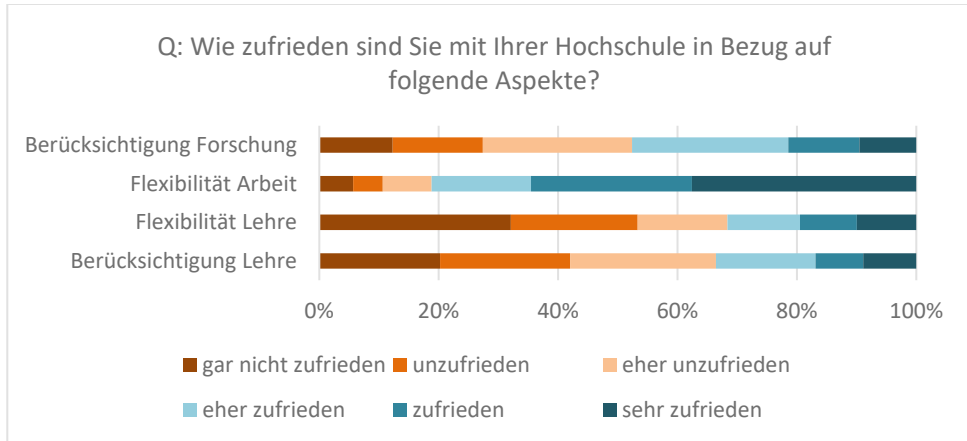


Abb. 4: Zufriedenheit mit der Durchführung von Klimaanpassung in Lehre, Forschung und Transfer

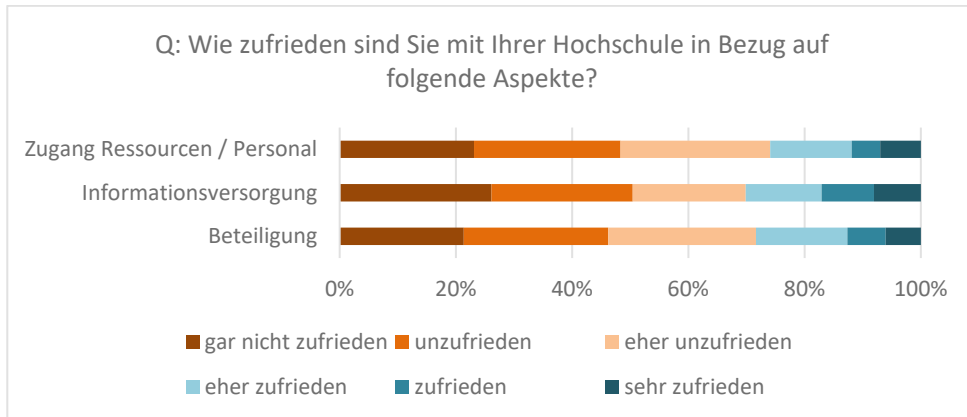


Abb. 5: Zufriedenheit mit der Durchführung von Klimaanpassung in Governance

3.3 Klimaanpassungsmaßnahmen: Nutzen und Risikowahrnehmung

In Bezug auf erwünschte Klimaanpassungsmaßnahmen am Campus priorisierten die Teilnehmenden insbesondere Maßnahmen am Gebäude und auf Freiflächen zur „Abkühlung“ (96 %), d. h. der Minderung der Hitzebelastung sowie Verschattung (s. Abb. 6).

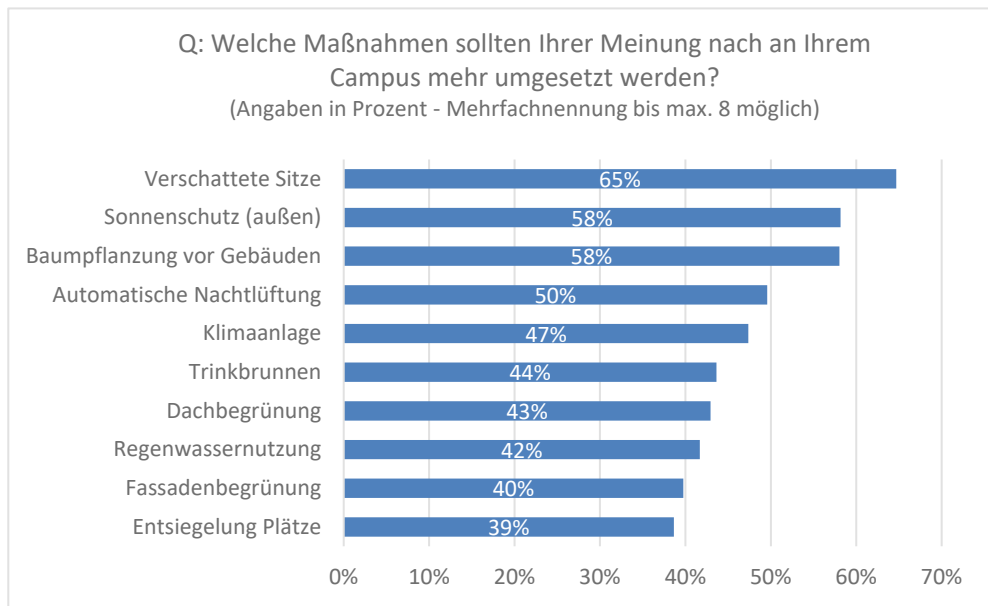


Abb. 6: Priorisierte Klimaanpassungsmaßnahmen von Hochschulangehörigen

Daneben wird der Nutzen der Operationalisierung priorisierter Klimaadaptation vorwiegend in der „Steigerung des persönlichen Wohlbefindens“ (91 %), „Erhalt von Grünflächen zur Erholung“ (88 %), „Verbesserung der Luftqualität“ (87 %) und „Beitrag zum Klimaschutz“ (82 %) wahrgenommen. Weniger priorisiert wurden

Maßnahmen des Wassermanagements sowie Umbau versiegelter Flächen (Voll- und Teilentsiegelung). Dies leitet sich bspw. durch folgende Antworten ab: Grauwasser-aufbereitung (18 %), Anlage von Wasserflächen (10 %), Mulden und Regengärten (9 %), Entsiegelung von Parkplätzen (12 %) und Straßen (8 %).

Im Vergleich von THI und HSMW zeigen die Teilnehmenden der HNEE eine stärkere Präferenz für naturbasierte Lösungsansätze, darunter Fassadenbegrünung (75 %) und Dachbegrünung (58 %).

Ein Blick auf die Antworten der Studienteilnehmenden auf die Einstellungen zu Klimaanpassungsmaßnahmen zeigt, dass 37 % der Befragten keine Bedenken gegenüber spezifischen Klimaanpassungsmaßnahmen hatten. Von den Studienteilnehmenden äußerten die Befragten Bedenken gegenüber „Entsiegelung von Parkplätzen (autofreier Campus)“ (30 %), „Entsiegelung von Straßen“ (26 %) „Entsiegelung von Plätzen“ (17 %), „Klimaanlagen“ (20 %) sowie „Fassadenbegrünung“ (15 %). Als kritische Faktoren der Operationalisierung von Klimaanpassung sehen die Befragten vorwiegend „zu hohe Investitionskosten“ (53 %) und „zu hohe Kosten für Pflege/Unterhalt“ (35 %). Faktoren wie Ästhetik (4 %), Einschränkung der Gesundheit (4 %), des Wohlbefindens (8 %), Gewohnheiten (14 %) oder Zielkonflikte, die durch die Maßnahme verschärft werden (z. B. Wasserknappheit, Klimaschädlichkeit) (14 %), spielten eine untergeordnete Rolle.

3.4 Governance und Beteiligung

Die Hauptgründe für die Verzögerung bei der Realisierung von Adaptionenmaßnahmen sehen die Umfrageteilnehmenden in zu geringen finanziellen Ressourcen (47 %), Bürokratie (40 %), in der mangelnden Priorisierung auf Leitungsebene (36 %) sowie fehlenden Personalressourcen (31 %). 14 % der Teilnehmenden aller Hochschulen geben an, bereits an Maßnahmen/Entscheidungen/Fortbildungen zur Vorsorge von Klimaextremen an der Hochschule mitgewirkt zu haben, wobei das Potenzial höher erscheint: eine Mehrheit (72 %) signalisiert eine Bereitschaft, sich bei der Umsetzung von Anpassungsmaßnahmen zu engagieren. Dabei gibt es starke Unterschiede bzgl. Art und Umfang des Engagements. 66 % der Teilnehmenden

können sich eine Beteiligung bei Einzelaktionen, 41 % bei wöchentlichen Gießpatenschaften und 37 % eine Teilnahme an Fortbildungen vorstellen. Die Ergebnisse können Aufschluss darüber geben, welche Beteiligungsformate besser angenommen würden (s. Abb. 7).

Unterschiede im Antwortverhalten zwischen den Hochschulen lassen sich insb. in der Bereitschaft zur Kooperation „im Rahmen der Tätigkeit (z. B. neue Zuständigkeiten) oder im Studiengang“ (HNEE: 43 %; THI: 16 %; HSMW: 15 %) feststellen. 58 % der Teilnehmenden aller drei Hochschulen würden sich laut Eigenaussage sowohl in der Vorlesungszeit als auch in den Semesterferien engagieren, 34 % vorwiegend in der Vorlesungszeit.

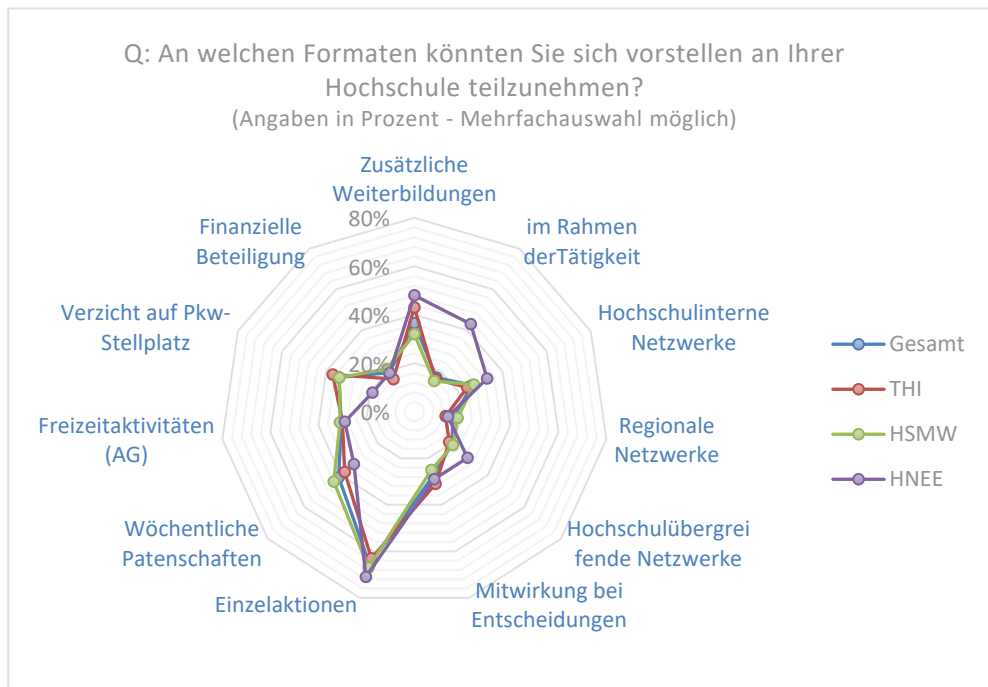


Abb. 7: Präferenz von Beteiligungsformaten der Klimaanpassung nach Hochschulen

4 Diskussion und Schlussfolgerungen zur Umsetzung von Klimaanpassung an Hochschulen

Trotz standort- und hochschulspezifischen Unterschieden zeigten sich die Einschätzungen der Befragten hinsichtlich der Wahrnehmung klimabedingter Risiken, der Zufriedenheit mit der Durchführung von Klimaanpassung sowie Präferenzen zu Beteiligungsformaten größtenteils übereinstimmend. Die Befragungsergebnisse zeigen eine bestehende und zukünftig noch stärker erwartete Exposition der Hochschulangehörigen insbesondere gegenüber Hitze und den damit verbundenen gesundheitlichen Beeinträchtigungen und Einschränkungen der Arbeitsproduktivität. Daraus lässt sich eine Notwendigkeit einer verstärkten Adressierung von Hitzeanpassung in Bezug auf verhaltensbezogene Aspekte sowie Innenräumen aufgrund von Aufenthaltsdauern und unzureichendem sommerlichen Wärmeschutz vieler Bestandsgebäude ableiten. Der Bedarf einer an Hitze angepassten Gestaltung scheint besonders relevant an Orten, die besonders stark frequentiert werden – etwa in Bibliotheken, Mensen, Hörsälen oder Außenbereichen. Dies ist im Hinblick auf eine sozial-gerechte Anpassung besonders relevant, da von unterschiedlichen persönlichen Anpassungsmöglichkeiten an extreme Hitzeereignisse sowie Wahrnehmung der Hitzebelastungen auszugehen ist, die wesentlich durch individuelle Handlungsoptionen u. a. zeitliche Flexibilität, finanzielle Ressourcen und Mobilität bedingt sind (vgl. Großmann et al., 2012; Slesinski et al., 2025). Die von den Befragten priorisierten Anpassungsmaßnahmen wie Verschattung oder Installation kühlender Infrastrukturen können mitunter erhebliche finanzielle Mittel erfordern, wobei verfügbare Handlungsoptionen durch finanzielle Rahmenbedingungen an den Hochschulen, laut den Befragten, limitiert sind. Daraus lässt sich eine Skepsis der Befragten hinsichtlich der Realisierbarkeit zentraler Klimaanpassungsmaßnahmen an ihrer Institution ableiten. Grundsätzlich präferieren die Hochschulangehörige Maßnahmen, die in Studien in Wohnquartieren in Erfurt und Dresden einer hohen objektiven Wirksamkeit zur Reduktion der Hitzebelastung zugeordnet werden, u. a. außenliegende Sonnenschutzvorrichtungen und automatische Nachtlüftung (vgl. Westermann et al., 2021)

sowie Pflanzung von (Straßen-)bäumen (vgl. Wang Akbari, 2016). Abweichungen zur Expert:inneneinschätzung gibt es bei der Bewertung von Klimaanlage, die zwar die Anpassungsfähigkeit gegenüber Hitzebelastungen erhöhen, aber durch treibhausgaswirksame Kältemittlemissionen das Klima belasten können (vgl. Bettgenhäuser et al., 2011).

Teilnehmenden der THI nehmen klimabedingte Risiken im Bereich Mobilität stärker wahr. So führten Starkregenereignisse im Juni 2024 zu Unterbrechungen im Schienen- und Straßenverkehr zwischen den THI-Standorten und beeinträchtigten deren Erreichbarkeit. Auch vor diesem Hintergrund erscheinen die von Befragten genannten Aspekte der Flexibilisierung der Arbeitsorganisation (z. B. Home-Office, Arbeits- und Prüfungszeiten sowie hybride Lehrangebote) als auch redundanter Mobilitätsstrukturen plausibel, um die Arbeitsfähigkeit auch bei extremen Wetterbedingungen sicherzustellen. Bestehende organisatorische Flexibilität kann das Gefährdungsempfinden mindern, da sie es Hochschulangehörigen ermöglicht, potenzielle Gefahrensituationen zu vermeiden – mit möglichem Einfluss auf das Antwortverhalten. Gleichzeitig zeigen die Befragten Vorbehalte gegenüber der Entseglung von Parkflächen und Straßen, was die Reziprozität von Mobilitätsthemen und Anpassungsmaßnahmen bestätigt (vgl. Hansen & Pauleit, 2014; Monteiro et al., 2020). Um dieses Spannungsfeld konstruktiv zu bearbeiten, könnte ein Wissenstransfer über Expertenworkshops unter Anwendung bewährter Partizipationsformate (Nanz & Fritsche, 2012) dabei unterstützen, praxisnahe Lösungsansätze – etwa auf Basis von Kosten-Nutzen-Analysen (vgl. Bechtel et al., 2024) wissenschaftlich einzuordnen, einer hochschulspezifischen Wirksamkeitsprüfung zu unterziehen und Bedenken – etwa bzgl. Flächenentsieglung – entlang institutioneller, ökonomischer, technologischer und kultureller Dimensionen in „Zukunftskunst“ (Schneidewind, 2018, S. 11) zu kanalisieren.

Vergleichend mit einer bewohnerorientierten Hitzeanpassung (Sinning & Wolter, 2024; Westermann et al., 2021) können die vorliegenden dokumentierte Perspektiven von Hochschulmitgliedern liefern, die Fachplanungen um Alltagserfahrungen ergänzen und dazu beitragen, die Auswahl, Lokalisierung und Ausgestal-

tung von Klimaanpassungsmaßnahmen an den Bedürfnissen der Hochschulmitglieder auszurichten. Generiertes Wissen aus der Befragung, kann in weiterführenden trans- und interdisziplinären Forschungsprozessen in einen umsetzungsorientierten Kontext durch einen Reallabor-Ansatz gebracht werden (vgl. Beecroft et al., 2018). Analog zum Vorgehen von Baldin & Sinning (2019) zum Co-Design von Hitzeanpassungsmaßnahmen in Wohnquartieren, können Lösungsansätze für klimasensible Hitzeanpassung an Hochschulen und unter Einbindung unterschiedlicher Akteur:innen sowie unter Berücksichtigung hochschulspezifischer Besonderheiten transdisziplinär konzipiert und erprobt werden. Reallabore ermöglichen es, Maßnahmenwirkungen sichtbar und spürbar zu machen und dadurch Veränderungsprozesse an Hochschulen anzustoßen. In diesen – in Lehrveranstaltungen oder Forschungsvorhaben integrierten Experimentierräumen – können Anpassungstechnologien und -techniken bspw. in Abstimmung mit dem Facility Management getestet werden (vgl. Kautto et al., 2018). Das Ergebnis der THI zeigt beispielsweise, dass rund 71 % Sitzgelegenheiten im Schatten präferieren, was einen Handlungsbedarf an strukturarmen Flächen – etwa Campuswiesen – unterstreicht, an denen sich kaum verschattete Bereiche befinden. Lösungsansätze wie die Gestaltung multifunktionaler Flächen – die zugleich Erholungs-, Kühlfunktion sowie die Versickerung von Niederschlagswasser bei Starkregenereignissen ermöglichen – stoßen auf hohe Akzeptanz (vgl. Westermann et al., 2021) und könnten bspw. im Rahmen der Campusentwicklung der THI in Neuburg angewendet werden.

Die in der wissenschaftlichen Literatur genannten Haupthindernisse für die Anpassungsplanung wurden von den Befragten im Allgemeinen bestätigt. Insbesondere wurden hier auch die Ressourcenbeschränkungen in Bezug auf Personal und Finanzierung sowie mangelnde institutionelle Fokussierung (vgl. Kautto et al., 2018) genannt. Wie Westermann et al. (2021) in kommunalen Kontexten herausstellen, können angesichts begrenzter Mittel und als hoch wahrgenommener Kosten für Klimaanpassung Perspektiven der Hochschulangehörigen einen Beitrag zur zielgerichteten Priorisierung und Steuerung von Investitionen leisten. Die Umfrage macht zudem deutlich, dass internes wissenschaftliches Fachwissen zur Anpassungsplanung und

Durchführung bislang nicht umfassend in hochschulweiten Netzwerken, Kooperationen oder Beteiligungsformaten eingebracht wird. Das vorhandene, aber nicht eingebrachte Wissen, stellt ein „latentes, aber derzeit nicht ausreichend genutztes Potenzial dar, das der tertiäre Sektor in Zukunft ausschöpfen könnte“ (Kautto et al., 2018, S. 1272). Die Ergebnisse legen nahe, dass eine Diskrepanz zwischen artikulierten Ansprüchen bzgl. Beteiligung und der Bereitschaft sich zu beteiligen, besteht. Um eine kontinuierliche Beteiligung zu ermöglichen und Veränderungsprozesse hin zu klimaanpassungsorientierten Entscheidungen wirkungsvoll zu gestalten, weisen Studien auf die Relevanz einer strukturellen Verankerung in den Governancestrukturen z. B. über dauerhafte Koordinationsgremien oder -beauftragte, Selbstverständnis der Hochschule (Bauer et al., 2018) sowie Green Offices (vgl. Filho et al., 2019; Leal Filho et al., 2023) hin.

Die Befragung weist einige Limitationen auf, die bei der Interpretation der Ergebnisse zu berücksichtigen sind. Erstens war die Verteilung der Rückmeldungen der drei befragten Hochschulen unausgewogen, was zu Unterschieden im Repräsentationsgrad einzelner Hochschulen führt. Zweitens beschränkt sich die Befragung auf eine auf drei begrenzte Zahl deutscher Hochschulen, mit dem Ziel, einen ersten Überblick über den Status quo der Klimaanpassung zu erstellen. Aufgrund der geringen Stichprobengröße der HNEE lassen sich keine belastbaren Aussagen treffen. Vor diesem Hintergrund erscheint es sinnvoll, zukünftige Untersuchungen mit einer größeren Stichprobe durchzuführen. Die Datenerhebung erfolgte im Sommer. In der Region Ingolstadt kam es im Juni 2024 zu einer Jahrhunderthochwassersituation. Persönliche Erfahrungen mit Hitze, Starkregenereignissen und Überschwemmungen können einen erheblichen Einfluss auf die Risikowahrnehmung bzw. auf die Bereitschaft, vorbeugende Maßnahmen zu ergreifen, haben (vgl. Netzel et al., 2021). Vergleichend wäre ein Befragungszeitraum im Winter ergänzend vorzusehen. Standort-spezifische Unterschiede – etwa im Baumbestand auf hochschul- bzw. hochschulnahen Flächen, im Versiegelungsgrad sowie die Mobilitätsbedingungen – oder hochschulorganisationsspezifische Unterschiede – etwa in der Ausgestaltung von Kernarbeitszeiten und Homeoffice-Regelungen der Hochschulangehörigen – können so-

wohl die Wahrnehmung klimabedingter Belastungen, Zufriedenheit mit der Durchführung der Klimaanpassung sowie die tatsächliche Exposition und Anpassungskapazitäten der Hochschulangehörigen beeinflussen und sollten daher bei der Interpretation der Befragungsergebnisse mitgedacht und diskutiert werden.

Wie die Studie von Tafel et al. (2024) zur Messbarmachung von kommunalen klimapolitischen Engagements nahelegt, kann die Befragung eine Vorarbeit für die Erstellung eines hochschulspezifischen Index zu Klimaanpassung darstellen, welche eine Typisierung von Hochschulen auf ihr bisheriges Engagement in ein Reifegradmodell ermöglicht. Die resultierenden Ergebnisse können Grundlage dafür sein, Anpassungsbedarfe zu erkennen, Anpassungsstrategien zu entwickeln und Fortschritte zu messen. Zudem könnte die Anwendung des Index dazu dienen, Leuchtturmprojekte zu erkennen. Zukünftige Forschung könnte sich zudem vertieft mit dem Prozess der Klimaanpassungsplanung an deutschen Hochschulen in Bezug auf Erfolgsfaktoren des Klimafolgenmanagements beschäftigen. Standortspezifische Unterschiede – etwa die bestehende ökologische Qualität von Campusgrünflächen – könnten durch die Erhebung eines Biotopflächenfaktors (vgl. SenMVKU, 2021) in die weitere Bewertung der Ergebnisse einfließen. Eine noch offene Forschungsfrage ist, wie Hochschulen Lernprozesse kontinuierlich gestalten können, um resilient gegenüber multiplen, wiederkehrenden Schocks bzw. Krisen zu werden.

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**Christopher Banditt¹, Juliane Wawrzynek²,
Johannes Waldenburger³ & Margit Reimann⁴**

Zwischen Kontrolle und Entwicklung? Die Wahrnehmung von Studiengangsakkreditierungen an einer systemakkreditierten Hochschule

Zusammenfassung

Gemeinhin wird der Akkreditierung von Studiengängen die Überprüfung geltender Richtlinien zugeschrieben und weniger die Möglichkeit, Entwicklungen anzuregen. Zudem wird oftmals unterstellt, dass Akkreditierung auf wenig Zufriedenheit bei den betroffenen Stakeholdern stoße. Die vorliegende Fallstudie untersucht die Zufriedenheit sowie die Wahrnehmung von Kontroll- und Entwicklungsfunktion seitens der beteiligten Stakeholder des internen Akkreditierungsverfahrens an der Universität Potsdam. Dabei zeigt sich, dass die Wahrnehmung der Stakeholder positiver ist als zumeist vermutet und dass die Frage nach Kontroll- versus Entwicklungsfunktion differenzierter zu beantworten ist.

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- 1 Corresponding Author; Universität Potsdam; christopher.banditt@uni-potsdam.de;
ORCID 0009-0000-8320-0726
 - 2 Universität Potsdam; juliane.wawrzynek@uni-potsdam.de;
ORCID 0009-0001-6781-5234
 - 3 Universität Potsdam; johannes.waldenburger@uni-potsdam.de;
ORCID 0009-0006-4483-6880
 - 4 Universität Potsdam; margit.reimann@uni-potsdam.de;
ORCID 0009-0005-7693-1009

Schlüsselwörter

Akkreditierung, Studienprogramme, Kontrolle, Entwicklung, Stakeholder-Wahrnehmung

Between control and development? The perception of study program accreditations at a system-accredited university

Abstract

The accreditation of study programmes is generally seen as a means of reviewing existing guidelines rather than a way of stimulating development. It is also often assumed that accreditation meets with little satisfaction among the stakeholders concerned. This case study examines the satisfaction and perception of the control and development functions on the part of the stakeholders involved in the internal accreditation process at the University of Potsdam. It shows that the perception of the stakeholders is more positive than is usually assumed and that the question of control versus development functions requires a more nuanced answer.

Keywords

accreditation, study programs, control, development, stakeholder perception

1 Einführung: Kontrolle vs. Entwicklung?

„Sehr schwache Ausprägung“ der Entwicklungsfunktion – so attribuiert Uwe Schmidt im Jahr 2009 die Akkreditierung von Studiengängen. Die von Akkreditierungsverfahren ausgehende Kontrollfunktion wird von ihm hingegen als „stark ausgeprägt“ beschrieben (Schmidt, 2009, S. 5). Gemeint ist damit, dass Akkreditierungsverfahren hauptsächlich eine Überprüfung vornehmen, ob ein Studiengang korrekt und nach den geltenden Gesetzen und Richtlinien umgesetzt wird. Weiterentwicklungen, die zur Verbesserung des betreffenden Studiengangs beitragen, seien demnach von Akkreditierungen kaum zu erwarten. Nach Stockmann (2022, S. 38–41) werden Verfahren zur Qualitätsbewertung neben der Entwicklungs- und der Kontrollfunktion zwar noch weitere Funktionen zugeschrieben: die Erkenntnis- oder Forschungsfunktion, die Entscheidungs- und die Legitimationsfunktion. Im Diskurs um Qualität in Lehre und Studium wird die Frage nach den Zielen von Beurteilungsverfahren jedoch oftmals zugespitzt auf die Funktionen Entwicklung und Kontrolle (vgl. z. B. Beise & Braun, 2018).

Und doch geht es in der Debatte zumeist nicht um ein Entweder-oder. Wenngleich er zwar, wie eingangs angeführt, eher die Kontrollfunktion betont, konstatiert Uwe Schmidt (2009, S. 5), dass Akkreditierungsverfahren „grundsätzlich geeignet [sein,] Entwicklungen anzustoßen“. Mit den vermehrt ausgesprochenen Systemakkreditierungen in den 2010er-Jahren ist tatsächlich eine partielle Verschiebung zur Entwicklungsfunktion ausgemacht worden. Dass systemakkreditierte Hochschulen ihre Studiengänge intern akkreditieren und dies nicht durch externe Agenturen vornehmen lassen, wurde als Internalisierung der (von außen kommenden) Kontrollansprüche und Bestreben zu formativ ausgerichteten Akkreditierungsverfahren begriffen (vgl. Steinhardt et al., 2018, S. 12). Vor dem Hintergrund, dass Hochschulen in Deutschland notwendigerweise ihre Bachelor- und Masterprogramme flächendeckend akkreditieren (lassen) müssen, verwundert es nicht, wenn viel über das Akkreditierungswesen geschrieben und publiziert wird: Oftmals wird kritisiert (z. B. Stötzner & Watzka, 2016), manchmal verteidigt (z. B. Brackmann, 2013) – und es wird dazu geforscht. In ersten Ansätzen wurde auch die Frage nach dem Kontroll-

und Entwicklungscharakter von Akkreditierungen wissenschaftlich in den Blick genommen (vgl. Beise & Braun, 2018; Steinhardt et al., 2017). Bemerkenswert ist allerdings, dass die Perspektive der direkt Betroffenen, nämlich der Lehrenden und Studierenden, bislang noch gar nicht oder nur am Rande (vgl. Steinhardt et al., 2018) untersucht worden ist. Auch aus verschiedenen systemakkreditierten Hochschulen liegen bisher nur eher punktuelle (und zumeist subjektive) Eindrücke und Erfahrungen der Qualitätsmanagementstellen zur Akkreditierungswahrnehmung der involvierten Stakeholder vor (siehe exemplarisch die Beiträge in: Mitterauer et al., 2019), aber noch keine systematischen Erhebungen oder Untersuchungen.

2 Erkenntnisinteresse

Im Beitrag sollen die Einschätzungen von beteiligten Stakeholdern in internen Akkreditierungen an der systemakkreditierten Universität Potsdam dargestellt und kontextualisiert werden. Das durch die Systemakkreditierung zertifizierte Qualitätsmanagementsystem verzahnt hierbei zentrale und dezentrale Strukturen und folgt damit einem föderalen Steuerungsgrundsatz, der den Fakultäten bei der Ausgestaltung ihres Qualitätsmanagements entsprechende Freiheiten gewährt und die fachkulturellen Besonderheiten berücksichtigt. Als zentrale Einrichtung ist das *Zentrum für Qualitätsentwicklung in Lehre und Studium* (ZfQ) für die Koordination und Durchführung der internen Akkreditierung verantwortlich. Das interne Akkreditierungsverfahren der Universität Potsdam lässt sich als relativ konventionell beschreiben und ähnelt in seiner Form dem an vielen systemakkreditierten Hochschulen etablierten Ablauf. Zu Beginn des Verfahrens verfasst das Fach einen Selbstbericht, adressiert an das *Zentrum für Qualitätsentwicklung*. Zusammen mit dem Selbstbericht werden quantitative und qualitative Daten ausgewertet: Hochschulstatistiken, Studienverlaufsdaten, Ergebnisse aus Studierendenbefragungen und Gespräche mit der Studierendenvertretung des Studiengangs. Die dezidierte Fremdbewertung findet über den Einbezug je eines Gutachtens aus fachwissenschaftlicher, berufspraktischer und studentischer Perspektive statt. Den Akkreditierungsentscheid, der in allen Fällen bisher mit umzusetzenden Auflagen und/oder zu diskutierenden Empfehlungen einherging,

fällt die eigens dafür gebildete Interne Akkreditierungskommission (IAK) (vgl. Mauermeister & Reimann, 2017). An den internen Akkreditierungsverfahren an der Universität Potsdam sind außer den externen Gutachter:innen allein hochschulinterne Stakeholder involviert, die mitunter bereits an anderen Stellen innerhalb des hausinternen dezentralen Qualitätsmanagementsystems zusammenarbeiten. Dies ist ein wesentlicher Unterschied zu extern durchgeführten Akkreditierungen und ist bei der Interpretation der hier vorgestellten Ergebnisse zu berücksichtigen.

Der vorliegende Beitrag nimmt zunächst die Zufriedenheit mit dem Akkreditierungsverfahren seitens der internen Stakeholder in den Blick. Diese Frage erhebt sich vor dem Hintergrund der Kritik, die dem Akkreditierungswesen teilweise entgegengebracht wird; zu viel Bürokratie, zu viel Aufwand, zu wenig Ertrag sind die entsprechenden Schlagworte (z. B. Stoetzer & Watzka, 2016). Somit sei Akkreditierung für Hochschullehrende ein „easy target“, um die Entwicklungen in Lehre und Studium der letzten 20 Jahre zu kritisieren (Baumann & Krücken, 2019). Ob die Studiengangsakkreditierung von den Hochschulangehörigen tatsächlich als Frust-Zielscheibe gesehen wird, soll für das Fallbeispiel Universität Potsdam beantwortet werden. Das zweite Erkenntnisinteresse bildet die Frage nach Kontrolle und Entwicklung. Inwiefern wird der Akkreditierung von Studiengängen neben der Kontroll- auch eine Entwicklungsfunktion zugeschrieben? Hierbei soll untersucht werden, ob Akkreditierung insgesamt als hilfreich für die Weiterentwicklung von Lehre und Studium angesehen wird.

3 Datengrundlage

Die primäre Datenbasis für die Untersuchung bilden Ergebnisse aus standardisierten Befragungen sowie leitfadengestützten Interviews, die 2021/22 an der Universität Potsdam durchgeführt worden sind. Die Inhalte der Befragungsinstrumente sind entlang des Potsdamer Akkreditierungsverfahrens entwickelt worden und orientieren sich dabei an den Standards der *Deutschen Gesellschaft für Evaluation* (DeGEval) (ausführlich zur Methodik: Banditt et al., 2023). Klassisch ist die Zufriedenheit der

Stakeholder als Abgleich mit ihren zuvor je individuell bzw. gruppenspezifisch entwickelten Erwartungen erhoben worden (vgl. Ipsen, 1978). Die Erhebung der Wahrnehmung von Entwicklung und Kontrolle basiert auf den einschlägigen Konzepten zu den Funktionen von Qualitätsbewertungen (Stockmann, 2022, S. 39f). Damit werden die Stakeholder-Wahrnehmungen von Akkreditierung als ein potenzielles Vehikel für Qualitätsentwicklung untersucht und mit den aus der Literatur abgeleiteten Thesen – geringe Zufriedenheit und kaum wahrgenommene Entwicklungsfunktion – abgeglichen. In diese Erhebungen sind sämtliche Stakeholdergruppen der internen Studiengangsakkreditierungen einbezogen worden.

Eine Gruppe stellen die Qualitätsmanagementbeauftragten dar, die dezentral in den Fakultäten die Studiengangsakkreditierungen von Verfahrensbeginn bis -ende unterstützen und als Schnittstelle zwischen dem Fach und dem *Zentrum für Qualitätsentwicklung* in Lehre und Studium fungieren. Aufgrund ihrer exponierten Rolle wurden 2021 mit allen Qualitätsmanagementbeauftragten mündlich ausführliche leitfadengestützte Experteninterviews geführt. Die weiteren Stakeholdergruppen wurden 2022 mit einem standardisierten Online-Fragebogen zu ihrer Wahrnehmung der internen Akkreditierung befragt. Der Fragebogen setzte sich aus geschlossenen Fragen zusammen, die mit offenen Fragen für vertiefte Antwortmöglichkeiten ergänzt wurden. Zu den auf diesem Wege befragten Stakeholdergruppen gehören, erstens, die Fachverantwortlichen, die mit dem Verfassen des Selbstberichts von Beginn an in die jeweilige Studienakkreditierung involviert sind und am Ende auch die Auflagen-erfüllung und Beschäftigung mit den Empfehlungen nachweisen müssen. Zweitens sind die Fachstudierenden zu nennen, die mit dem Studierendengespräch, das als qualitative Erhebung ein Komplement zu den quantitativen Ergebnissen aus den Studierendenbefragungen bildet, einbezogen werden. Bei den Angehörigen der Fächer wurde zudem zwischen Lehramt und Nichtlehramt unterschieden, um den jeweiligen Besonderheiten gerecht zu werden. Drittens wurden die Mitglieder der Internen Akkreditierungskommission zur Befragung eingeladen: die studentischen Mitglieder und die Studiendekaninnen und -dekane der Fakultäten.

Insgesamt fand die Erhebung unter allen Personen statt, die zwischen 2018 und 2021 in entsprechenden Positionen an einer der insgesamt 80 Studiengangsakkreditierungen beteiligt waren. Für diesen Zeitraum handelt es sich, da in den meisten Gruppen der Rücklauf nicht 100 % beträgt, um eine nicht vollständig realisierte Vollerhebung. Zur Gewährleistung größtmöglicher Anonymität sind keine soziodemografischen Variablen und keine Merkmale erhoben worden, die Rückschlüsse auf die Fach- und Fakultätszugehörigkeit oder die berufliche Position innerhalb der Universität erlauben. Somit lassen sich mögliche systematische Mechanismen der Selbstselektion bei der Befragungsteilnahme nicht eruieren.

Die quantitativ erfassten Einschätzungen werden in Form von Mittelwerten ausgewertet und durch inferenzstatistische Verfahren mittels parametrischer und nichtparametrischer Tests ergänzt. Wenngleich sich mit Mittelwertvergleichen – in Kauf zu nehmende – Informationsverluste ergeben, erlauben diese das Gegenüberstellen der grundsätzlichen Wahrnehmung der verschiedenen Befragungsgruppen mit Akkreditierungsverfahren. Während die deskriptiv-quantitativen Ergebnisse eher das allgemeine „Stimmungsbild“ darstellen, fungieren die aus der qualitativen Inhaltsanalyse (nach Mayring, 2022) der offenen Text- und der Interviewantworten gewonnenen Ankerzitate als einordnende und erklärende Tiefensonden der Stakeholder-Wahrnehmung, womit ihnen eine besondere Aussagekraft zukommt. Da bislang keine empirisch gesättigten Erkenntnisse oder Theorien zur Wahrnehmung von Akkreditierungen durch die Beteiligten vorliegen, sollen die Ergebnisse der vorliegenden Fallstudie ein erstes deskriptives Bild zeichnen, das weiteren Untersuchungen als Vergleichsfolie dienen kann und überprüfbare Thesen liefert. Dementsprechend haben die Ergebnisse keinen Verallgemeinerungsanspruch über alle Hochschulen oder Programmakkreditierungsverfahren.

4 Zufriedenheit mit Akkreditierungsverfahren

Einen zentralen Punkt der Untersuchung zur Wahrnehmung von Akkreditierung bildet die Zufriedenheit der in die Verfahren einbezogenen Stakeholder mit den internen Akkreditierungen. Im Mittel (Mittelwert = M) zeigt sich über alle sieben Befragungsgruppen hinweg, dass die an der Befragung teilgenommenen Personen mit dem internen Akkreditierungsverfahren zufrieden sind ($M = 2,1$; 1 = voll und ganz zufrieden; 5 = gar nicht zufrieden; ausführlich in Tab. 1). Für die einzelnen Gruppen sind lediglich geringe – und statistisch nicht signifikante – Abweichungen vom Gesamtmittelwert sichtbar.⁵ Exemplarisch verdeutlichen die Interviewaussagen der Qualitätsmanagementbeauftragten eine Streuung der generellen Zufriedenheit mit dem Akkreditierungsverfahren. Von Zuschreibungen wie „gesichertes und strukturiertes Verfahren“ über „Mammut-Verfahren“ bis zur Aussage, dass „ein Verfahren [...] nur eine gewisse Zeit [lebt], dann muss es sich auch weiterentwickeln und verändert werden“, reicht die Bandbreite der Einschätzungen. Letzterer Hinweis auf die notwendige Weiterentwicklung kann dabei als Erklärung dienen, warum die Qualitätsmanagementbeauftragten das Verfahren etwas negativer als die Gesamtheit der befragten Stakeholder bewerten, wenngleich auch sie eher zufrieden sind ($M = 2,4$).⁶ Aufgrund ihrer Funktion waren sie in aller Regel wesentlich stärker in Verfahren involviert als andere Gruppen. Aus dieser Erfahrungslage, so ist anzunehmen, resultiert ein mittlerweile höherer Anspruch an Akkreditierungsverfahren, sodass neben der Qualitätssicherung mehr Weiterentwicklungsimpulse für die Studiengänge gefordert werden: „Also Sicherung ist das eine und ist auch gut, aber ich denke, wir sollten einen Schwerpunkt auf die Entwicklung tatsächlich setzen.“

5 Nach Kruskal-Wallis-Test keine signifikanten Unterschiede zwischen den sieben Gruppen: $H(6) = 5,68$; $p = 0,46$.

6 Die Skalenfrage zur Zufriedenheit mit dem Akkreditierungsverfahren ist den Qualitätsmanagementbeauftragten mündlich im leitfadengestützten Interview und nicht wie den anderen Stakeholdergruppen schriftlich in einer anonymisierten standardisierten Befragung gestellt worden, was die unmittelbare Vergleichbarkeit einschränken kann.

Obschon auch sie das jeweilige Akkreditierungsverfahren ihres Studiengangs insgesamt eher positiv einschätzen, liegt die Bewertung der beiden Lehramtsgruppen an der Universität Potsdam, Fachverantwortliche im Lehramt ($M = 2,4$) und Fachstudierende im Lehramt ($M = 2,4$), geringfügig unter dem Gesamtdurchschnitt ($M = 2,1$). Eine Erklärung hierfür dürfte sein, dass die Lehramtsstudiengänge aus verfahrens- und arbeitsökonomischen Gründen hauptsächlich in weit größeren Clustern akkreditiert worden sind, als dies im Nichtlehramt in aller Regel der Fall war. Neben einem vermehrten Koordinations- und Informationsaufwand konnte dabei etwas weniger Augenmerk auf inhaltliche Aspekte einzelner Studiengänge gelegt werden, was sich in der exemplarisch hier wiedergegebenen Aussage einer oder eines Fachverantwortlichen im Lehramt widerspiegelt:

„[Es] werden möglichst einheitliche, zentral vorgegebene Qualitätskriterien formaler und inhaltlicher Art angestrebt [...] Für ein gesundes, kreatives und robustes Wachstum der Studienqualität sollte m. E. etwas mehr [...] auf fachspezifische Belange und Expertisen [...] gesetzt werden.“

Zudem unterliegen Lehramtsstudiengänge umfassenderen rechtlichen Vorgaben und Implikationen. Zum einen erhöhen diese die Komplexität des Verfahrens, beispielsweise durch den notwendigen Einbezug des für Schulbildung zuständigen Landesministeriums. Zum anderen setzen die zusätzlichen, allein aufs Lehramt bezogenen Richtlinien, wie die Vorgaben der Kultusministerkonferenz, insbesondere den Weiterentwicklungsimpulsen, die von Akkreditierungsverfahren ausgehen können, einen (str-)engeren Rahmen. Darauf verweisen auch die Qualitätsmanagementbeauftragten in den Interviews:

„Die Lehramtsstudiengänge, die kann man inhaltlich nur schlecht anpassen und irgendwie weiterentwickeln, weil das in Anlehnung ans Landesgesetz ja passiert.“

Das durchschnittliche Zufriedenheitsniveau der beiden in der Internen Akkreditierungskommission vertretenen Gruppen, der Studiendekaninnen und -dekane ($M = 2,0$) und der studentischen Mitglieder ($M = 2,1$), entspricht dem guten Gesamt-

niveau. Auch wenn in den offenen Antworten – nicht allein aus diesen beiden Gruppen – auch von „große[m] bürokratische[m] Aufwand für recht wenig Ertrag“ oder von „Aktenberge[n]“ gesprochen wird, finden sich dort verstärkt die positiv wahrgenommenen Aspekte. Hervorgehoben werden die „Transparenz des Verfahrens“, dass das Verfahren „strukturiert“ und „kriteriengeleitet“ sei und dass damit „Verkrustungen, Gewohnheiten [...] aufgebrochen [werden]“. Die Zufriedenheit der Stakeholder wird ferner damit begründet, dass

„der Austausch zwischen den Teilnehmenden im Prozess [...] stark gefördert [wurde], sodass eine intensive Auseinandersetzung mit dem Verfahren sowie der Bedeutung des Verfahrens möglich war“.

Insbesondere die Studierenden nehmen Akkreditierung als Vehikel zur Partizipation und Qualitätsentwicklung wahr. Beispielhaft sei aus der offenen Antwort einer oder eines Fachstudierenden aus dem Lehramt zitiert, wonach „die Möglichkeit, dass verschiedene Menschen und Instanzen zusammen reden und potentiell Dinge ändern können“, ein Positivum des Akkreditierungsverfahrens darstellt. Dies manifestiert sich auch in den offenen Kommentaren der Studierenden in der Internen Akkreditierungskommission, so heißt es exemplarisch:

„Ich empfinde die IAK als eine großartige Möglichkeit, die Interessen der Studierendenvertreter:innen des Fachs mit Nachdruck gegenüber den Fachvertreter:innen zu thematisieren.“

		Zur Erhebung eingeladene Stakeholder	Zufrieden- heit ^a	Entwick- lungs- funktion ^b	Kontroll- funktion ^b
			<i>Mittelwert (Standardabweichung)</i>		
			<i>5-stufig</i>	<i>7-stufig</i>	
Fachstudierende NLA			2,1 (0,9)	2,8 (1,1)	2,7 (1,3)
<i>n</i>	49		28	26	25
Fachverantwortliche NLA			1,9 (0,9)	2,8 (1,3)	2,9 (1,2)
<i>n</i>	58		41	39	39
Fachstudierende LA			2,4 (0,5)	3,4 (0,9)	3,0 (1,4)
<i>n</i>	15		5	5	5
Fachverantwortliche LA			2,4 (1,0)	3,3 (1,5)	2,9 (1,5)
<i>n</i>	25		16	16	16
Studierende IAK			2,1 (1,1)	3,6 (1,0)	2,6 (1,0)
<i>n</i>	13		7	7	7
Studiendekan:innen IAK			2,0 (0,8)	2,2 (1,5)	3,0 (1,4)
<i>n</i>	10		7	6	6
QMB			2,4 (1,1)	-	-
<i>n</i>	7		7	-	-
gesamt			2,1 (0,9)	2,9 (1,3)	2,8 (1,2)
<i>n</i>	177		111	99	98

Tab. 1: Zufriedenheit mit Akkreditierung und Wahrnehmung von Entwicklungs- und Kontrollfunktion

Anmerkung: NLA=Nichtlehramt, LA=Lehramt, IAK=Interne
Akkreditierungskommission, QMB=Qualitätsmanagementbeauftragte;

- a) „Wie zufrieden sind Sie generell mit dem internen Akkreditierungsverfahren von Studienprogrammen an der Universität Potsdam?“ (1 = voll und ganz zufrieden, 2 = eher zufrieden, 3 = teilweise zufrieden, 4 = eher nicht zufrieden, 5 = gar nicht zufrieden);
- b) „Inwiefern stimmen Sie zu: Das interne Akkreditierungsverfahren an der Universität Potsdam ist durch eine Entwicklungsfunktion/Kontrollfunktion charakterisiert?“ (1 = stimme voll und ganz zu, 2 = stimme zu, 3 = stimme eher zu, 4 = teils/teils, 5 = stimme eher nicht zu, 6 = stimme nicht zu, 7 = stimme gar nicht zu).

5 Wahrnehmung von Kontroll- und Entwicklungsfunktion

Neben der generellen Zufriedenheit zeigt sich, dass die Stakeholder im Durchschnitt die Kontroll- ($M = 2,8$) und die Entwicklungsfunktion ($M = 2,9$) bei den von ihnen erlebten Akkreditierungsverfahren als ähnlich stark gegeben einschätzen⁷ – zur feineren Aufnahme wurde dies mittels einer siebenstufigen Skala erhoben (1 = stimme voll und ganz zu; 7 = stimme gar nicht zu). Auch in den offenen Textantworten der Befragung zeichnet sich eine heterogene Bewertung des Akkreditierungsverfahrens ab. Einerseits wird die Kontrollfunktion kritisiert: „Im Moment scheint mir das Verfahren mehr bürokratischer Apparat als tatsächlicher Impulsgeber für Weiterentwicklung/Qualitätssicherung zu sein“; „[ich f]inde, das Akkreditierungsverfahren fühlt sich sehr nach Kontrolle an“. Andererseits wird dem Akkreditierungsverfahren zugesprochen, „eine kontinuierliche Weiterentwicklung von Studiengängen anzustoßen“. In einem weiteren exemplarischen Kommentar heißt es:

⁷ Nach Wilcoxon-Test kein signifikanter Unterschied zwischen Kontroll- und Entwicklungsfunktion: $Z = -0,37$; $p = 0,71$.

„Die Studienprogramme werden sehr detailliert evaluiert und damit viele Schwachstellen und Mängel aufgedeckt.“

Zwischen einigen Gruppen zeigen sich teils unterschiedliche Bewertungen. So schätzen die Studiendekaninnen und -dekane in der Internen Akkreditierungskommission ein, dass das interne Akkreditierungsverfahren eher durch eine Entwicklungsfunktion ($M = 2,2$) und weniger durch eine Kontrollfunktion ($M = 3,0$) charakterisiert sei. Dahingegen wird von den Studierenden in der Internen Akkreditierungskommission die Kontrollfunktion ($M = 2,6$) stärker wahrgenommen als die Entwicklungsfunktion ($M = 3,6$).⁸ Interessant ist hierbei, dass diese kontrastierenden Einschätzungen bei zwei Befragungsgruppen vorherrschen, die gleichermaßen konstant an den Akkreditierungsverfahren beteiligt sind und sich durch eine Kontinuität ihrer Mitglieder auszeichnen. Beide Gruppen bewerten das Verfahren berechtigterweise aus Sicht ihrer jeweiligen Statusgruppe. Studiendekaninnen und -dekane sind mit den Konzepten und Aufbauten von Studienprogrammen vertraut und beschäftigen sich in verschiedenen Gremien mit Weiterentwicklungen von Studienprogrammen. Werden durch das Akkreditierungsverfahren Entwicklungen der Studienprogramme angeregt, so sind diese für Studiendekaninnen und -dekane deutlich erkennbar. Von Studierenden hingegen wird das Akkreditierungsverfahren stärker als ein Prozess betrachtet, welcher die Einhaltung formaler Kriterien systematisch kontrolliert, um vor allem die Studierbarkeit der Studienprogramme zu sichern. Dies zeigen die offenen Kommentare. So heißt es von einer oder einem Fachstudierenden zu dem vom *Zentrum für Qualitätsentwicklung* verfassten Akkreditierungsbericht für das betreffende Studienprogramm:

„umfassende Auseinandersetzung mit Darstellung und Umfang beschriebener Leistungsanforderungen und -angeboten in der Studienordnung => positiv, dass die Studierbarkeit dadurch eingehend geprüft wurde.“

8 Nach Mann-Whitney-U-Test signifikanter Unterschied der Wahrnehmungsdifferenz mit starkem Effekt: $U = 5,0$; $Z = -2,33$; $p = 0,02$; $r = 0,65$.

Jenseits des Entwicklungsgedankens wird hier gleichsam die Relevanz der von Akkreditierungen ausgehenden Kontrollfunktion für bestimmte Stakeholdergruppen sichtbar.

Die insgesamt mit dem Akkreditierungsverfahren etwas weniger zufriedenen Fachverantwortlichen im Lehramt sehen gleichsam die Entwicklungsfunktion – allerdings statistisch nicht signifikant – schwächer ausgeprägt ($M = 3,3$) als ihre Pendants im Nichtlehramt ($M = 2,8$).⁹ Dass die von den Akkreditierungsverfahren ausgehenden Weiterentwicklungsimpulse aber grundsätzlich von den Fachverantwortlichen angenommen werden, legt der Umgang mit den von der Internen Akkreditierungskommission ausgesprochenen Empfehlungen nahe. Anders als Auflagen haben Empfehlungen keinen verpflichtenden Charakter. Spätestens zwölf Monate nach der Akkreditierungsentscheidung mussten die Fächer neben der Auflagenerfüllung die inhaltliche Auseinandersetzung mit den Empfehlungen nachweisen. Mit 53 % wurde der Großteil der – in den hier betrachteten Akkreditierungsverfahren von 2018 bis 2021 – ausgesprochenen Empfehlungen komplett umgesetzt, während 11 % in Teilen realisiert worden sind. Rund 31 % der Empfehlungen wurden von den Fächern nicht umgesetzt. Für knapp 6 % der Empfehlungen war die Realisierung noch offen bzw. Gegenstand der Diskussion.

9 Nach Mann-Whitney-U-Test kein signifikanter Unterschied: $U = 261,50$; $Z = -0,96$; $p = 0,34$.

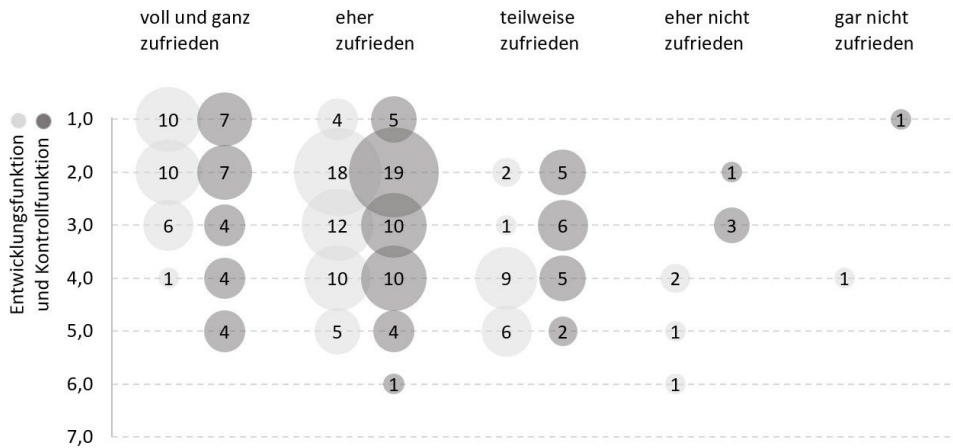


Abb. 1: Wahrgenommene Entwicklungs- und Kontrollfunktion in Akkreditierungsverfahren (1 = stimme voll und ganz zu, 7 = stimme gar nicht zu) nach Zufriedenheit mit Akkreditierung ($n = 98$ u. 99)

Anmerkung: Fragentexte und Skalenbeschriftungen wie in Tab. 1.

Abschließend ist zu fragen, in welchem Verhältnis die Zufriedenheit mit dem Akkreditierungsverfahren und die Beurteilung, ob es vornehmlich durch eine Kontroll- und/oder Entwicklungsfunktion geprägt ist, stehen. Wird zunächst die Gruppe betrachtet, die sich mit Akkreditierung zufrieden zeigt, ist interessanterweise festzustellen, dass beide Funktionen wahrgenommen werden: Von den Stakeholdern, die voll und ganz mit der Studiengangsakkreditierung zufrieden sind, wird die Entwicklungsfunktion leicht stärker betont, während für die eher Zufriedenen die Kontroll- und die Entwicklungsfunktion faktisch gleichberechtigt vorherrschen (s. Abb. 1).¹⁰

¹⁰ Dieser Zusammenhang findet sich neben der Gruppen- auch auf der Individualebene weitgehend wieder: Innerhalb der Zufriedenen-Gruppe (voll und ganz und eher zufrieden) weicht bei 59 % der individuellen Einzelfälle die Wahrnehmung der Entwicklungs- und

Erst mit abnehmender Zufriedenheit erhöht sich die Polarisierung zwischen den der Akkreditierung zugeschriebenen Funktionen, wenngleich hier die mitunter sehr geringen Fallzahlen die Aussagekraft einschränken. Die Feststellung von Markus Seyfried (2019, S. 41), dass „Kontrolle und Entwicklung [...] in nicht überwindbaren Zielkonflikten zueinander“ stehen, lässt sich somit in ihrer Pauschalität hier nicht bestätigen. Gerade die mit den Verfahren zufriedenen Stakeholder, die zugleich die Mehrheit bilden, sehen die internen Studiengangsakkreditierungen durch sowohl eine Entwicklungs- als auch eine Kontrollfunktion charakterisiert. In den Worten einer oder eines interviewten Qualitätsmanagementbeauftragten:

„Von daher ist es ja, sobald man kontrolliert, kann man auch weiterentwickeln. Oder sobald man einen Ist-Stand herausfindet, kann man auch sagen, was kann weiterentwickelt werden.“

Ferner zeigt sich für die Fachverantwortlichen sowohl im Nichtlehramt als auch im Lehramt ein positiver statistisch signifikanter Zusammenhang zwischen der Wahrnehmung einer Entwicklungsfunktion und der Zufriedenheit mit dem Akkreditierungsverfahren.¹¹ Gerade bei ihnen handelt es sich um Stakeholder, deren akademische Arbeit mit der Akkreditierung des von ihnen verantworteten Studiengangs „kontrolliert“ und bewertet wird; sie haben von den Stakeholdergruppen den höchsten Aufwand und sie sind es, die die im Akkreditierungsverfahren identifizierten Entwicklungspotenziale in der Folge implementieren (können). Je stärker dann die Fachverantwortlichen einen Entwicklungscharakter erleben, umso höher ist ihre Zufriedenheit. Dieser positive Zusammenhang lässt sich zwar auch in den anderen Stakeholdergruppen feststellen, allerdings ist er dort statistisch nicht signifikant.¹²

der Kontrollfunktion auf der siebenstufigen Skala um maximal einen Skalenpunkt ab, in 84 % der Fälle um höchstens zwei Skalenpunkte.

11 Nach Pearson-Korrelation starker signifikanter Zusammenhang für Fachverantwortliche im Nichtlehramt: $Pearson-r = 0,71$; $p = <0,001$ und im Lehramt: $Pearson-r = 0,65$; $p = 0,01$.

12 Nach Pearson-Korrelation kein signifikanter Zusammenhang für die weiteren vier Gruppen: $Pearson-r[RANGE] = 0,38-0,75$; $p[RANGE] = 0,06-0,27$.

Ebenfalls hat es für die Stakeholder(-gruppen) keinen signifikanten Einfluss auf die Zufriedenheit, wie sehr in der Akkreditierung eine Kontrollfunktion erlebt wird.¹³

6 Conclusio

Die vorliegende Untersuchung zeigt, dass die eingangs aufgeworfene Frage, ob von Studienprogrammakkreditierungen hauptsächlich Kontroll-, aber nur geringe Entwicklungseffekte ausgehen, differenzierter zu beantworten ist. In der Wahrnehmung der befragten Stakeholder an der Universität Potsdam vereinen Akkreditierungsverfahren beide Funktionen. Pflichtaufgabe von Akkreditierungen ist die Kontrolle der Einhaltung der Mindeststandards, die an Studiengänge gestellt werden. Wie stark diese Kontrollfunktion wahrgenommen wird, hat insgesamt betrachtet keinen (negativen) Effekt auf die Zufriedenheit mit den Akkreditierungsverfahren. Werden jedoch daneben als Kür auch Weiterentwicklungsimpulse wahrgenommen, wirkt sich dies positiv auf die Zufriedenheit der Verantwortlichen in den Fächern aus. In diesem Sinne ist die Mahnung des Wissenschaftsrates, dass Instrumente wie Akkreditierung, wenn sie nicht „für die Reflexion über Qualität von Studium und Lehre genutzt werden, [...] als ein oktroyierter Vereinheitlichungsprozess wahrgenommen und in der Folge eher formal bedient“ werden (Wissenschaftsrat, 2022, S. 87), keine bloße Phrase. Mit evaluativen und entwicklungsorientierten Akkreditierungen kann dem Postulat des Wissenschaftsrates entsprochen werden. Daher sollten neben der reinen Kriterienprüfung zugleich die Besonderheiten und mögliche Herausforderungen eines Fachs mit der Studiengangsakkreditierung adressiert werden. Die beteiligten Stakeholder attestieren einem solchen Akkreditierungsverfahren durchaus eine Entwicklungsfunktion, was wiederum Ausdruck in der freiwilligen Umsetzung von Empfehlungen findet und die Zufriedenheit mit dem Verfahren erhöht.

13 Nach Pearson-Korrelation kein signifikanter Zusammenhang für die sechs Gruppen: $Pearson-r[RANGE] = -0,46-0,75$; $p[RANGE] = 0,07-0,80$.

Freilich stehen die in dieser Fallstudie präsentierten Ergebnisse unter dem Vorbehalt, nur an einer einzelnen und zwar einer systemakkreditierten Hochschule zustande gekommen zu sein. Von externen Akkreditierungen unterscheiden sich interne Programmakkreditierungen an systemakkreditierten Hochschulen in einigen Punkten. In externen Akkreditierungen sind die Gewichtung der Prüfkriterien und der inhaltlichen Fokuspunkte stark von der Zusammensetzung und der inneren Dynamik der Gutachtergruppe abhängig. Dahingegen weisen intern durchgeführte Verfahren in aller Regel eine größere Homogenität und Vergleichbarkeit auf. Einhergehend damit sind interne Programmakkreditierungen, die zumeist von ein und derselben organisationalen Qualitätsmanagementeinheit verantwortet und durchgeführt werden, dadurch charakterisiert, dass der Verfahrensablauf sowie die Anforderungen und Standards innerhalb der Hochschule stärker etabliert und transparent sind. Daneben herrschen innerhalb des Gefüges systemakkreditierter Hochschulen oftmals engere Verbindungen zwischen den Verantwortlichen für die Akkreditierungsverfahren und den involvierten Stakeholdern vor, wenn sie etwa bereits in früheren Akkreditierungen oder anderen Kontexten miteinander zusammengearbeitet haben. Diese Punkte dürften ebenfalls positiv zur Wahrnehmung der internen Akkreditierungsverfahren beitragen.

Zwar bringt es der Charakter als Fallstudie mit sich, dass die Ergebnisse sich nicht allgemein auf Studiengangakkreditierungen in Deutschland beziehen lassen. Gleichwohl ist die Untersuchung als Anstoß zu verstehen, das Thema weiter in den Blick zu nehmen. So ließen sich die Ergebnisse zur Wahrnehmung der internen Akkreditierung an der Universität Potsdam für weitere Fallstudien und übergreifende Untersuchungen als Referenzfolie nutzen. Auf einer breiteren empirischen Basis könnten dann mögliche Unterschiede zwischen interner und externer Programmakkreditierung ausgemacht und bewertet werden. Zudem sind auf dieser Grundlage weitere Anhaltspunkte zu erwarten, in welche Richtung Akkreditierungsverfahren zu entwickeln sind, damit sie eben nicht nur als „oktroierter Vereinheitlichungsprozess“ empfunden werden. Vor dem Hintergrund, dass sämtliche Bachelor- und Masterprogramme im europäischen Hochschulraum (und darüber hinaus) zu akkreditieren sind, ist eine vertiefte – und bislang noch ausstehende (vgl. Röbbken & Overberg,

2021, S. 51–55) – Bestandsaufnahme angezeigt. Zu untersuchen ist hierbei, ob Akkreditierung in der Wahrnehmung der Stakeholder tatsächlich nicht mehr darstellt als eine Frust-Zielscheibe und ihr lediglich eine schwach ausgeprägte Entwicklungsfunktion zugemessen wird. Erste Hinweise, dass diese Fragen so einseitig nicht zu beantworten sind, liefert die vorliegende Betrachtung der Wahrnehmung von Programmakkreditierungen an einer systemakkreditierten Hochschule.

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